

ABSTRACTS OF ORAL PRESENTATIONS



CLINICAL ASPECTS

OCA 1

A LARGE SERIES OF DAPSONE HYPERSENSITIVITY SYNDROME PATIENTS IN NEPAL

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Dapsone Hypersensitivity Syndrome (DHS) is an important although rare complication seen in the treatment of leprosy. It can be very distressing to the patient and in severe forms can even lead to death.

Aim: To review a large series of DHS patients, to be able to recognize and treat this effectively at its initial stages.

Methods: A retrospective study was carried out of a large series of 54 patients affected by leprosy; 47 MB and 7 PB, diagnosed with DHS in the past 11 years. Data of medical history was collected by a review of medical records charts.

Results: Thirty-seven of those affected by DHS in our series were male and 17 female. Time of presentation was usually within 3 months of starting MDT (5 at <1m, 30 at 1-3m, 1 at >3m). The patients presented with a variety of symptoms, the most common of which was dermatitis (74%). All were treated with prednisolone after immediate withdrawal of dapsone. A modified MDT regimen was continued. Eighty per cent of cases recovered fully within one month of starting treatment. A case report on one pa-

tient who had a protracted illness and extended stay in the hospital is also presented.

Conclusion: These observations will assist in the clinical management of DHS, and aid its early diagnosis.

OCA 2

ADVERSE EVENTS OF STANDARDISED REGIMENS OF CORTICOSTEROIDS FOR PROPHYLAXIS AND TREATMENT OF NERVE FUNCTION IMPAIRMENT IN LEPROSY: RESULTS FROM THE 'TRIPOD' TRIALS.

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Aim: Reactions in leprosy causing nerve function impairment (NFI) are increasingly treated with standardised regimens of corticosteroids, often under field conditions. Safety concerns led to an assessment of adverse events of corticosteroids in three trials studying prevention of NFI (the TRIPOD study).

Methods: A multicentre, randomised, double-blind placebo-controlled trial was conducted in leprosy control programmes in Nepal and Bangladesh. Treat-

ment was with prednisolone according to fixed schedules for 16 weeks, starting in one trial with 20 mg/day (prophylactic regimen: total dosage 1.96 g) and in the other two trials with 40 mg/day (therapeutic regimen: total dosage 2.52 g). Minor adverse events were defined as moon face, severe fungal infections, severe acne, and gastric pain requiring antacid. Major adverse events were defined as psychosis, peptic ulcer, glaucoma, cataract, diabetes and hypertension. Also the occurrence of infected planar, palmar, and corneal ulceration was monitored, together with occurrence of TB.

Results: Considering all three trials together, minor adverse events were observed in 130/815 patients (16%). Of these, 51/414 (12%) were in the placebo group and 79/401 (20%) in the prednisolone group. The relative risk for minor adverse events in the prednisolone group was 1.6 ($p=0.004$). Complications with a significantly increased risk were acne, fungal infections and gastric pain. Major adverse events were observed in 15/815 patients (2%); 7/414 (2%) in the placebo group and 8/401 (2%) in the prednisolone group. No major adverse events had a significantly increased risk in the prednisolone arm of the trials. No cases of TB were observed in 300 patients which could be followed-up for 24 months.

Conclusion: Standardised regimens of corticosteroids for both prophylaxis and treatment of reactions and NFI in leprosy is safe when patients are screened for contra-indications before treatment. The risk of minor adverse events was increased in the prednisolone group, but none required stopping of treatment. Major adverse events are rare, and no differences were found between the placebo and prednisolone arm of the trials.

OCA 3

ANTI-PGL I IN THE DIAGNOSIS OF PRIMARY NEURITIC LEPROSY

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Primary neuritic leprosy (PN) is difficult to diagnose because skin lesions and bacilli in skin smears are lacking.

It was investigated if the addition of diagnostic tests might improve the decision for the diagnosis PN. In a retrospective study an anti-phenolic glycolipid I (anti-PGL I) Elisa was performed in patients with the clinical diagnosis PN. Anti-PGL I Elisa was positive

in 10 out of 44 patients (23 %) with the clinical diagnosis PN. Anti-PGL I Elisa was positive in 4 out of 25 patients in which the histopathological investigation of a nerve biopsy showed non-specific changes or normal histology (total no 36). And was positive in 2 out of 14 patients in which the PCR specific for *M. leprae* from a nerve biopsy was negative (total no 28).

As the presence of antibodies to *M. leprae* PGL I are supposed to reflect the bacterial load of the patient a positive anti-PGL I may increase the number of patients with the diagnosis PN; as it was detected in this study in one out of 2 patients with a negative PCR and a non-specific histopathology. When considering a field situation where in most cases histopathological investigations and PCR are not performed, detection of antibodies would confirm 23% of the cases.

OCA 4

BCG EFFECTIVENESS TRIAL AGAINST LEPROSY AMONG SCHOOL CHILDREN, IN NORTHERN BRAZIL

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Background: In 1994 the Brazilian Ministry of health recommended a dose of BCG vaccine to schoolchildren aimed to prevent tuberculosis. A trial started in 1996 to estimate the efficacy of such a vaccination in two sites. One of the sites (city of Manaus) is an endemic area of leprosy, and the trial in this site was expanded to estimate protection against leprosy.

Study design: Matched, clustered randomised controlled trial.

Study population: Children aged 7 to 14 years attending state schools.

Objectives.: 1. To estimate the efficacy against leprosy of one dose of BCG vaccine given to school children in a population with a high coverage of neonatal BCG; 2. to estimate the number of individuals that need to be vaccinated to prevent one case of leprosy in school children; 3. To estimate what proportion of all cases of leprosy would be prevented by vaccination in that population; 4. To compare these results with those obtained from vaccination restricted to household contacts.

Methods: The trial was implemented in 1998. 286 state schools in the city of Manaus, Brazil, were randomised into receiving BCG or not. Identifying in-

formation was collected for 156,331 school children, of whom 72,982 are in intervention schools. Trained nurses examined the right deltoid region to ascertain previous BCG vaccination status. Follow up relies on ascertainment of cases diagnosed at the health services and notified to the reference centre for leprosy. Blindness is guaranteed during linkage and validation of cases. Prophylactic STEROIDS TO prevent nerve function impairment.

OCA 5

BORDERLINE TUBERCULOID LEPROSY: AN IMMUNE RECONSTITUTION PHENOMENON IN AN HIV-INFECTED PERSON

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Culture-positive pulmonary tuberculosis (TB) and human immunodeficiency virus type 1 (HIV-1) coinfection were diagnosed in a 37-year-old Ugandan male. The plasma HIV-1 load was 120,000 RNA copies/ml and the blood CD4⁺ T lymphocyte count was $10 \times 10^6/L$ at the time of diagnosis, indicating marked immunosuppression. The patient responded well to multi-drug antituberculosis treatment and, during the continuation phase, highly active antiretroviral treatment (HAART) was also commenced. Three months after starting antiretroviral treatment the patient developed facial lesions that were clinically diagnosed as borderline tuberculoid (BT) leprosy in reaction and this diagnosis was confirmed histologically. At that time the patient's CD4⁺ lymphocyte count had increased to $70 \times 10^6/L$ and the plasma viral load was <50 HIV-1 RNA copies/ml. The temporal association between the commencement of HAART and the development of the skin lesions suggested that the leprosy was a manifestation of immune reconstitution. Such a phenomenon has not previously been reported. However, the occurrence of the BT form of leprosy (indicating marked cell-mediated immunity to *Mycobacterium leprae*) is counterintuitive in the context of marked CD4⁺ lymphocytopenia. This presentation reviews the current understanding of the relationship between HIV-1 and leprosy.

OCA 6

CHRONIC NEUROPATHIC PAIN IN TREATED LEPROSY

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Medical reports on neuropathic pain associated with treated leprosy are scarce. We describe the clinical findings of 16 patients with multibacillary leprosy who had chronic stimulus-independent pain despite finishing their treatment.

The study area was Nilphamari District, northwestern Bangladesh. The patients were recruited for this study with the help of local leprosy workers from four outpatient clinics. The workers were instructed to ask for the following symptoms: burning feet, formication, pricking, biting, or squeezing pain. Altogether, 38 patients were recruited, of whom 16 fulfilled the inclusion criteria and accepted the study protocol. The clinical neurological examination included assessment of tactile, pinprick, thermal, and joint position sensation and tendon reflexes, as well as dynamic and static allodynia. Furthermore, location of pain was recorded by using pain drawings. Thresholds for pinprick sensation were measured by using the weighted needle apparatus, and thresholds for tactile sensation by using Semmes-Weinstein monofilaments.

Pain in all 16 patients was either moderate or severe. It was mainly of burning, tingling or biting quality. Some patients complained electric shock-like pain. The duration of pain varied from two years to more than 20 years. In eight patients (50%) the occurrence of pain was continuous. The distribution of pain and sensory loss was equal in 11 patients (69%), whereas inconsistencies between distribution of pain and sensory abnormalities was found in five cases. Enlargement or tenderness of nerves was noticed in six patients.

Our results indicate that some leprosy patients suffer from neuropathic pain, but further epidemiological studies are necessary to determine the magnitude of the problem. Considering neuropathic pain as one of the medical problems in treated leprosy patients may open new therapeutic avenues in future "care after cure" programmes.

OCA 7

CLINICAL RESPONSE TO CYCLOSPORIN A TREATMENT IN SEVERE LEPROSY TYPE 1 REACTION (T1R) PATIENTS IN NEPAL AND ETHIOPIA.

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Background: Type 1 (reversal) reactions (TIR) are important tissue damaging phenomena responsible for a significant proportion of nerve damage in leprosy. Prednisolone is the principle treatment for reactions but 30–60 % patients will not improve. There is a clinical need for a new and better immunosuppressant. Cyclosporin A (CyA) is a potent immunosuppressant that is non-myelotoxic and has been used widely in other immune-mediated diseases for over 17 years. There have been 3 case-reports of the successful treatment of severe and recurrent TIR with CyA.

Aim: To assess the effectiveness of oral CyA in treating severe TIR.

Study: This is a closely monitored pilot study. Patients with severe TIR were recruited in Nepal and Ethiopia and given an Indian generic preparation of CyA at 5mg/kg/day. 40mg of prednisolone was given for the first 5 days until CyA blood concentration reached a steady state. A clinical severity scale (CSS) was used to identify patients severe enough to enter the trial and the CSS was also used to monitor the response to CyA treatment. Patients were either in- or out-patients. CyA treatment was given for 3 months. Patients had regular assessments (during and after treatment) according to the CSS and were also examined and tested for CyA related side-effects.

Results: The effects of CyA on nerve function impairment, skin and systemic signs will be reported and any side-effects seen. The efficacy of CyA and prednisolone will be compared in each location (Nepal and Ethiopia) using retrospective TIR data on prednisolone use.

OCA 8

CYTOKINE EXPRESSION IN THE SKIN AND BLOOD OF SEVERE LEPROSY TYPE 1 REACTIONS TREATED WITH PREDNISOLONE AND AZATHIOPRINE.

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Aim: To compare the cytokine production in skin lesions and blood of severe Type 1 Reaction (TIR) Nepali leprosy patients taking azathioprine and or prednisolone. To relate these findings to the clinical state of the patients and the dose of drug administered.

Study: 40 patients with severe TIR were recruited. 21 were treated with 3 months of azathioprine at 3mg/kg/day plus a 2 month reducing course of prednisolone starting at 40mg (AP). 19 patients were

treated with a 3 month reducing prednisolone course starting at 40mg (P).

Results: Cytokine production (tumour necrosis factor, interleukin-10 and gamma-interferon) in whole blood assay was assessed by ELISA at day 0 and weeks 2, 8 and 16. 2 skin biopsies were taken from each patient to cover the whole time period (day 0, and weeks 4, 6, 8, 12 and 16). Immunohistochemical staining and semi-quantitative grading for tumour necrosis factor, interleukin-10 and interleukin-2 was carried out on the skin biopsies.

Comparisons will be made between the effects of AP and P treatments on patients' clinical status and cytokine production.

OCA 9

DIFERENCIAS – SIMILITUDES DOS MICOBACTERIOSIS LEPRO – ULCERA DE BURULI

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Tras su experiencia de trabajo en Lepra y en Ulcera de Buruli en la región del lago Kassou, distritos de Sakassou y Bouq en Costa de Marfil, el autor intenta recoger las diferencias y similitudes entre ambas enfermedades de origen bacteriano.

OCA 10

ERITEMA NODOSO HANSÊNICO, PERFIL CLÍNICO E IMUNOPATOLÓGICO A PARTIR DE 90 PACIENTES ESTUDADOS EM GOIÂNIA.

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Introdução: O eritema nodoso hansênico (ENH) é um evento imunológico freqüente responsável por hospitalização e incapacidade física em pacientes com hanseníase Borderline Lepromatosa e Lepromatosa (BL e LL). No nosso meio há poucas informações disponíveis sobre essa patologia.

Objetivo: O presente estudo busca estudar características clínicas, epidemiológicas, histopatológicas, sorológicas e terapêuticas de pacientes com ENH atendidos em serviços de saúde de referência para hanseníase com o objetivo de caracterizar a demanda do ENH no atual contexto da eliminação da hanseníase.

Material e método: Estudo de série de casos de ENH recrutados no período de agosto de 2000 a janeiro de 2001 no Centro de Referência em Diag-

nóstico e Terapêutica (CRDT) e Hospital de Doenças Tropicais Anuar Auad (HDTAA) em Goiânia/GO. Foi preenchida ficha padronizada com dados epidemiológicos, clínicos e terapêuticos, posteriormente analisados. Foi coletada biópsia de pele para histopatologia e amostra de sangue para sorologia de anticorpos anti- PGL I, cujos resultados foram comparados com os de pacientes MB sem ENH.

Resultados: Foram incluídos 58 pacientes com ENH e 32 com hanseníase BL ou LL sem ENH. Os pacientes com ENH eram predominantemente do sexo masculino (58,6%), forma clínica LL (81%) e faixa etária média de 34,5 anos. Mais da metade dos pacientes com ENH apresentaram sorologia positiva para anticorpos IgM anti- PGL I, embora com títulos inferiores aos dos pacientes MB sem ENH. À histopatologia, a presença de infiltrado neutrofílico, paniculite, vasculite e agressão neural foram estatisticamente significantes nos pacientes com ENH ($p < 0,001$). O primeiro episódio de ENH ocorreu durante o tratamento específico em 66% dos pacientes e foi tratado com corticosteróide em 77,6% dos casos.

Conclusão: Pacientes com ENH apresentaram sorologia positiva para anticorpos anti PGL- I e alterações histopatológicas estatisticamente significantes quando comparados com pacientes BL e LL sem ENH. Há a necessidade de ficha padronizada específica para coleta de dados do ENH para melhor avaliação dos seus aspectos clínicos, epidemiológicos e terapêuticos.

OCA 11

ESTUDIO SEROEPIDEMIOLÓGICO DE LEPROSA. PROVINCIA CAMAGÜEY. AÑO 2000- 2001.

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La Lepra, representa un problema de salud universal; la lucha contra la enfermedad necesita la incorporación de todos los mecanismos demostrados para el control como son: el diagnóstico precoz, preclínico o muy temprano, mediante pesquisa a poblaciones consideradas de riesgo con un examen Dermatoneurológico, estudio Serológico y tratamiento oportuno con MDT. En base a ello se realizó un estudio de intervención para conocer el comportamiento de la infección por el *Mycobacterium leprae* durante los años 2000-2001 en la provincia de Camagüey.

El universo poblacional estuvo constituido por todas aquellas poblaciones donde se notificó 1 caso de

lepra durante estos años. Se realizaron 15 131 pruebas serológicas a la población de riesgo en aquellos municipios con una prevalencia de la enfermedad superior a $1 \times 10\ 000$, a los cuáles se le aplicó una encuesta. Las variables a analizar fueron: edad, sexo, raza, escolaridad, ocupación, lugar de procedencia, causas del pesquiseo, examen Dermatoneurológico, fecha y resultado de la Baciloscopia, Lepromina y tratamiento recibido, así como seguimiento serológico. Si la prueba serológica resultó por encima del nivel de corte (0,300), se le realizó Baciloscopia y Lepromina. Aquellos casos con respuesta inmunológica negativa recibieron tratamiento profiláctico y seguimiento serológico por un año. Este trabajo tuvo como principal objetivo conocer el comportamiento de la infección por el *Mycobacterium leprae* en la Provincia de Camagüey.

De las 15 131 resultaron por encima de nivel de corte 185, de estas fueron Lepromina negativas 29, enfermos de Lepra 4 y se trataron 29. En el seguimiento serológico se mantuvieron con igual cifra o inferior el 100 %.

OCA 12

FACTS AND FALLACIES OF CORTICOSTEROID TOXICITY IN LEPROSY - AN EXPERIENCE WITH MORE THAN 1000 PATIENTS IN 10 YEARS.

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Corticosteroids are used in various complications of leprosy like Leprosy Reactions (Type I and Type II), Neuritis and Quiet Nerve Paralysis (QNP). Most of these complications are due to immunological hypersensitivity response to *M. leprae* antigens. Corticosteroids act in a three pronged approach to control the symptoms of reactions as well as prevent nerve damage. Even when there is evidence of nerve function loss corticosteroids can reverse the function loss and restore useful function in the majority of leprosy patients if the function loss is of less than 1 year duration. Some patients will need prolonged courses of corticosteroids because of their tendency to have prolonged and recurrent episodes of reactions or neuritis. Hence it is inevitable that some patients will develop one or more adverse effects of corticosteroids. Some of the side effects are mild and transient (moon face, acne etc.) while some are serious and life threatening (Secondary infections like tuberculosis, peptic ulcer perforation, diabetes etc.). Some side effects are neither mild nor life threatening but potentially disabling (osteoporosis, cataract, glaucoma).

While the side effects are alarming, the Doctor has to continue corticosteroids for the leprosy patients when indicated tackling the adverse effects as well as controlling the leprosy reactions and neuritis.

The present paper will furnish the incidence and implications of corticosteroid toxicity in the proper perspective without any prejudice so that clinicians will be able to understand and tackle the problem without fear thereby extending the maximum benefit to the patients. The problems and their solutions will be discussed with graphs and tables.

OCA 13

HISTOLOGIA DA ÁREA PERILESIONAL EM PACIENTES PORTADORES DE HANSENÍASE TUBERCULÓIDE E DIMORFA REACIONAL.

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A hanseníase, de acordo com o sistema de classificação adotado pelo VI Congresso Internacional de Leprologia, 1953, apresenta duas formas polares, clínica e imunologicamente distintas: o tipo virchoviano e o tuberculóide. Apresenta ainda dois grupos instáveis, o indeterminado e o dimorfo. Em todas elas, exceto na indeterminada, a evolução crônica pode ser interrompida por surtos agudos, denominados de tuberculóide reacional (TR), dimorfo reacional (DR) e, quando na virchoviana, de eritema nodoso. Na tentativa de diferenciar os TR dos DR, os autores avaliaram a histologia da área lesional e perilesional em 17 pacientes com forma TR e DR durante o surto reacional e observaram que nos pacientes TR não houve alteração histológica da pele perilesional em 100% dos casos, enquanto que nos pacientes DR, 60% deles apresentaram infiltração nesse local, muito embora sem que houvesse diferença estatística, talvez pelo tamanho amostral. Com esses resultados, não podemos afirmar quanto à diferença entre estas formas pela histologia da região perilesional clínicas mas, no entanto, quando houver infiltrado perilesional, este paciente não deve pertencer ao grupo TR.

OCA 14

HISTOPATHOLOGICAL STUDY ON EXPERIMENTAL LEPROSY IN TUPAIAS (*Tupaia belangeri yunalis*)

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In order to explore new experimental leprosy in tupaia. Ten tupaia were infected with 5.0104–2.67107 *M. leprae* by different routes, intravenous and subcutaneous (fore and hind foot pads, nose, ears) or intratesticular inoculation. These animals were scari-

fied 373–786 days after infection, the average time were 546 days. Large patches of leprous granulomatous infiltration, containing a large number of acid fast bacilli (AFB) were found at the inoculated sites by histopathological examination. The morphologic indices (MI) of most AFB were greater than 40%, and the bacterial indices (BI) ranged 5+–6+. The dermal nerves showed "onion skin-like" \pm appearance and were severely destroyed with large numbers of AFB and globi. It looks like borderline lepromatous leprosy in tissue sections. The bacilli in the foot pads of tupaia increased up to 5.97109/g of tissue. According to the histopathological observation and bacteriological determination, it is proved that experimental leprosy model in tupaia has been established.

OCA 15

IMMUNOHISTOCHEMISTRY, *IN SITU* HYBRIDIZATION AND *IN SITU* PCR IN THE HISTODIAGNOSIS OF EARLY LEPROSY.

Mohan Natrajan, Kiran Katoch and V.M. Katoch.

Histological confirmation of the clinical diagnosis of early leprosy using conventional histopathological techniques is possible only in a fraction of the cases. The present study was done to assess the role of immunoperoxidase techniques, *in situ* hybridization and *in situ* PCR in the histodiagnosis of leprosy where conventional histopathology fails.

Forty four cases showing a non-specific pathology on routine histopathology and, which were negative for AFB were chosen for the study. Immunostaining for mycobacterial antigen using an indirect immunoperoxidase technique and the streptavidin-biotin system, revealed the presence of antigen in 10 of 44 cases (22.7%) cases. *In situ* hybridization using digoxigenin labelled oligonucleotides gave positive signals in a further 13 of 33 cases (39.3%). Finally, the use of *in situ* PCR in resulted in positive signals in 6/11 cases (54.5%) which were negative by *in situ* hybridization.

The technical feasibility and limitations and the usefulness of these procedures will be presented.

OCA 16

INOCULATION OF *M. leprae* IN RIGHT FOOT PAD IN MICE AND ITS CONTRALATERAL EFFECT ON THE NEUROFILAMENTS OF SCIATIC NERVE

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Mouse is a well established animal model for leprosy. The sciatic nerves of mice inoculated in both the hind foot pads with viable (VML) and heat killed *M. leprae* (HKML) showed the loss of immunoreactivity to phosphorylated epitopes of NF heavy chain (using SMI 31 antibody) in WB analysis of Triton X-100 insoluble cytoskeletal preparation. These observations were corroborated by the abnormal immunostaining pattern of affected nerves and ultrastructural changes such as compaction and arraying of filaments particularly in atrophied fibers as well as at the S-L cleft region. It was also noted that HKML cause NF alterations earlier however transient, than the VML. The observations were suggestive of a role for cellular component(s) of *M. leprae* in triggering the onset of such degenerative changes.

The question then was; what is the effect of unilateral *M. leprae* inoculation on the contralateral side? Further experiments were carried out using a similar protocol. Adult Swiss White mice were inoculated into the right hind foot pad with 1×10^4 acid fast bacilli (both VML and HKML). Both left and right sciatic nerves were biopsied at regular intervals starting from one week till 12 month. Changes in the Rt and Lt sciatic nerves were compared.

Results showed a) qualitatively similar contralateral effect with both VML and HKML inoculation. b) The changes were of smaller magnitude as compared to ipsilateral side c) There was some difference in time kinetics. These results have far reaching implications on the mechanism of nerve damage in leprosy.

OCA 17

INTRAOCULAR LENS IMPLANTATION IN MULTIBACILLARY AND PAUCIBACILLARY LEPROSY PATIENTS.

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Pre-operative, operative and post-operative ocular complications in 48 eyes of 39 leprosy patients who underwent standard extra-capsular cataract extraction and posterior chamber intra-ocular lens implantation, by the same surgeon, during 1997-1998, were studied retrospectively. 17 were male and 22 female. 13 (33%) were pauci-bacillary (PB) while 26 (67%) were multi-bacillary (MB) patients. 3 patients were smear positive at surgery. Grade II deformity that included claw hands, absorbed fingers, saddle noses and foot drop were present in 64% of the patients. None had any previous intra-ocular inflammation although 1 patient had had Type I reaction and 5 patients, Type II reaction. Pre-operative complications like corneal opacities (3 eyes) and lagophthalmos (5 eyes) were not associated with lowered vision post-operatively. No significant operative complications were encountered except in one eye where there was a posterior capsular tear. 17 eyes (35%) developed

uveitis of 3+ or more in the immediate post-operative period but abated with routine topical steroid eye drops. 6 months after surgery 7 out of 47 eyes (15%) had developed posterior capsular opacities (PCO). The amount of uveitis and PCO were similar to those reported in non-leprosy patients. There were no significant differences ($p > 0.05$) in the visual acuity outcomes or ocular complications when MB patients were compared with PB patients. Post-operative complications were not significantly different in smear positive patients compared with smear negative patients. Visual outcomes in the 23 eyes followed up at 2 years after surgery were 6/18 or higher except in one eye which had sustained severe injury 1 year after surgery. IOL implantation in leprosy patients has definite advantages and given the right management, is reasonably safe.

OCA 18

LEPROSY TRANSMISSION AND MUCOSAL IMMUNITY IN HOUSEHOLD CONTACTS OF SUBJECTS WITH NASAL PRESENCE OF *M. leprae*

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Multi Drug Therapy of leprosy has helped to bring down the prevalence rate, but the new case detection rate has not decreased in the endemic areas. A study was designed to look at the transmission and the development of mucosal immunity. In the present study, 3034 individuals from three villages in Miraj taluka in the State of Maharashtra, India were initially screened. Out of which a cohort of 154 subjects was identified as the household contacts of 42 individuals carrying *M. leprae* in their nose (PCR-C), and then followed up in a six monthly follow-up. Presence of *M. leprae* on the nasal mucosa in subjects studied was identified by Polymerase Chain Reaction (PCR) and mucosal immunity was detected by measuring the salivary anti-*M. leprae* IgA antibodies (sML-IgA) using ELISA. An average of 75% of the subjects (PCR-C) were positive for sML-IgA throughout the three follow-ups. sML-IgA positivity was higher in females than in males. Throughout the year, 65-80 % of the total subjects tested showed sML-IgA response. 3 subjects from PCR-C group were found to be PCR positive in the first follow-up, which became negative in the second follow-up. Subjects in all the age groups showed sML-IgA response. The response between BCG vaccinated and non-vaccinated individuals did not show any difference. In the follow-up studies it was observed that in the PCR-C group, two out three subjects were PCR positive in the summer season unlike the rest of the population,

which showed peak of PCR positivity in the monsoon. It is possible that close contact may play a role in transmission. Follow-up studies with shorter intervals can shed more light on the mechanism of.

OCA 19

LOW BONE MASS IN PATIENTS WITH PROLONGED REACTIONAL EPISODE.

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Reactional episodes may recur after lowering the doses or ending the various treatments. Generalized osteoporosis has been reported during reactions and prolonged use of steroids could increase the risk for suffering it. In a previous study in treated leprosy patients, taking prednisone (PDN) resulted in 4 times higher risk of radiography diagnosed osteopenia. We evaluated 22 patients treated for multibacillary leprosy (10 females, 12 males) aged 23-49 years with prolonged reactional episodes. Bone mineral density (BMD) of the lumbar spine, the proximal femur and the distal radius was determined by dual X-ray absorptiometry using a LUNAR® densitometer. Erythema nodosum leprosum with neuritis was the most frequent form of reaction recorded (81%). The patients had been taken PDN among other drugs during an average of 39 ± 18 months. The mean daily dose received was 28.6 ± 13.1 mg/day. A positive significant correlation was found between the BMD measured at the different sites (femur/spine $r=0.565$ $p=0.008$; femur/radius $r=0.678$ $p=0.001$; spine/radius $r=0.452$ $p=0.04$). Osteoporosis was found in 5 patients (3 female, 2 male, 3 at age 20-29 years) in the spine and one also in the radius. Osteopenia was seen at 52 sites. No association was observed with sex or having a positive bacilloscopic index. For increasing cumulative dose of PDN lower z-scores were found in the femur ($r=-0.45$ $p=0.04$). The expected reduction of bone mass with age was not observed in this group of patients. The lowest mean values were observed in the lowest decade. In spite of the high daily doses of PDN received, few cases of osteoporosis were observed. Spinal osteoporosis could be a result of the prolonged use of steroids, but low bone mass at other sites could also be due to the reactional episode itself.

OCA 20

MARCADORES CLÍNICO-LABORATORIAIS AUXILIARES NO MONITORAMENTO DO ERITEMA NODOSO HANSÊNICO

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Grande parte das complicações da Hanseníase é decorrente das reações hansênicas. O eritema nodoso hansênico (ENH) demonstra efeitos de acentuada formação de imunocomplexos.

Objetivos: Avaliar a frequência de alterações clínico-laboratoriais em amostra de doentes com ENH. Enumerar os exames laboratoriais relevantes para o monitoramento das reações hansênicas

Casuística e Métodos: Procedeu-se levantamento e análise retrospectiva de prontuários-médico dos doentes assistidos no Ambulatório de Hanseníase, HCFMRP. Verificou-se registro da investigação clínico-laboratorial em 24 prontuários de doentes em vigência de reação tipo ENH.

Resultados: No total de 24 doentes, 50% eram do sexo masculino. Dos doentes avaliados, 80,9% apresentaram elevação de proteína C-reativa. Em 8 doentes, o nível de mucoproteína foi normal e o α -ácido glicoproteína (α -AGP) elevado em todos. Na avaliação de enzimas hepáticas, 58,3% apresentaram algum tipo de alteração: γ GT estava elevada em 47,6%, TGP em 25% e TGO em 20,8%. Verificou-se redução da albumina sérica em 30,76% e a de proteína total em 12,5% dos doentes. Foi observada leucocitose em 50% dos doentes e anemia em 62,5%, sendo que 4 apresentaram valores eram inferiores a 7,0 mg/dl. Em 54,2% havia febre; em 33,4% artralgia; em 12,5% hepatomegalia; em 8,4% esplenomegalia; em 16,7% adenomegalia; em 25% sinais clínicos evidentes de neurite.

Conclusões: Nossos resultados confirmaram a relevância de avaliação multissistêmica, indicando alta percentagem de doentes com elevação da proteína C-reativa sérica, sugerindo esta medida como parâmetro de monitoramento da reação hansênica. Salienta-se que as alterações de enzimas hepáticas, particularmente, as canaliculares e os distúrbios hematológicos que devem ser investigados nos episódios de ENH.

OCA 21

OCULAR COMPLICATIONS OF LONG-TERM ORAL CORTICOSTEROID THERAPY IN PATIENTS WITH LEPROSY REACTIONS

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The use of systemic or topical ophthalmic corticosteroids is an established risk factor in the development of ocular hypertension and/or posterior subcapsular cataract. Dermatologists often prescribe long-term oral corticosteroid therapy in the treatment of leprosy reactions and ocular side effects have not been reported yet.

There were 31 patients (mean age 36.8 ± 13.0 years) with leprosy reactions studied. All patients were receiving oral corticosteroid therapy (prednisone) for a mean duration of 18.7 ± 10.1 months. The dose range was 5 to 60 mg (mean dose, 19.8 ± 11.8 mg) by the time of the ophthalmologic examination. Of the 62 eyes, 14 (22.6%) showed ocular hypertension and 12 (19.4%) had posterior subcapsular cataract formation. Regular eye examinations are recommended for all patients during the entire course of long-term oral corticosteroid therapy to minimize ocular side effects and to prevent iatrogenic visual loss.

OCA 22

PREVALENCE AND CHARACTERISTICS OF NEUROPATHIC PAIN IN 303 PATIENTS WITH LEPROSY.

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Aim of investigation: This study aims to contribute to the knowledge of neuropathic pain prevalence in leprosy.

Methods: A total of 303 leprosy patients attending at Lauro de Souza Lima Institute and the Infections Disease Center were evaluated (58.7% lepromatous, 25.7% borderline, 13.9% tuberculoid and 1.7% indeterminate). All patients underwent neurological examination with special focus on the occurrence of pain, its localization, duration, installation, intensity (verbal scale) and quality (McGill Pain Questionnaire).

Results: Neuropathic pain was present in 174 (57.4%) patients. It occurred before (73.0%) or at the moment of evaluation (27.0%). Pain lasted more than six months in 138 (79.4%) and installed as bursts in 84 (48.3%) cases out of the 174 cases. It affected one or more peripheral nerve territories totalizing 291 territories, ulnar nerve in 101 (58.0%), tibial nerve in 48 (27.6%), polyneuropathic distribution as glove in 47 (27.0%) or sock 47 (27.0%). Pain was present at the moment of evaluation in 47 (27.0%) patients. It was moderate or severe in 41 (87.2%), constant in 30 (63.8%) and remitted in only 9 (19.1%).

Conclusions: Neuropathic pain is an important, frequent and lasting occurrence in leprosy. It is also a disabling condition that can lead to poor quality of life by itself. The low frequency of remitted pain suggests the need to a better approach of analgesic therapy in leprosy. There is also a need to develop a national study to quantify the prevalence of neuropathic pain in Brazil and to discuss the need of a national politic to implement analgesic therapy in leprosy.

OCA 23

PROPHYLACTIC STEROIDS TO PREVENT NERVE FUNCTION IMPAIRMENT IN LEPROSY:

A RANDOMISED CONTROLLED TRIAL (TRIPOD 1)

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Aim: It was investigated whether treatment with low dose prednisolone for the first four months of multidrug treatment (MDT) would reduce the incidence of leprosy reactions leading to nerve function impairment (NFI), in patients with multibacillary (MB) leprosy at diagnosis.

Methods: A multicentre randomised, double-blind, placebo-controlled trial was conducted in leprosy control programmes in Nepal and Bangladesh. Eligible patients had a confirmed leprosy diagnosis, were between 15 and 50 years old, were starting MB MDT for the first time and did not require steroids for other reasons. Subjects were randomised to prednisolone 20 mg per day for 3 months, tapering during the 4th month, or placebo. Nerve function was monitored monthly. The main trial outcome was the percentage of patients needing full-dose steroid treatment for Type 1 reaction (RR), type 2 reaction (ENL), NFI or neuritis, assessed at 4, 6, 9 and 12 months from the start of the treatment.

Results: 636 patients were enrolled; 312 (49%) in the prednisolone arm and 324 (51%) in the placebo arm. There is a significant preventive effect of prednisolone at 4 and 6 months, but this is not sustained to the 12th month. At the end of the treatment phase, the relative risk of a poor outcome given placebo compared with prednisolone is 3.93 (95% CI 2.13-7.25). At 12 months there is still an increased relative risk, but the effect is not significant (RR 1.31, 95% CI 0.95-1.81)

Conclusion: Prophylactic treatment with steroids of MB patients starting on MDT with the given dose and duration prevents NFI at 4 and 6 months after the start of treatment, but the effect is not sustained at 12 months.

OCA 24

PROPHYLACTIC STEROIDS TO PREVENT NERVE FUNCTION IMPAIRMENT IN LEPROSY: THE EFFECT OF PRE-EXISTING NEUROPATHY OBSERVED IN THE TRIPOD 1 TRIAL

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Aim: To assess whether prophylaxis with low dose prednisolone during the first 4 months of MB MDT will result in at least a 50% reduction in the number of patients experiencing Type 1 Reaction (T1R)

leading to nerve function impairment (NFI) compared to those receiving placebo treatment. This report describes the effect of pre-existing neuropathy on the outcome.

Methods: A multicentre randomised, double-blind, placebo-controlled trial was conducted in leprosy control programmes in Nepal and Bangladesh. Eligible patients had a confirmed leprosy diagnosis, were between 15 and 50 years old, were starting MB MDT for the first time and did not require steroids for other reasons. Subjects were randomised to Prednisolone-prednisolone 20 mg per day for 3 months, tapering during the 4th month, or placebo. Nerve function was monitored monthly. The main trial outcome was the percentage of patients needing full-dose steroid treatment for Type 1 reaction (RR), type 2 reaction (ENL), NFI or neuritis, assessed at 4, 6, 9 and 12 months from the start of the treatment.

Results: 636 patients were enrolled; 312 (49%) and 324 (51%) in the prednisolone arms, respectively. Pre-existing NFI older than 6 months was present in 153 subjects (24%). A striking difference was observed in the effect of the prophylaxis between these subjects and those without pre-existing NFI. In the former group, there was no significant difference between the treatment and placebo group at any point during follow-up, while in the latter, a strong protective effect was present at 4 months, relative risk 6.7 (2.7–16.7), gradually declining to 1.45 (0.97–2.18) at 12 months.

Conclusion: Prophylactic steroid treatment did not prevent reactions or NFI in those with pre-existing neuropathy. A strong protective effective effect was observed in those without NFI during and directly after the prophylaxis, but this was not sustained during the 8 months of post-prophylaxis follow-up. The pathophysiological mechanism of reactions and neuropathy appears to be different in both groups.

OCA 25

STUDIES ON MECHANISM/S OF SILENT NERVE DAMAGE IN LEPROSY WITH SPECIAL EMPHASIS ON BIOCHEMICAL BASIS OF AXONAL ATROPHY

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Pathomechanism/s of silent nerve damage in leprosy is not known. A morphological feature commonly seen in leprosy nerves was the presence of atrophic axons. Question that remained was why and how such atrophic changes occur. A further study therefore was carried out to understand the structural and

biochemical basis of axonal atrophy in leprosy nerves. Since axonal caliber is governed by the C-terminal phosphorylation of high molecular wt. Neurofilaments (NF-H and NF-M) it was hypothesized that there may be involvement of the same following infection with *M.leprae*. In order to test this hypothesis, the state of NFH phosphorylation was studied in leprosy nerves using immunohistochemistry, SDS-PAGE, WB technique (using SMI-31 antibody) and correlated with morphological changes. Both human and experimental mouse sciatic nerve model are used for the study. The results indicate that there is disturbance in the phosphorylation mechanisms of neurofilaments in leprosy nerves in contrast to controls. It is also noted that the bacterial antigens play a crucial role in triggering these changes. It is suggested that the observed hypo-phosphorylation of NF proteins could be the factor behind the Silent Neuropathy that precedes clinically demonstrable manifest hypo-anesthesia and anesthesia.

OCA 26

THE DEFORMED FOOT: CORRECTIVE ARTHRODESIS IN LEPROSY IN NEPAL

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Nerve invasion by leprosy bacteria commonly results in neurologically impaired lower limbs. Denervation to external and internal structure can lead to stress fractures, collapse and recurrent ulceration. This commonly presents as a foot with change of normal anatomy and function. In a foot which has concurrent loss of normal protective sensation, the risk of further damage is high. The aim of corrective osteotomy and arthrodesis is to restore the foot to as close as possible to the normal anatomical foot, to fit conventional footwear and to decrease recurrent ulceration.

Aim: To review the results of corrective arthrodesis surgery performed over a twenty-year period at two major tertiary leprosy referral centres in Nepal

Methods: Data was collected by review of medical records of all patients who had undergone an arthrodesis of the foot or ankle at Anandaban Green Pastures Hospitals between 1980 and 2000. Types of procedure, methods of fixation, post operative complications and fusion rates were reviewed, as was the incidence of recurrent ulceration.

Results: 116 corrective arthrodesis were performed in 107 patients (73 male, 34 female) There was a 13% infection rate and six patients required a further procedure. 16% failed to fuse but in some cases the fibrous ankylosis was adequate for stability. 63% avoided further admissions for recurrent ulceration after the procedure. The complication rate was high but in line with that of the literature.

Conclusion: These results indicate that corrective arthrodesis is helpful in reducing recurrent ulceration secondary to deformity, but that occasionally further procedures such as soft-tissue reconstruction must be considered. Corrective arthrodesis will also enable the patient to wear normal footwear in most cases. Arthrodesis in those with recurrent acute neuropathic symptoms can also prevent further bone and joint destruction.

OCA 27

THE INFIR COHORT STUDY: ANALYSIS OF RELIABILITY AND NORMAL DATA FROM THERMAL SENSORY TESTING

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Aim: The INFIR Cohort Study aims to find clinically relevant predictors of nerve function impairment (NFI) and reactions.

Design: A multi-centre cohort study of 300 multi-bacillary patients, followed for two years.

Methods: Staff in the field centres were trained, reliability testing of the key techniques was done and normal reference data were collected. The test methods include Thermal Sensory Assessment using the Medoc TSA II Neuro Sensory Analyzer, a computer-based system that logs warm and cold detection thresholds by nerve in a data base. After training, staff at each centre completed paired bi-lateral assessments of some 60 leprosy patients, assessing cold and warm thresholds on ulnar, median, radial cutaneous, posterior tibial and sural nerves. Having established adequate reliability, we proceeded with collection of data to assess normal detection thresholds for warm and cold sensation. We recruited consenting volunteers, without signs of neurological disorders or diabetes, from amongst individuals not affected by leprosy attending the hospital outpatient department. Data were collected on people in four age groups of 75 individuals each, 10-30, 31-40, 41-50 and 51-60 years, with equal sex distribution within each group. For both reliability and normal data analysis of thermal sensation we extracted data from the Medoc data base and completed the analyses using Excel and STATA. For the reliability study, analysis followed the method of Altman and Bland.

Results: We found good agreement between paired assessments for both warm and cold detection thresholds. From the analysis of normal data we present age group-specific thresholds within each sex group. Because of the skewed nature of the data we discuss the need to compute these from log-transformed data. Implications of our findings are discussed.

Conclusion: The investigations described show that thermal detection thresholds in hands and feet can be

reliably tested and quantified in a leprosy-endemic population

OCA 28

THE INFIR COHORT STUDY: INVESTIGATING PREDICTION, DETECTION AND PATHOGENESIS OF NERVE DAMAGE AND REACTIONS IN LEPROSY

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Aim: To find clinically relevant predictors of nerve function impairment (NFI) and reactions, to determine which method(s) of nerve function assessment are most sensitive in detecting peripheral neuropathy, to study the pathogenesis of peripheral neuropathy and reactions and to create a bank of biopsy specimens and sera, backed up by detailed clinical documentation.

Design: A multi-centre cohort study of 300 multi-bacillary (MB) patients, followed for two years.

Methods: All newly registered MB patients requiring a full course of MDT are eligible. MB patients are defined as those who are smear positive and/or have 6 or more skin lesions and/or have two or more nerve trunks involved. A detailed history is taken, including an activities of daily living assessment, and physical and neurological examinations are done. Peripheral nerve function is evaluated at each visit using sensory and motor conduction testing, quantitative thermal sensory testing, electronic vibrometry, dynamometry, Semmes-Weinstein monofilaments (SWM) and voluntary muscle testing. The study outcome for sensory and motor impairment uses the latter two tests as the 'gold standard'. Other outcomes are Type 1 and 2 reactions and neuritis. A severity scale is used to grade the severity of the latter three outcomes. All subjects have a skin biopsy at registration, repeated at the time of an outcome event. At that time a radial cutaneous or sural nerve biopsy is also taken. The biopsies are being examined using a variety of immuno-histological techniques to detect cell populations and cytokine production. Blood sampling for immunological testing is done at every 4-weekly clinic visit. Samples are frozen in liquid nitrogen and transported by train to the designated laboratories. A specimen bank has been set up at the Blue Peter Research Centre in Hyderabad.

Results: By February 2002, 230 subjects had been enrolled. Enrolment is expected to close in Spring 2002. Reliability studies of the neurophysiological tests have shown good results. Details of some of the methods will be presented.

OCA 29

THE LINK BETWEEN FACIAL PATCHES AND LAGOPHTHALMOS OCCURRENCE DURING TYPE I REACTION IN LEPROSY

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Aim: This study aims to investigate the relationship between facial patches and lagophthalmos occurrence during Type I reaction in leprosy.

Methods: The charts of paucibacillary leprosy patients attended at Lauro Souza Lima Institute (ILSL) in Bauru - SP, Brazil, were reviewed for facial patches due to Type I reaction and for recent zygomatic temporal branches damage of the facial nerve. Facial patches were divided into "significant" patches (more than three centimeters in diameter, located on the zygomatic region and/or around the eye) and "other" patches (smaller than three centimeters in diameter and/or located elsewhere in the face). This study was divided in two categories: retrospective (patients attended at ILSL from 1983 to 1993) and a prospective part (patients attended at ILSL after 1993). To be part of this study the patient should not be using steroids during the reaction course.

Results: In the retrospective category, the majority of patients were already using steroids when they were studied. This also occurred in the prospective category, but in a smaller percentage. Overall, 7.5% of the patients studied were not using steroids and did not have lagophthalmos when they were examined throughout the course of the reaction.

Conclusions: The lagophthalmos is not a mandatory condition in the presence of facial patches due to Type I reaction therefore, there is no need to use the steroids as a profilactic if there is no damage in the zygomatic temporal branches of the facial nerve.

OCA 30

USE OF AZATHIOPRINE IN THE TREATMENT OF LEPROSY TYPE I REACTIONS

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Type I reactions (TIR) are acute inflammatory episodes which occur in about 30% of non-polar leprosy patients. The standard treatment of these reactions is with corticosteroids (prednisolone). However,

these often need to be given for long periods of time and so the risk of side effects is therefore considerable.

Aim: To reduce the overall steroid dose by the use of azathioprine as an adjunct treatment in severe TIR, and to document the safety profile of azathioprine in leprosy.

Methods: A total of 40 TIR patients were recruited between June 2000 and September 2001. The test group received azathioprine at a dose of 3mg/kg/day with a reduced course of steroids, while the control group received the semi-standard WHO 12 week prednisolone course. Patients were assessed at intervals during and following the treatment course using a severity grading which included appraisal of skin, systemic and nerve signs, and also VMT and ST assessments.

Results: During the six months of monitoring, 23 patients required extra prednisolone (13 in the azathioprine plus prednisolone group and 10 in the prednisolone only group). Results will be presented of a comparison between the clinical outcomes of skin, systemic and nerve indicators in the two treatment groups.

Conclusion: Azathioprine has been shown to be a safe drug for use in leprosy. Our evidence indicates that it may be a useful steroid-sparing agent in leprosy, but further studies in this regard are required.

OCA 31

ZONAS CUTÁNEAS INMUNES A LA LEPROA

Dr. José Terencio de las Aguas

Es evidente el dermatotropismo del *Mycobacterium leprae* por la piel, y lo abundante y frecuente de estas lesiones, sin embargo hay zonas cutáneas que nunca o excepcionalmente son afectadas por la Lepra, como son las regiones inguinales, pubis, genitales masculinos y femeninos, axilas, cuero cabelludo, palmas y plantas.

Se expone nuestra experiencia personal durante 49 años en unos tres mil enfermos y nunca hemos observado lesiones en axilas, genitales e ingles, pero sí aunque no son frecuentes en cuero cabelludo, palmas y plantas, y pubis, y casi todos en pacientes LL y BL siendo las lesiones clínicas maculas infiltradas y nódulos.

Más excepcionales son las Reacciones en las lesiones de estas zonas, habiendo observado algún caso de Eritema Nodoso en cuero cabelludo y genitales masculinos.

Curiosamente, no obstante, la preferencia del *M. leprae* por las zonas más frías y periféricas del cuerpo, poco suelen ser afectados el cuero cabelludo, genitales, palmas y plantas.

EPIDEMIOLOGY

OE 1

A PROSPECTIVE (SERO-)EPIDEMIOLOGICAL STUDY ON CONTACT TRANSMISSION AND CHEMOPROPHYLAXIS IN LEPROSY (COLEP)

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It has become increasingly apparent that treatment of leprosy patients alone will not lead to a decline in the incidence of leprosy. Previous studies indicated that chemoprophylaxis, especially of contacts of known leprosy patients, may make a major contribution in the prevention of leprosy. It was also shown that, by broadening the definition of "close contacts" from household contacts alone to a wider circle including neighbours and social contacts as well, sources of infection for new leprosy cases could be described more accurately.

The COLEP research project will investigate the efficacy and cost-effectiveness of a single dose of rifampicin to prevent leprosy in close contacts of newly detected leprosy patients. The study design is that of a single centre, randomised, double-blind placebo-controlled trial in which 20,000 contacts from 1,000 consecutive leprosy patients will receive one single dose of either rifampicin or placebo and will be followed-up for 4 years to study and compare the incidence of leprosy in the 2 study groups. In addition, the prevalence and incidence of leprosy in the general population by means of a referent group of 20,000 individuals will be studied. In the same framework, the application of serology on finger prick blood for the prediction of the development of leprosy and for the monitoring of the effectiveness of chemoprophylactic interventions will also be studied.

OE 2

A RETROSPECTIVE STUDY OF 3,062 MB CASES IN 12 YEARS FROM THE PROJECT AREAS OF ALERT INDIA

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About 3062 MB cases in the project areas of ALERT-INDIA in Bombay and New Bombay between the years 1990 to 2001 (inclusive) have been studied here considering the following parameters: age, sex, duration of residence in Mumbai, province of origin in INDIA, mode of detection, bacteriology, deformity status, reactions, response to chemotherapy, and presence of other cases in the family. From the results and trends, recommendations for further control work are discussed.

OE 3

A STUDY OF RISK FACTORS OF LEPROSY TRANSMISSION IN AGRA DISTRICT

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Background: Leprosy continues to be one of the major public health problems in some countries. Recent figures suggest that there are over 750,000 leprosy cases reported in the world and major portion of this comes from India. This is in spite of the fact that MDT was introduced in India almost 2 decades ago. It is believed that apart from hidden cases there are other factors responsible for the continued transmission in the community. It is therefore important to study the factors that may help in transmission of leprosy.

Material and Methods: A total 92305 persons were examined during July 1999 – June 2001 from the 25 blocks in Agra district and about 300 sub units (localities) are surveyed in house to house examination. Rural population constitutes 32126 (35%). A team consisting of trained Paramedical workers and Medical doctors carried out the survey. The household details on housing and surroundings, personal detail like age/sex, work type and leprosy classification etc were recorded during the survey. Data has been analyzed using SPSS software and Logistic regression has been used to assess the risk.

Results: The prevalence of leprosy/10,000 in rural area was 47.9 (154/32126) which is significantly higher than 33.9 in Urban areas. Over 50% of the subunits were found to have atleast one active case of leprosy needing treatment. Univariate analysis suggested that leprosy prevalence was significantly high among persons living in rural areas, living in kuccha and dirty housing, houses without toilet facil-

ity and engaged in blue collar works mostly engaged in agriculture/leather and other manual jobs. Adult Males had preponderance of disease.

Conclusion: Important risk factors for leprosy are related to housing and work type. If these are taken care off along with the good coverage and regularity of treatment, leprosy eradication may be achieved faster in India.

OE 4

AÇÕES DO CONTROLE DOS COMUNICANTES DE HANSENÍASE NO BRASIL (1889 A 2001).

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Dentre os vários problemas de saúde pública que existem no Brasil, destaca-se a endemia hanseníase, cuja prevalência é de 4,6 casos/ 10 mil habitantes. A distribuição da endemia é irregular e vários são os fatores que contribuem para a manutenção da mesma, entre eles, o baixo controle dos comunicantes, os quais apesar de apresentarem um risco maior de adquirir a doença, especialmente os contatos de doentes multibacilares, tem sido pouco valorizados pelos serviços e profissionais de saúde. Este estudo descritivo, realizado por meio de uma revisão da literatura buscou identificar as medidas de controle dos comunicantes de hanseníase no Brasil, de acordo com o estabelecimento de três periodizações a partir de 1889 à atualidade: o período do uso do óleo de Chaulmoogra até 1940, depois, do uso das sulfonas até 1990, e, por último, do uso da MDT. Nesses períodos os serviços e profissionais de saúde parecem ter privilegiado o espaço para o controle da doença e do doente, não valorizando o controle dos comunicantes e o cumprimento das legislações pertinentes a cada um desses períodos. Acreditamos que, com "doente tratado e comunicante controlado", os serviços de saúde podem contribuir para a eliminação da hanseníase como problema de saúde pública até o ano de 2005.

OE 5

ANÁLISE DA TENDÊNCIA SECULAR DA HANSENÍASE NO BRASIL E MACRORREGIÕES NO PERÍODO 1985 – 2001

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A hanseníase ainda é considerada um problema de saúde pública no Brasil. O país tem como compromisso internacional, a eliminação da doença como

problema de saúde pública até o final do ano de 2005 (taxa de prevalência de < 1 doente a cada 10.000 hab.). Nas últimas duas décadas as ações do programa tem sido intensificadas, aumentando o diagnóstico da doença (mais de 300%) em todo país, enquanto a prevalência foi reduzida em mais de 80%.

O presente estudo tem como objetivo analisar os dados de detecção das macrorregiões e Brasil entre os anos de 1985 a 2001, utilizando, análise de variância. Após o desenho das curvas de tendências fazer a projeção dos casos para os anos subsequentes e prever as taxas de detecção da doença para o país até o ano de 2005 e contribuir para verificar a possibilidade do alcance da meta de eliminação da doença até a data estabelecida.

OE 6

ANALYSIS OF THE CASES OF LEPROSY NEWLY DETECTED IN ZHEJIANG PROVINCE FROM 1989 TO 1998

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Objective: To discuss epidemiology character and control of leprosy in low epidemic.

Methods: A retrospective study was used for 271 cases of leprosy newly detected in Zhejiang province from 1989 to 1998.

Results: The mean of detection rate was 0.063/ 100,000. The main character of epidemiology: the age of attack increased; the ambiguity of source of infection manifold and the proportion of MB increased year after year. The most cases of leprosy newly detected have been infected outside the household. The disease duration shortened and the II level of disability rate decreased, assumed the connection of parallel.

Conclusion: Mostly control of leprosy: the health education should develop actively and the initiative outpatients increase, so that the forefront of patient detected cure in time.

[Key words] leprosy; the cases of leprosy newly detected; control

OE 7

ANALYSIS ON CORRELATIVE FACTORS RELATED TO SUBCLINICAL INFECTION IN CON-SANGUINEOUS CONTACTS OF LEPROSY

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Objective: To approach the status of subclinical infection in consanguineous contacts of leprosy and Analysis of correlative factors on subclinical infection.

Methods: Using ND-IgM-ELISA method to examine the sub-clinical infections. Single and multi-factor non-conditional logistic regression analysis were used to analysis.

Results: The results of single factor X^2 analysis revealed that: sex, age, the relationship with the patient, leprosy type of patienta, the length of contact were the risk factors related to the subclinical infection in consanguineous contacts of leprosy. But only sex, age, the relationship with the patient, leprosy type of patienta were significantly correlated with subclinical infection in multi-factors logistic equation analysis.

Conclusion: Sex, age, the relationship with the patient and leprosy type can significantly effect the sub-clinical infection of consanguineous contacts of leprosy.

[Key words] Leprosy subclinical infection, non-conditional, logistic, regression, analysis

OE 8

ASSESSMENT ON THE EPIDEMIOLOGICAL TRENDS IN LEPROSY-ENDEMIC VILLAGES

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How to assess the magnitude of leprosy problem, or to estimate whether the transmission of leprosy exists or not is a difficulty facing leprosy control at present. It was reported that three and 5 leprosy patients were detected newly in Tonghong and Nanqiu, Yunnan Province, during LEC in 1997. The epidemiological investigation was conducted in the two leprosy-endemic villages and the combination PGL-ELISA and PCR with nasal swabs is intended to estimate the intensity exposure to *M. leprae*. The investigative results showed:

1) Nine patients and 23 had been cured respectively since implementation of MDT in Nanqiu and Tonghong village. Two and 4 cases detected newly during of LEC were confirmed respectively by clinical, pathological and serological in Nanqiu and Tonghong village and most of them are under 25 years old.

2) The prevalence and detective rate in Tonghong village are higher than those in Nanqiu village. But no significant difference can be found in the PGL-IgM positivities in general villagers between the two villages (18.7%, 76/406 & 20.86, 104/457; $X^2 = 2.12$, $P = 0.145$). However, in the <20 years age groups,

PGL-IgM positivity in Tonghong village is much higher than in Nanqiu village (55.1%, 70/127 & 40.8%, 51/125 $X^2 = 2.2$). Therefore, the positive correlation may exist between positivity of PGL-IgM in younger people and the number of leprosy patient in the population.

3) In household contacts, PGL-IgM positivity and *M. leprae* nasal carriage with PCR are 30.4 % (17/56) and 23.1 % (9/39) respectively. Although PGL-IgM positivity in household contact was higher than one in general villagers (20.86 %, 180/863), no significant difference of PGL positivity can be found between household contacts and general villagers ($X^2 = 2.82$, $P = 0.093$).

4) Whether Tonghong or Nanqiu village, the peaks of PGL-IgM positivity rate are in the <20 years age group and the positivities of PGL-IgM are decreased with increasing of age. In addition, PGL-IgM positivity in female is higher than in male.

The cases detected newly during LEC were distributed mainly in younger group and it parallels with the peak of PGL-IgM positivity in younger group. The relationship between the prevalence of leprosy and the PGL-IgM positivity is not yet quite clear but the phenomenon seems to support that the youth is susceptible to infection with *M. leprae*. PGL-IgM seropositivity can reflected the intensity of exposure to *M. leprae* in population of high endemic -leprosy village. It is necessary to monitor epidemiological trend in the two villages with serology based on PGL-I or other more specific tests in order to demonstrate whether the transmission of leprosy is controlled in the two villages.

There is no significant difference in positive rates of PGL-IgM between household contacts 30.4% (17/56) and the general population 20.86% (180/863) ($X^2 = 2.82$, $P = 0.093$).

OE 9

CAPTURE-RECAPTURE METHOD TO ASSESS THE PREVALENCE OF DISABLED LEPROSY PATIENTS

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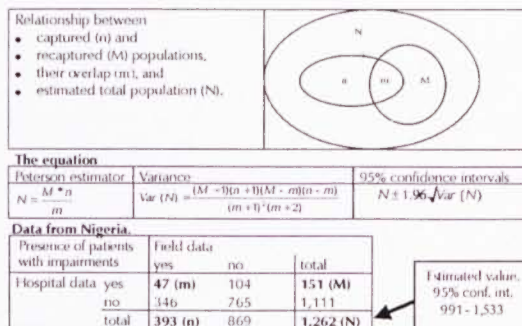
A two-sample capture-recapture method can easily be applied,

- using data from hospital admissions, and
- data from a sample survey on leprosy patients with impairments in the field.

Limitations: the completeness of reporting after invitation in the field, as well as the probable biased sample of leprosy patients admitted to hospital.

Conclusion: relying on the initiative of patients to report to the clinics for prevention of disabilities and rehabilitation interventions to the clinics, causes the real size of the problem to be underestimated by a factor of 3 to 4.

Recommendation: the use of a special "care" register for disabled leprosy patients so that their needs for prevention of impairments and disabilities and for rehabilitation are better addressed.



OE 10

CLOSE CONTACTS IN LEPROSY IN A HIGH AND LOW ENDEMIC AREA: COMPARISON BETWEEN BANGLADESH AND THAILAND

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Background: As part of a larger study of the role of close contacts in leprosy transmission, it was investigated whether the proportion of newly detected cases with known close contacts with leprosy differs with different incidence rates of leprosy in a population.

Methods: Retrospective analysis of close contacts of all new leprosy patients diagnosed during a 10-year period in well-established leprosy control programmes in Thailand and Bangladesh. Contacts are defined as relatives and in-laws with contact to the new case, who were once themselves diagnosed with leprosy. Contacts were differentiated into three levels. In Bangladesh these levels were defined as 'kitchen contact'; 'house contact'; and 'non-house contact'. In Thailand comparable levels were defined as 'house contact'; 'compound contact'; and 'neighbour contact'.

Results: In Bangladesh 1,333 new patients, and in Thailand 129 were included. The average new case detection rate over 10 years was 50 per 100,000 general population per year in Bangladesh, and 1.3 per 100,000 in Thailand. In the high-endemic area approximately 25% of newly detected cases had a known close contact, whereas in the low-endemic area this was 75%. The distribution of patients with known contacts over the three contact levels was comparable in both areas. Around half of the contacts were found within the immediate family unit. In both areas children aged 0 – 14 years had the highest level of known contacts, primarily within the immediate family unit.

Conclusion: Different contact levels and their relative risks to contract leprosy need to be established more precisely. In high endemic situations the circle of contacts to survey may need to be wider than currently practised.

OE 11

COMPARAÇÃO DE MÉTODOS DE ESTIMATIVA DE PREVALÊNCIA DE HANSENÍASE EM DIFERENTES REGIÕES DO ESTADO DE MATO GROSSO.

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O Objetivo deste estudo é comparar três métodos de estimativa de prevalência de hanseníase entre municípios das regiões do Baixo Araguaia e Baixada Cuiabana do estado de Mato Grosso no período de 1996 a 2001. Tendo em vista a intervenção da SES-MT no ano de 2001, para a eliminação da hanseníase, denominada: "Projeto prioritário Tolerância Zero: Mato Grosso sem hanseníase", fez-se necessário o cálculo da prevalência estimada para todos os municípios do estado. O planejamento das ações, assim como dos incentivos financeiros vinculados ao referido projeto dependem diretamente do aumento do coeficiente de detecção e altas por cura. A SES-MT agrupou os municípios em quatro estratos de prioridade, tendo por parâmetro a prevalência e o número de habitantes. Entretanto, estudos anteriores apontam para a necessidade de informações referentes ao grau de incapacidade dos doentes (FERREIRA et al, 2000) somada à coorte de casos novos registrados nos 5 anos anteriores à estimativa (GIL & LOMBARDI, 1997) para o cálculo da estimativa real por meio da prevalência oculta. Os autores discutem as deficiências de todos os métodos, tendo em vista a homogeneidade com que foram tratados os municípios na perspectiva do estado e as deficiências das informações quanto ao grau de incapacidade e coortes históricas, imprescindíveis na aplicação dos outros dois métodos.

OE 12

DOES THE CURRENT GLOBAL LEPROSY ELIMINATION STRATEGY REDUCE THE INCIDENCE OF LEPROSY?

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We investigate the impact of the current global strategy to eliminate leprosy as a public health problem on leprosy transmission, and the consequences of relaxing this strategy after 2005. Calculations are made using SIMLEP, a computer simulation programme for modelling the transmission and control of leprosy which can be used to predict epidemiological trends.

In many major endemic countries, the new case detection of leprosy did not decline in the 1990s. Using different epidemiological assumptions, we show that the underlying incidence may have been decreasing, but also that it may have remained static. Due to shortened detection delays, the incidence rate declines between 2000 and 2020 in all scenarios. The simulated annual rates of decline vary widely, depending on when and how fast leprosy transmission is assumed to occur. Relaxing control after 2005 leads to a fall in new case detection rates, and to a slowing down in the decline in the incidence rate of leprosy. Some simulations even show small temporarily increases in the incidence. The incidence rate decreases faster when policies of BCG vaccination of infants are adopted. The acceleration in the decline depends on the protective efficacy of BCG which may wane over time, and on the population coverage that can be achieved.

This study predicts that the current elimination strategy reduces leprosy transmission, but that the decline in incidence may be slow. Sustainability of early case detection and treatment after 2005 is critical for maintaining the decreases in incidence. Further research on transmission is essential for narrowing down the uncertainty regarding future leprosy trends and for long term planning of leprosy control.

OE 13

EPIDEMIOLOGICAL STUDY ON DISABILITIES IN 24128 NEWLY DETECTED LEPROSY PATIENTS IN CHINA

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To approach the status of leprosy disabilities in newly detected cases in recent 11 years in China and provide the scientific basis for formulating the preventive strategies. Based upon the records from the National Leprosy Recording and Reporting System in National Center for STD and Leprosy Control, 24 128 leprosy cases detected during 1989–1999 in China were analyzed in terms of leprosy disability. The proportion of disabilities in newly detected leprosy cases in 1989 in whole country was 46.49% and decreased to 32.7% in 1999, and the proportions of cases with grade II disabilities were 25.55% (1989) and 22.06% (1999). There were 19 provinces where disability rate was more than 40%. Out of patients with disabilities, those with grades I and II disabilities and with deformities (loss of eyebrow, facial paralysis or saddle nose) accounted for 37.54%, 61.03% and 1.42%, respectively. There were 20 provinces where grade II disabilities accounted for more than 50% of all patients with disabilities. The disability rates in patients aged under 15 years, 15–65 years and over 65 years were 24.74%, 39.3% and 53.33%. The patients with a delay in detection of 2 years had a disability rate of 28.95%, and those with a delay of more than 2 years and 5 years had the rates of 48.06% and 60.95%, respectively. The disability rate was 53.76% in patients with leprosy reactions. The grade II disability rate in paucibacillary patients (28.53%) was significantly higher than that in multibacillary ones (22.03%). Disability rate of leprosy in newly detected cases is still high although it has decreased in the recent 11 years. The rate is associated with delay in detection, leprosy reaction and leprosy type. It suggests that early detection of leprosy patients, regular treatment with multidrug therapy, and management of leprosy reactions will be the effective measures to prevent disabilities of leprosy.

OE 14

EPIDEMIOLOGY OF LEPROSY ON FIVE ISOLATED ISLANDS IN INDONESIA

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On 5 small islands in Indonesia a population-based survey was carried out to collect baseline data previous to an intervention study. Here we present the epidemiology of the present leprosy situation on these geographically isolated islands.

Of the 4,774 inhabitants living in the study area 4,140 (87%) were screened for leprosy. A total of 96 leprosy patients (85 new and 11 previously diagnosed patients) was found, representing a new case detection rate of 205/10,000. Of the new patients, 33

(39%) were classified as multibacillary, 16 (19%) as paucibacillary (PB) 2-5 lesions and 36 (42%) as PB single lesion.

Multiple logistic regression was used to determine which risk factors were independently associated with leprosy. Living on the island Kembanglemar was associated with leprosy (odds ratio (OR): 3.4) compared to Sapuka. Overall, no statistically significant difference in OR was observed between men and women. However, within age groups differences were seen: 20-29 year old men had a higher risk of developing leprosy (OR: 2.7) compared to women in this age group. Within the group of new patients men had a higher risk to be classified as MB compared to women (OR: 2.5). Age and island were not related to classification.

A spatial scan statistic was used to test for clusters of leprosy patients (both new and old) on each island. In this high leprosy endemic area leprosy patients were clustered: they were not equally distributed among the islands and within the islands among the houses.

OE 15

EVALUATION OF MLEC IN BIHAR STATE – INDIA

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Modified Leprosy Elimination Campaign carried out in Bihar State with an intention to detect as many hidden cases as possible through publicity, active search and voluntary reporting in December 2001. Evaluation of MLEC was done in January 2002, to know the extent of coverage (Population), to assess the quality of case diagnosis in terms of accuracy and to assess the impact on awareness level in community. 38 blocks (average population of block is 1,50,000) in 22 districts were randomly selected and one team (One MO and 1 NMS) with vehicle for each block identified and briefed. Evaluators obtained lists of suspects and confirmed patients, identified village wise from the concerned PHC. They took the help of MO PHC and NMS/MPHW in preparing visit schedules and in identifying suspects and patients in villages. Totally 17,126 suspects were identified, 8876 (51.8%) were screened by programme. Of the screened 3331(37.5%) were cases, 1106 (12.5%) old cases and 4439 (50%) not cases. 80% of cases confirmed by programme are screened by evaluators. The result was that 74.6% (1996) were real cases, 12.5% (334) were old cases and 12.9% were not cases. Of the 4439 suspects declared as not cases by programme, 3501 were examined by team. 103 (3%) were found to be new cases.

Sensitivity for diagnosis was 87.3%. Specificity was 90.4%. Only 8.2% of suspects not screened are new cases. During evaluation 821 additional new cases were detected. Awareness about disease among patients was good and awareness about programme among the community was also good.

OE 16

HANSENÍASE E EMIGRAÇÃO EM UMA ÁREA INDUSTRIAL.

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Introdução: Na região do Grande ABC, houve uma grande migração principalmente do Nordeste do país, com repercussões no número de doentes de hanseníase na região. Com isso, o número de casos novos incidentes ano a ano, permaneceu estável, apesar do serviço de Hansenologia local é de ótima qualidade, sendo feito somente por médicos especialistas e com todo o amparo do serviço público. Analisaremos o presente fato frente ao objetivo do Ministério da Saúde ter resolvido erradicar a hanseníase em 2003.

Casuística: Foram analisados as fichas de notificação compulsória e prontuários médicos de pacientes com hanseníase no período de 1991 a 1999, considerando como doentes emigrados os pacientes que residiam na região há menos de 07 anos e como da região, os autóctones e os emigrados há mais de 07 anos com residência estabelecida.

Resultados e discussão: Num total de 558 pacientes, 237 eram da região e 321 emigrados, mostrando a influência da emigração, sendo isso analisado em comparação com a emigração normal de não doentes. Foram analisadas ainda as causas de tal emigração.

OE 17

INCIDENCE RATES OF ACUTE NERVE FUNCTION IMPAIRMENT (NFI) IN LEPROSY: A PROSPECTIVE COHORT ANALYSIS AFTER 60 MONTHS (THE BANDS STUDY)

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Background: NFI is the key outcome of the pathological processes of an infection with *M. leprae*, which can continue after completion of multidrug therapy (MDT) and lead to disability after leprosy patients are released from treatment.

Methods: Prospective cohort study of 2,664 new leprosy patients in Bangladesh, with an observation period of 60 months in multibacillary (MB) patients, and 36 months in paucibacillary (PB) patients. Incidence rates (IR) were calculated with the number of patients developing NFI for the first time as the numerator, and cumulative person-years at risk (PYAR) as the denominator.

Results: The IR of first event of NFI amongst MB patients was 16.7 per 100 PYAR, with 121/357 (34%) developing NFI during the observation period. Of the 121 with a first event of NFI, 77 (64%) had this within a year after registration, and the remaining 44 (36%) after 1 year. The IR of first event of NFI amongst PB patients was 0.9 per 100 PYAR, with 53/2153 (2.5%) developing NFI during the observation period. Of the 53 with a first event of NFI, 32 (60%) had this within the first 6 months and 16 (30%) between 7 and 12 months. The remaining 5 (10%) PB cases had their first event of NFI after 1 year.

Conclusion: NFI in MB patients is a common phenomenon, and occurs in over a third of the patients after completing the current 1-year course of MDT. In PB patients, NFI occurs in only a limited proportion of patients, but in 40% of the cases after completion of the 6-month course of MDT. Systems to monitor nerve function need to be designed to take into account this high frequency of development of new NFI after completion of MDT.

OE 18

IMPACT OF MLECs IN NLEP BIHAR - A STUDY

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In addition to regular case detection activities by vertical NLEP in Bihar special MLEC's were conducted in 1998, 2000 and 2001 for seven days, visiting all the houses in rural and urban areas of all the districts by search team. Of course in 1998 Bihar included Jharkhand also. Idea behind these campaigns was to detect all the active cases of leprosy from the hidden pool and involvement of General Health staff. In 1998 total cases detected were 2,05,559, in 2000 – 80,710 and in 2001 – 42,770. In comparison to total new cases detected in the year Ist, IInd, and IIIrd MLEC contributed 72.88%, 58.7% and 40.5% respectively with deformity rates among new cases 4.6%, 2.2% and 2.3%.

Only one week activity involving all the general health staff has yielded a good percentage of newly detected cases and in capacity building of GH staff in leprosy work.

These figures show that consecutive MLECs have

given a great additive impact on the NLEP in creating awareness, better understanding among the community and patients. Messages of leprosy disease, its cure by MDT, prevention of future or further worsening of deformities has reached the vast majority of the public and community. It is evident that there is decrease in PR, NCDR and deformity rates too.

OE 19

LEPROSY DISABILITY: A PUBLIC HEALTH PROBLEM FOR MANY YEARS TO COME

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It is disability that determines the burden of leprosy disease. Little is known about the prevalence of disability. The present study aims to estimate the present global prevalence of individuals with WHO grade 2 disability, and to give projections for this prevalence up to the year 2020.

We estimate the present global prevalence of grade 2 disability on the basis of assumptions on past incidence rates of disability, and on survival of individuals with disability using a life-table approach. The estimates obtained will be compared with the only other available estimates which are supplied by WHO. These estimates of the prevalence of grade 2 disability range from in between 1 to 2 million (1994) to in between 2 to 3 million (2001). Projections up to 2020 will be obtained from the assessment for the current situation, scenarios for the future new case detection of leprosy as obtained with the leprosy simulation model SIMLEP and present percentages of new cases presenting with grade 2 disability. Starting from WHO's 2 million estimate for 1995 which is age-specific, we estimate the global prevalence of WHO grade 2 disability in 2020 to be at least 1.4 million. The uncertainty involved is considerable, and a range of scenarios will be presented. The main conclusion however remains unchanged: in terms of disability, leprosy will remain a public health problem for many years to come

OE 20

LEPROSY TRANSMISSION AND MUCOSAL IMMUNITY: *M. leprae* EXPOSURE AND HUMORAL MUCOSAL IMMUNE RESPONSE IN ENDEMIC POPULATION.

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Introduction: Widespread use of MDT in closely monitored programmes has not prevented transmission of leprosy. Exposure to *M. leprae* may lead to primary nasal infection, which can be transient in most individuals. Mucosal immune response to *M. leprae* may develop during resolution of this initial infection. Frequent exposure could lead to high levels of mucosal immunity.

AIM: To study *M. leprae* exposure and the development of mucosal immunity in leprosy endemic population in which MDT has been used for more than 10 years.

Setting: Three villages from South Maharashtra comparable in size, socio-economic status and prevalence of leprosy, and in which MDT had been in place for at least 10 years.

Methodology: Polymerase Chain Reaction and Peptide Nucleic Acid - ELISA was used for the amplification and detection of *M. leprae* DNA present on the nasal mucosa. An ELISA based technique was used to study the mucosal immune response.

Results: 3035 subjects were screened in the study. Mucosal immune response against *M. leprae* was observed in approximately 67% of the subjects tested throughout the study with almost 12% subjects showing very high response (ML-IgA++). PCR positivity in this group of subjects was 1.78%. Development of high mucosal immunity and the PCR positivity changed in different follow-ups. 73-77% of the subjects with high immunity show indication of the mucosal immunity in the prior follow-up (6 months before). Similarly more than 60% of the ML-IgA++ subjects show *M. leprae* reactive antibodies in the subsequent follow-up.

Conclusion: Mucosal immunity against *M. leprae* appears to be widespread in the endemic population. As the *M. leprae* exposure seems to be a transient phenomenon, shorter duration follow-ups can shed more light on the correlation of the immunity and its role in protection.

OE 21

LONG TERM FOLLOW-UP OF THE KARONGA PREVENTION TRIAL: 15 YEAR TRENDS IN PROTECTION AGAINST LEPROSY AND TUBERCULOSIS BY BCG, REPEAT BCG, OR BCG COMBINED WITH KILLED *M. leprae* IN NORTHERN MALAWI.

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BCG has been found to provide greater protection against leprosy than against tuberculosis in several populations, including in northern Malawi. A large randomized controlled trial of single BCG, repeat BCG, and BCG combined with killed *M. leprae* was undertaken in Karonga District starting in 1986. Data published in 1996 showed that a second BCG provided approximately 50 % protection against leprosy over and above a single BCG, for 5 – 8 years after vaccination, thus indicating that two BCG vaccinations provided approximately 75 % protection compared to nil vaccine. No protection against pulmonary tuberculosis was observed. Data are now available reflecting incidence 12 – 15 years after vaccination. Analyses have not been completed in time for this abstract, but will be presented and discussed at the Congress.

OE 22

MICRO-MONITORING—A KEY MANAGEMENT TOOL FOR PLANNING STRATEGIC INTERVENTIONS AND FACILITATING LEPROSY ELIMINATION GOAL

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Introduction: Monitoring is an integral part of any project or program. Unless properly monitored, it can't be measured hence cannot be managed. So the ultimate objectives are adversely affected and sometimes defeated. This holds good for leprosy elimination goal set at 2005(WHO). Earlier monitoring was more focused at the macro level- Global and National level. Subsequently it was decentralized and focused at sub national/ state level and district level. This was logical according to the then prevailing situation. But the situation is very different now. In Orissa PR has come down from 121.3/10000 in 1983 to 9.7/10000 at present with nearly 95% fall. But if we analyze the situation at sub district and sub health center level it is generally observed that caseload is not uniformly same all over. It varies from districts to districts and within the districts.

Objective: To focus monitoring at sub district and sub health center level

Strategy: Analyze the leprosy elimination parameters such as PR, NCDR, DR, Cure rate, Coverage rate, Relapse rate, MB rate, Child rate and SSL rate. Analysis of the trends on the same process.

Purpose: To motivate the decision makers and program managers to take suitable decisions. To prioritize the focused areas and make interventions.

Micro monitoring: Process						
	District	Total blocks	Urban	Rural blocks	Tribal blocks	Bordering blocks
PR	6.9/10000	6.9/10000	13.7/10000	7.1/10000	5.1/10000	-
PR>10	6	58	52	44	14	19
PR						
5-9.99	10	109	30	68	41	20
PR						
1-4.99	14	142	14	84	58	32
PR<1	X	5	2	x	5	x
Total units	30	314	98	196	118	71 (included in tribal and rural)

Conclusions: Based on the findings of the above table problem areas were identified.

Special strategy for urban, tribal, rural and border areas are implemented.

Interventions like SAPEL/LEC/GS are implemented

Replication is possible.

OE 23

PERIPHERAL NEUROPATHY IN HD; A PROBLEM FOR HOSPITAL OR EPIDEMIOLOGIC STUDY?

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Peripheral neuropathy in Hansen's disease (HD) is often considered a problem for hospital treatment, not one for disease surveillance, or epidemiologic study. Dermatologic manifestations of the disease are readily treatable today. But the peripheral nerve complications that frequently accompany the disease are not as readily treatable. A patient may have nerve complications that lead to nerve impairment and disability either before being diagnosed, during the course of treatment, or even later. Many patients who are "effectively" treated with antileprosy medications today will not have disabling neuropathy or progression of neuropathy. If disease surveillance could easily detect those who do, then the overall success of pharmacologic treatment could potentially be improved. Focusing on patients who have evidence of continued peripheral nerve neuropathy as a group is more likely to identify those with persistent and resistant disease. Searching for factors that they have in common could improve treatment resolution and thereby increase the number of patients "cured". Were peripheral neuropathy simply arrested with chemotherapy against the *M. leprae* bacillus, resolution of the nerve complications and prevention of disability would be simple and straight-forward. But, it is known that some patients considered "effectively" treated for the infection per se, still develop disabling neuropathy. Hand and foot screen monitors have been developed and well tuned over many years, and can be used for surveillance as well as for

case detection of those needing further treatment. This paper/report will review 25 years of peripheral nerve monitoring in HD, what we have learned, and implications for future directions and treatment.

OE 24

PERSPECTIVAS DE ELIMINAÇÃO DA HANSENÍASE ATÉ O ANO DE 2005

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Em 1994 Bechelli analisou a resolução da Assembleia da Organização Mundial de Saúde (maio de 1991), que aprovou a eliminação global da hanseníase, como problema de saúde pública, até o ano 2000, definida como a redução da prevalência a 1 caso ou menos por 10 mil habitantes, concluindo que não parecia possível conseguir a eliminação global da hanseníase como problema de saúde pública, até o ano de 2000; a não ser que uma nova droga ou vacina fosse utilizada. Sansarricq e Daumerie (2001) preconizam a eliminação até 2005 destacando: "Todavia, em alguns países, a eliminação da prevalência em nível subnacional não seria conseguida". Bechelli, ligado ao problema da hanseníase desde 1934, reconhece a complexidade do problema e augura pleno sucesso ao plano. No entanto, parece que a eliminação dificilmente poderá ser atingida no prazo de 5 anos. Os esforços para combater a pobreza e outros fatores epidemiológicos de áreas endêmicas dificilmente terão o sucesso desejado nesse curto prazo. "A miséria deve favorecer a propagação da moléstia, como consequência do desasseio, promiscuidade nas habitações (aumentando a 'exposição') e depauperamento orgânico, favorecendo a baixa da resistência" (Bechelli e Rotberg 1956). A eliminação exige a erradicação da pobreza, responsável também pela presença de várias enfermidades (tuberculose, aids e outras). Na Índia (Maharashtra) Bansod Baliran (2001) julga que condições sócio-econômicas; sócio-culturais, habitats pessoais têm grande influência na propagação da moléstia. Não existe droga ideal, como a penicilina na sífilis, nem uma vacina como a antivariólica. Ademais, são desfavoráveis as condições sócio-econômicas nas áreas endêmicas, inclusive com o aumento de desemprego. Por isto não parece possível conseguir a eliminação global da hanseníase como problema de saúde pública até o ano de 2005.

OE 25

RISK FACTORS FOR NERVE FUNCTION IMPAIRMENT, FIVE YEAR FOLLOW-UP OF THE BANDS COHORT.

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Nerve-function impairment (NFI) commonly occurs during or after chemotherapy in leprosy. From the completed follow-up of the Bangladesh Acute Nerve Damage Study (BANDS) we describe the development of NFI and present a simple clinical prediction rule identifying the risk of NFI during follow-up.

BANDS was a five year prospective cohort study of new leprosy cases in northern Bangladesh. Data from regular field assessments were recorded on computer. We used Cox's proportional hazards regression to identify predictive variables for first events of NFI during follow-up.

Amongst 2510 patients not requiring steroid treatment at registration 175 developed new or further NFI during follow-up. Our analysis identified a simple predictive rule with three levels of risk for new NFI:

Low risk: PB leprosy with no history of nerve-function loss at registration

Medium risk: MB leprosy with no history or PB leprosy with a history of NFI.

High risk: MB leprosy with a history of NFI.

We will also describe our findings in relation to recurrent, chronic and late events and to risk factors for silent neuritis and for reversal reaction. We consider the implications for surveillance of new leprosy patients.

OE 26

STEPWISE REGRESSION ANALYSIS OF RISK FACTORS ON THE DEGREE OF DISABILITIES OF LEPROSY

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Objective: Analysis of factors impacting on the degree of disability of leprosy.

Methods: Based upon the individual records from 485 leprosy cases with disability in liaoning province, The arithmetic disability index(ADI) and weighted disability index(WDI) were used as the quantity index of the disability and eleven factors were analysed on SPSS10.0.

Results: the results showed that the significant factors affecting disability were the same by these two indices, the factors are: the patient's age, leprosy reaction, leprosy type, standard of living.

Conclusion: the patient's age, leprosy reaction, leprosy type and standard of living can significantly effect the degree disability of leprosy. It is very effective to prevent the degree disability of leprosy through the early case-finding and immediate treatment, controlling the reaction, and increasing the standard of living.

[Key words] Leprosy, Disability, stepwise, regression, analysis

OE 27

TENDENCIA DE LA DETECCIÓN DE CASOS NUEVOS DE LEPROSIA EN PARAGUAY (1970-2001)

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Ministerio de Salud Pública y Bienestar Social – Departamento de Lepra and OPAS

En base a los datos que se procesan en el Archivo Central de casos nuevos de lepra detectados cada año en Paraguay, se hace un estudio de la tendencia temporal de la endemia en el país.

El estudio abarca el período 1970-2001 analizándose las formas clínicas de la enfermedad y los grupos de edad a través de las tasas brutas y específicas, así como las proporciones de las formas clínicas.

El período evaluado corresponde al marco de una política de control operacional uniforme para todo el país, elaborado por el Departamento de Lepra del Ministerio de Salud Pública y Bienestar Social de Paraguay.

La tendencia global de las tasas de detección de casos nuevos muestra una declinación muy lenta que se hace más evidente desde 1992, manteniéndose casi estable, desde entonces hasta el año 2001.

Se nota además la mayor incidencia de casos en el grupo de "45 y más años de edad" a lo largo del período analizado, así como también la ascendente preponderancia de las formas multibacilares (MB) sobre las paucibacilares (PB) a partir del año 1983. La incidencia en menores de 14 años ha sido siempre baja, con preponderancia de las formas PB.

La poliquimioterapia (PQT) se inició en octubre de 1980, aunque la cobertura de la PQT recién alcanzó al 100 % de la prevalencia en 1996.

OE 28

THE ANALYSIS OF SPATIAL PATTERNS OF SEROPOSITIVITY OF LEPROSY WITH GEOGRAPHIC INFORMATION SYSTEMS (GIS)

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Apart from individual and temporal factors, spatial factors may be important as well in infectious diseases. For leprosy this is the location of persons/patients in relation to each other: the role of proximity. Possible aims of analysing spatial patterns of seropositive persons and leprosy patients are to uncover mechanisms of disease transmission, to identify high risk groups, to identify locations of high prevalence (clusters) and to monitor intervention and control programs. For the analysis of spatial patterns of infectious diseases Geographic Information Systems (GIS) are more and more used. To describe spatial patterns with GIS, maps are needed.

During a cross sectional study on five small islands in Indonesia 3271 serum samples were collected (69% of the inhabitants) and analysed with ELISA to measure the presence of IgM antibodies to phenolic glycolipid I. 16 patients and 96 other individuals were seropositive, representing a seropositivity prevalence in the population of 3.4% (95% confidence interval: 2.8-4.0). Detailed maps of these islands, indicating the locations of all the houses were prepared.

Different methods will be presented which were used to describe the spatial pattern of seropositivity. A spatial scan statistic was used to test for clusters of seropositive persons on each island. Buffers were created around patients to measure the risk of close contact separate for MB and PB patients.

OE 29

THE IMPACT OF LEPROSY ELIMINATION CAMPAIGNS ON LEPROSY INCIDENCE TRENDS

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The effect that Leprosy Elimination Campaigns (LECs) may have on trends in the incidence of leprosy is evaluated using SIMLEP. SIMLEP is a computer simulation programme for modelling the transmission and control of leprosy which can be used to predict epidemiological trends.

In an earlier study, scenarios for future trends in the incidence of leprosy were explored using a baseline control programme with early case detection from 1998 onwards. Both this programme, and a less in-

tensive programme with longer detection delays, are extended with LECs. It is assumed that each time a LEC is conducted, a fixed percentage of existing, undetected patients is detected and will start chemotherapy treatment. The simulations show that conducting only one LEC has a negligible impact on long term incidence trends for all scenarios considered. The additional impact of LECs which are repeated at regular intervals is much larger for less intensive control compared to baseline control which already detects patients early. The simulated additional impact of repeated LECs on trends in incidence increases with shorter intervals between LECs and when LECs detect more patients, and decreases with reverse assumptions. From the perspective of reducing leprosy transmission (and thus incidence), the main conclusion of the scenario analysis is that regularly repeated LECs which detect many patients can be an alternative for intensive leprosy control programmes.

OE 30

UNIVERSAL LIMITS, INTER-QUARTILE RANGES AND MEASUREMENT OF THE QUALITY OF LEPROSY CARE IN SUB-SAHARAN AFRICA

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Much effort has been made to set standards that define universally acceptable quality of care. Such standards should be measurable in a way that makes the observed quality care in different programmes comparable contextually. The annual ILEP statistical reports for year 2000 for leprosy control and hospital data were reviewed to measure the quality of leprosy care in 23 programmes assisted by The Leprosy Mission International located in 13 sub-Saharan African countries. Limits given by ILEP (WHO for prevalence) qualified the standard levels where universal indicators are known. Where not known, the lower and upper values of Inter-Quartile Ranges (IQR) were used as 'the approximate normal limits' of quality care. IQR is the middle half of any set of values arranged in order of magnitude. By year 2000, the mean prevalence rate was still above 1/104, but 7 in 10 programmes were already in the elimination phase, mainly in Southern Africa and Nigeria.

The respective ILEP 'accepted limits' and 'thresholds' revealed low case detection rates, low child proportions, high disability assessment proportions and high grade-2 disability proportions in most programmes. While the mean MDT completion rates for both PB and MB were above the limit of 70%, case holding was still below the threshold of 85% in 2/5 programmes for PB and 2/3 programmes for MB.

The IQR limits placed three hospitals in East and West Africa at the top extremes for caseload and bed occupancy rate but at the low extremes for % ulcers and mean hospital stay. Hospitals mainly in Central and Southern Africa were at low extreme of caseload but the top extreme of % ulcer cases and mean hospital stay. These hospitals also were low in their rate of ulcer surgery. The level of hospital utilization was directly correlated with the number of surgeries performed; and the higher the % ulcer cases among admissions, the longer the mean hospital stay of the hospital. Like universal limits, IQR is thus an effective tool to determine levels of quality care on reliable indicators for programme monitoring purposes.

OE 31

VACCINAL SCAR BY BCG AND PREVALENCE OF CLINICAL FORMS IN LEPROSY PATIENTS AND THE RESPONSE TO LEPROMINE IN CONTACTS.

Goulart, I.M.B.; Damian, M.G.C.; Ferreira, I.C.C.; Gonçalves, N.S.M.; Pires, B.C.O.; Silva, T.R.; Machado, V.S.; Berbel Júnior; A.S.

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Brazil is signatory of WHO's aim to eliminate leprosy as a public healthy problem until 2005 (to inferior levels of 1 sick person in every 10 thousand inhabitants). One of the preconized steps is the application of 2 BCG doses in contacts of leprosy pa-

tients. In spite of the signs that the BCG can confer resistance to the disease, results in the literature have been controversial.

The objectives were: to establish the correlation between vaccinal scar by BCG, the prevalence of clinical forms of leprosy and the standard response to leprosy forms and the standart response to lepromine in sick people and their domicile contacts.

A survey of promptuaries of the Hansenology Service – UFU and clinical visits to patients and contacts for verification of vaccinal scar by BCG and for Mitsuda tests. Were done, totalizing 36 patients and 104 contacts.

It was demonstrated that 80% of patients with 2 scars by BCG were Mitsuda positives, while 42.1% of patients without vaccinal scar responded positively to the lepromin test. In the paucibacillary patients, the average response raised from 8.2mm in the absence of scar to 11mm in those with 2 scars. The average of multibacillary patients varied from 1.9mm with 0 scar to 4.5mm with 2 scars by BCG. Contacts of multibacillary patients, without vaccinal scar, showed an average of 7.3mm of the Mitsuda test, while those with 2 scars showed an average of 10.2mm. The average response to the lepromin test of contacts of paucibacillary patients varied from 6.7mm with 0 scar of BCG to 8.5mm in those with 2 scars by BCG.

Results of this work come to subsidize the application of 2 doses of BCG as a control step to the Leprosy Program of the Healthy Ministry, since BCG seems to confer protection against the disease, mainly to the multibacillary forms.

Support: FAPEMIG

HEALTH EDUCATION

OHE 1

A COMPARATIVE STUDY BETWEEN MLEC AND ACTIVE SURVEY.

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Physical examination of population through house – survey is a popular method in a vertical set up which has substantial contribution to detect early and new cases in an endemic country. It contributes directly to community awareness also. The weakness is that the

population of a unit area needs more than 3 years to be examined. However, no vertical programme could continue forever and the ultimate is to integrate the vertical programme with the general health services. The mandatory condition of integration is to bring down the caseload to < 2/10,000, which will be manageable to a general health worker. With this aim, the Modified Leprosy Elimination Campaign (MLEC) has been designed to examine the total population of the state at a time. However, the result of last 3 MLECs shows that is has certain weakness and desired number of patients are not detected uniformly. In the same population, same year, it has been observed in the GRECALTES unit area in Calcutta that more than double number of cases have been detected through active survey and voluntary reporting.

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It is, therefore, suggested that in the endemic pockets, active survey should continue at least for next five years even after functional integration.

OHE 2

A CONSTRUÇÃO DO CONHECIMENTO E A REPRESENTAÇÃO SOCIAL DA HANSENÍASE

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Introdução: A avaliação da situação epidemiológica da hanseníase nos municípios que integram a região, indica a necessidade de intervenções educativas e de organização de serviços para atingir a meta de eliminação proposta. Com o propósito de orientar a população sobre sinais, sintomas, tratamento e cura visando ao diagnóstico precoce foi realizada a Campanha de Combate à Hanseníase.

Objetivo: Avaliar os resultados das intervenções educativas identificando o universo de representações sociais sobre o conceito de hanseníase e as práticas correspondentes. O público alvo foi a população de Ilhabela, São José dos Campos e Santa Branca, com coeficientes de prevalência alto, médio e zerado.

Metodologia: Amostra de grupos de profissionais de saúde e população. Variáveis trabalhadas: sexo, idade, escolaridade, tempo de serviço e de frequência na UBS. Análise quantitativa através de percentagem e os dados qualitativos analisados através da metodologia do "Discurso do Sujeito Coletivo", que tem como proposta reconstruir a partir de discursos individuais semelhantes, discursos sínteses, que expressem a representação social do estudo.

Resultados: Entrevistadas 746 pessoas na pré-campanha e 798, na pós-campanha. A análise qualitativa do conhecimento construído sobre hanseníase, demonstra que as pessoas possuem representações estigmatizantes e conhecimentos científicos atuais fragmentados.

Conclusão: A complexidade do discurso encontrado indica a necessidade de continuidade de intervenções educativas interpessoais e inovadoras que contribuam para o controle da hanseníase na região até 2005.

OHE 3

A EDUCAÇÃO EM SAÚDE E AS AÇÕES DE CONTROLE DE HANSENÍASE: CONHECER O PASSADO, REFLETIR O PRESENTE E DECIDIR O FUTURO.

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Introdução: Historicamente a Educação em Saúde, a Saúde Pública e o Controle da Hanseníase, no Estado de São Paulo, caminham associados e direcionados por interesses econômicos, ideologias políticas e descobertas científicas na área de educação e da saúde, ocorridas no século XIX e XX. As ações educativas obedecem a diretrizes pertinentes a cada época enquanto subsídio para as ações de controle.

Objetivo: Identificar, associar, entender e refletir sobre a multideterminação dos fatores que contribuam para o enfoque pedagógico adotado no controle da hanseníase no século XX e propostas atuais.

Metodologia: Composição histórica abrangendo os cem anos do sec. XX. Pesquisa documental e fotográfica com análise por eixos temáticos: campo da saúde e da educação; determinantes do processo saúde/doença; ação principal; enfoque metodológico; ator principal; cenário e papel do indivíduo. Divisão em quartos de século correlacionando situações factuais, políticas do controle da Hanseníase e respostas ao preconizado.

Resultado: As ações educativas propostas são direcionadas pelos determinantes do processo saúde/doença; pelo conceito dominante sobre o controle da Hanseníase e do processo ensino - aprendizagem e do esperado pela Instituição responsável pelo controle de agravo.

Conclusão: conhecer e entender o passado, observar e refletir sobre a prática, educativa atual, aceitar mudanças e desafios utilizando propostas pedagógicas inovadoras e alternativas é opção que contribuirá para a eliminação da Hanseníase como problema da Saúde Pública.

OHE 4

TEN-YEAR STUDY OF SELF REPORTED CASES IN AN URBAN LEPROSY PROJECT.

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Active case finding methods are usually adopted in leprosy programmes for identifying new cases of leprosy. Very minimal emphasis is laid on IEC as an intervention to support selfreporting of early cases.

In 1989, an urban leprosy project was started in Southern India covering a population of 1.5 million. Apart from routine case finding methods targeting general population and special groups like healthy household contacts and school children, IEC activities are conducted through specially designed Health Education programmes to improve awareness.

Clinical profile of the self-reported cases during the last two years was studied in relation to presenting symptoms and their onset. The distribution trends of the disease in relation to age and sex factors also were analysed. The perceptions of the patients about the symptoms and the factors, which influenced their treatment seeking behaviour, were studied by administering interview schedules. These findings are analysed and discussed.

7453 cases were registered in the past ten years. 1898 (25%) of the total registered cases have reported voluntarily. 10% of these patients had G-II disabilities. This indicates the need of understanding of the perceptions of the patients reporting voluntarily to improve IEC activities, which are relevant to the urban community.

OHE 5

AN IMPACT OF FOCUS GROUP DISCUSSION ON LEPROSY TO CHANGE KNOWLEDGE, ATTITUDE AND PRACTICE IN COX'S BAZAR, BANGLADESH

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Objective: The main objective was to assess the knowledge and changing attitude and practice towards leprosy patient through focus group discussion, to identify opportunities for intervention and their relative impact due to focus group discussion.

Study design: It is an intervention study of Focus Group Discussion through Pre and Post KAP questionnaire survey. Study subject were randomly selected from rural population and pre and post participants were matched.

Methods: Focus group discussion (FGD) conducted by trained Leprosy Control Assistant (LCA) and a group of Health Educator from National Leprosy Coordinating Committee. Data collection done by asking questionnaire individually to the participant before and after FGD and socio-demographic characteristics also collected during survey.

Result: A total of 607 participants in both pre and post survey, in which 374 (61.6%) male and 233 (38.4%) were female. Pre survey participants were 281 and age range from 10 to 80 years mean age 31.81 years and standard deviation 15.6. In Post survey group participants were 326, age ranged from 12 to 85 years, mean age 32.85 and standard deviation 15.53. There are improving of knowledge and practice average 30%, on leprosy disease due to Focus discussion method, which is highly significant, p value <0.001. But the attitude were not much changes as knowledge. In attitude survey risk difference found average 5% and p value = 0.25, which not significantly change. In practice survey found 28% improve health practice, p value <0.001.

OHE 6

ANALYSIS OF NEWLY DETECTED LEPROSY CASES AFTER LEC

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Objective: Discuss new case discover feature after enforcement LEC to offers reference that LEC and conventional case discover work in the future.

Method: make statistics analysis to the relevant information of leprosy case that implement LEC around in two leprosy height popular county.

Result: LEC can discover the overstock patients in large quantities. in the year, the patient counts (51 example) discovered recently and discover rate (2.77 / one-hundred thousands), exceed the LEC average of former 3 years (discover in average is 25, discover rate in average 1.39 / one-hundred thousands) to one time above. after LEC for 2 years, discover patient counts and discover rate have dropped year by year, but the grade II disabilities and type ratio in new patient have not dropped obviously, early stage (ill issue [2 years] discover rate is still around 50%, two city leprosy popular level still keeps in higher level.

Conclusion: It is very necessary that implement LEC in Leprosy height of popular area, but one LEC can not discover all of conceal patients. It is need implement LEC repeatedly to combine routine discover work and enlarge project to cover small towns. When the discover new patient counts and discover rate shows to drop stably, discover rate in early stage rises substantially, child proportion and grade II disabilities drop apparently to the condition of lower level, we can reach the purpose really to discover conceal patients and to reduce leprosy popular level and to promote to eliminate leprosy basically.

OHE 7

BASES ESENCIALES PARA UN PROGRAMA SANITARIO APLICABLE AL PACIENTE CON ENFERMEDAD DE HANSEN

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Descripción: La educación sanitaria, es un intervención social, que tiene a modificar, de manera consciente y durable, los comportamientos en relación a la salud.

Objetivos: Facilitar modificaciones en los comportamientos o adquirir nuevos para prevenir la enfermedad, seguir los cuidados que ésta requiere y mantener o recuperar la salud. Para su diseño, se discuten varias dimensiones:

- Dimensión Biológica.
- Dimensión Psicoprofesional.
- Dimensión Cognitiva.
- Dimensión Psicoafectiva.

Ejecución o aplicación del programa: La recuperación y rehabilitación integral del paciente (Rehabilitación física, terapéutica, psicológica, social y laboral) dependerá del estado de la enfermedad, y de la educación del mismo y de la familia.

Evaluación: Valorar la consecución de los objetivos fijados en: El paciente, el docente y del programa.

Registros: Generar historiales e información estadística.

Realidad actual: Para la aplicación de este programa, existen diferentes niveles de dificultad, en función de las características socioeconómicas y culturales. Mundo occidental: dismantela sistemas públicos. El Tercer Mundo carece de medios. Existen recortes presupuestarios en todos los programas. Carga sobre el profesional que se ve obligado a priorizar aquellos aspectos que más puedan incidir y que estén a su alcance. Existen problemas en el seguimiento de las personas inmigradas, por carecer de domicilio y trabajo fijo, lo que dificulta su localización.

OHE 8

BONECOS PARTICIPANDO ATIVAMENTE NA "LUTA" PELA ELIMINAÇÃO DA HANSENÍASE NO MUNICÍPIO DE S. PAULO

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Introdução: Apesar da Hanseníase ser ainda um problema de Saúde Pública no Brasil, o diagnóstico e tratamento continua tardio trazendo sérias incapacidades físicas e sociais. A população permanece com conhecimentos fragmentados a respeito dos sinais e sintomas e as campanhas de divulgação, pontuais e esporádicas não aprofundam os conhecimentos. Optou-se por um projeto pedagógico que funciona como atrativo onde há interação e socialização no conhecimento atual sobre Hanseníase: o teatro de bonecos.

Estratégias: Utilizar essa técnica pedagógica em todos os espaços de campanha e introduzir a discussão da temática em seminários e encontros de saúde. **OBJETIVOS:** Socializar o conhecimento científico atual sobre a problemática da Hanseníase, facilitando a tomada de decisão e ação para procura de diagnóstico precoce. **Metodologia:** Problematicadora, dialógica, participativa, com interação interpessoal entre platéia e bonecos, facilitando a decodificação do conhecimento sobre Hanseníase e seu controle.

Resultados: Participação nas campanhas de: gripe e multivacinação de 1999, 2000 e 2001; de hipertensão, diabetes, de tuberculose. Abertura de encontros, sensibilização de profissionais e agentes de saúde do PSF de equipes municipais; em eventos: Semana de enfermagem, de prevenção de acidentes de trabalho e feiras de saúde. Após as apresentações houve um aumento da procura para esclarecimentos sobre manchas e solicitação de folhetos para trabalhos escolares. O trabalho despertou interesse de Instituições e grupos profissionais, havendo expansão do projeto, para outras áreas programáticas além da Hanseníase. Os bonecos, com personalidade própria, são conhecidos e apresentados hoje como "bonecos da Hanseníase".

Conclusão: A utilização de técnicas ludopedagógicas para a socialização do conhecimento científico sobre Hanseníase é válida e incentivada e buscar novos caminhos mediante resultados positivos, contribuindo para o diagnóstico precoce e eliminação da Hanseníase como problema de saúde pública.

OHE 9

CHANGING ATTITUDES AND BEHAVIOUR TO SUPPORT LEPROSY INTEGRATION EFFORTS

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Integrating leprosy into the general health services requires a lot of groundwork not just in terms of planning, training and logistics but above all in changing the attitudes and behaviour of various tar-

get groups. After integration, patients are in touch with more people in the system ranging from the medical officer to the pharmacist. Any negative attitudes or behavior on the part of the health services toward leprosy patients can seriously undermine their confidence and self esteem and thus impact on their compliance with treatment. Moreover, health care providers need to accept that leprosy is part of their job description and always to "think leprosy" when examining patients with skin lesions.

Successful integration of the leprosy services also requires actively generating "demand" for diagnosis and treatment - for example, through media campaigns to emphasize the fact that leprosy is just another curable disease, and to indicate that treatment is now available at all health facilities. This should also help create an environment in which patients do not hesitate to seek treatment. Person to person communication is crucial in breaking down any residual anxiety or prejudice about the disease.

The paper reviews the overall approach, experience to date as well as remaining challenges.

OHE 10

DOES KNOWLEDGE LEAD TO ACTION? HEALTH EDUCATION AMONG LEPROSY PATIENTS.

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Aims: a) To assess the extent of patient knowledge following health education about foot-care in leprosy; b) to assess the difficulties in implementation as perceived by the patient; and c) to assess health workers' responses to patient knowledge and problems.

Methods: Seventy two patients were interviewed from two matched groups, one in the community and one in a leprosy hospital outpatient clinic using a simple open ended questionnaire. A problem solving technique was taught to health staff and this was used in dealing with patients' difficulties in implementing health behavior.

Results: Overall knowledge of foot-care management was satisfactory. There was no significant difference in level of knowledge between the two groups or between genders. Knowledge relating to skincare, use of footwear, and protection from heat scored highly. Knowledge of the need to regularly self-inspect the feet scored poorly. In terms of implementation, almost one third (32%) expressed no difficulty, while 16% were too busy, and 16% had poor knowledge. In over two-thirds (68%) of the cases staff addressed the area of deficit in knowledge. In

just over half (55%), difficulties in implementation were tackled

Conclusion: The results of this study helped identify deficits in knowledge and difficulties in implementation of self care measures. It will aid in designing more effective methods of health education

OHE 11

EFFECTS ANALYSIS FOR TRAINING ON THE NON-LEPROLOGISTS

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In the activities of the healthy education on leprosy, some 900 non-leprologists have accepted professional training about the leprosy control among medical workers in 17 counties, LIANGSHAN prefecture, SICHUAN province. Contrast analysis has been made on the training effects. Before they had been trained, as far as their correlative knowledge of the leprosy, the total correctness rate is 50.5%, and the lowest is only 22%. After that, the total correctness rate is up to 83.5%, contrasted to the number of pre-training, there is an obvious discrepancy ($\chi^2=27.34$, $p<0.005$). Among all the scores to the test questions, the leprosy's infectivity, resulting to malformation and its curability showed the biggest difference. It proved that these three aspects are people's misconception to leprosy, and also are the main reasons of fearing leprosy. The analysis results attested this training is obviously effective and pertinent. What is noticeable is the attitude to the patients had no distinct difference between pre-training and after training. That is to say, for thousands of years, people showed inveterately bias and discrimination to leprosy patients which is difficult to relieve. So, more health education of leprosy should be put into practice.

Because the medical workers have authority of explaining disease; they will directly influence people's attitude and cognition to disease. So the non-leprologists are the first objects to accept the training.

[Key words] medical staff knowledge of leprosy control training analysis

OHE 12

ESTRATÉGIAS PARA ELIMINAÇÃO DA HANSENÍASE EM ALFENAS (MG)

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Os autores mostram que através de busca ativa de doentes com hanseníase por meio de campanhas, vem conseguindo diagnóstico em maior número com índices de incapacidades menores. foram analisados 888 pacientes atendidos em ambulatórios de atenção básica no período de outubro de 1998 a maio de 2001, convocados através de campanhas de conscientização sobre os sinais e sintomas da hanseníase. neste período, 154 pacientes tiveram seu diagnóstico confirmado, sendo 25 destes nestas campanhas.

motivo da apresentação: mostrar a contribuição das campanhas realizadas no município de alfenas como fator importante para a eliminação da hanseníase, devido ao aumento de diagnósticos impulsionados pela educação em saúde proporcionada.

OHE 13

GRUPO DE ORIENTAÇÃO EM HANSENÍASE

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A educação em saúde é reconhecida como um dos aspectos primordiais no controle da hanseníase, devendo se levar em consideração não apenas o volume de informações, mas a verificação de qual foi a percepção do paciente, familiar ou comunidade com relação ao conteúdo recebido. Dentro dessa perspectiva foi implantado em 12/04/00 pelo Serviço Social e pela Enfermagem o atendimento de grupo, dentro do Programa de atendimento aos portadores de hanseníase no Ambulatório de Dermatologia, HC/UFMG.

O objetivo do atendimento em grupo é proporcionar aos pacientes, familiares e comunidade um espaço no qual possam estar construindo novos conceitos da doença, favorecendo o entendimento e maior participação no processo de cura.

O público atingido, de abril de 2000 a abril de 2001 foi de 358 participantes, sendo 149 portadores de hanseníase, 67 com outras dermatoses, 22 em propedêutica, 70 acompanhantes e 38 alunos e profissionais em treinamento, em 32 reuniões.

O retorno verbal de muitos pacientes é que com o grupo puderam entender mais o processo de tratamento, principalmente com relação às reações, que muitas vezes eram consideradas como piora da doença e não como condição imunológica do organismo. Houve relatos de diminuição de ansiedade com o melhor entendimento da doença.

Avaliação da equipe é que houve melhora no nível de entendimento dos participantes sobre a doença e seu processo e diminuição do tempo de atendimento individual.

OHE 14

HEALTH EDUCATION IN RELATION TO PREVENTION OF DISABILITY (POD) PROGRAMME IN LEPROSY

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Prevention of Disability is an important area of leprosy elimination programme which in a particular terminology of POD has been given priority since last six years. The introduction of MDT has drastically reduced the caseload including a considerable degree in reduction of impairment. Yet the existing deformity rate is not negligible. The social implication of deformity is multifarious; the degree of stigma and ostracisation largely depends on deformity and disability. Health education, individual patient counseling and demonstration of self-care procedures are the essence of a successful POD programme, which indicates prevention in all the steps, from pre primary stage to tertiary stage. In the early stage, impairment is prevented and in the next steps further deteriorations are checked. Accordingly, a retrospective study for 5 years was undertaken in the Balarampur control unit of Gandhi Memorial Leprosy foundation in Purulia district of west Bengal, India. The health education inputs were designed emphasizing early case detection without deformity, the preventive aspects of disability, patient counseling, self-care demonstration and transfer of technology was given due importance. The staff members were trained on the subject before field implementation of the programme. During the five years, substantial health education programmes were conducted. Total 3263 leprosy patients were detected, among them 226 had G1 and 25 had G2 deformities. POD activities were done for 5738 cases among them condition was improved for 537 cases, 75 cases were worsened and 5126 remained static without further deterioration

OHE 15

HEALTH PROPAGATION EDUCATION ABOUT LEPROSY AIMS TO PROMOTE PEOPLE'S KNOWLEDGE AND REVEAL NEW LEPROSY PATIENTS IN THAI NGUYEN PROVINCE.

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Thai Nguyen province is midland - mountainous region in the north of Viet Nam with 3,541 km² superficies. His population counts 1.2 million including 8 ethnic groups living common. The economic remains poor people's knowledge level is low. Thai Nguyen Dermatology Leprosy Control Center (DLCC) is responsible for dermato - venereal disease examination treatment and HIV/AIDS control; implementing program for leprosy elimination from health community; propagating, educating about leprosy; MDT treating new leprosy patients; supervising the contacts; carrying rehabilitating the invalid by leprosy.

Under the direction of Health Service of Viet Nam, directly steering by Dermatology Institute, and Netherlands Leprosy Relief support, Leprosy control program of Thai Nguyen province was being set up since 1988 by Thai Nguyen DLCC. From immemorial time leprosy was being fearful for people. It has been received as hereditary disease high contagious, impossible cured and must be isolated. Therefore Health education propagation about leprosy in communities become importance role, aims to aid people can be exactly under standing and striking out the inferiority complex of leprosy. Thai Nguyen DLCC has establishing successful propagation education program on leprosy.

Health education courses had initiated for health workers at grass-root level, cadres of sections associations at commune quarter level, heading-men of hamlets teachers in primary secondary schools, DLCC was learning, experimenting and verifying that education program will be successful. The participants will accepted quickly new knowledge if concrete teaching materials are being provided.

All participants have thought out, proposed idea, discussed, finally decided elaborate an image set comprising 4 leaves with 4 complete, laconical, intelligible contents.

The first leaf with dingy color scheme describes old conception on leprosy: disease is hereditary from parents through descendants, it is quickly easily contagious, therefore the people are being frightened and fled from lepers. The lepers had been expelled from village, thrown down into river, burned in flame, driven in camp of leprosy and must not reconcile to community.

The second leaf with brightly, blaging color scheme describes new conception: leprosy is not hereditary; it is caused by a type bacillus *Mycobacterium leprae* which visible under electromicroscope in bar form stained fuscine red color. Leprosy is cured completely if it is early revealed. Lepers are not isolated but need conciliate to community.

The third leaf describes leprosy signs at early stage of disease; manifestations are skin areas with variation in color, in distinct border flat. The following images are distinctive border line areas, prominent on skin superficies. At last are the images of invalid-

ity if it is not revealed early and treated in time.

The fourth leaf contents images described about ethnic groups classes people in province manifeste their happiness for implementing program and eliminating completely from health community at 2000 year.

By complete, laconical, intelligible contents of 4 image leaves, DLCC doctors had aided tens thousands people in province understand exactly leprosy. Propaganda image about leprosy appear wherever commune health centres, schools, inhabitant areas, there by people in community may little by little change public opinion.

Beside propaganda image DLCC was applying new method: inserting into scholar schedule time 8 poetic phrases implicated knowledge on leprosy:

Leprosy isn't hereditary

Weak contagious, will be quickly cured by effective medicine

There are on skin discolor area

Sharp pointed not to be in pain

Heat cool sensation disappear

It must be go to doctor

Disease'll be diagnosed and treated in time

From to now and for ever

Happiness comes to leper's life.

Poem is easily being retained with complete contents together teacher's knowledge school children were understanding exactly on leprosy; effacing false conception existed for long time. In his round school children become as propagandors aiding their parents and neighbours to understand and reveal leprosy themselves and each other.

In fact, a lot of people and school children after received knowledge by propag and images, meeting scholar schedule time have revealed themselves sick signs and gone to doctor. Disease has been diagnosed, treated early, the result successful no sequel.

Initiatives described over were applied in overall province in last years. Neighbouring provinces are leaning visiting and ask image pattern for applying in their area.

Beside over propaganda forms, DLCC is frequently infoming educating about leprosy by radio transmission, provincial television, intergrating leprosy content in meeting of other associations.

For 19 years Thai Nguyen DLCC was attaining successful results in propagation education activities on leprosy and had been estimated from Public Health Ministry and Central Dermatology Institute.

Since there was rare person understand about leprosy, by now almost people in province are fundamental knowledge about leprosy; before disease was

only revealed by passive examination, up to now leprosy was revealed essentially by patients gone themselves to doctor in Health Centres for examination, because of their knowledge promoted.

Table 1: Knowledge about Leprosy

Time	1982	1987	1992	1997	2001
Knowing about leprosy (subject)	367	5,675	7,512	8,954	11,956
Total surveyed	10,187	12,594	11,568	10,588	12,569
Rate (%)	3.6	48.1	64.9	84.6	95.1

People's knowledge about leprosy increasing from 3.6% (in 1982) to 95.1% (in 2001).

Table 2: New patients go themselves for examination

Period	Before 1983	1983 to 1987	1988 to 1992	1993 to 1997	1998 to 2001
New patients goes themselves for exam	12	36	56	43	16
Total new patients	137	112	95	52	19
Rate (%)	8.8	32.1	58.9	82.7	89.5

New patient goes for examination themselves rate is 8.8% (before 1983) increased to 89.5% (in 1998–2001).

Table 3: Invalidation in new patients

Period	Before 1983	1983 to 1987	1988 to 1992	1993 to 1997	1998 to 2001
New patients invalid	121	52	46	15	4
Total new patients	137	112	95	52	19
Rate (%)	88.3	46.4	42.1	28.8	21.1

New patients invalidated decrease from 88.3% in period before 1983 year to 21.1 % in the last period.

Thai Nguyen DLCC considers Health education about leprosy as essential, frequent, continual activities for next year, for promoting people's knowledge.

There from lepers understand disease and goes to doctor themselves for examination, revelation and treatment in time, not to be invalid.

By endeavour, strive, Thai Nguyen province is attaining program result at of leprosy elimination from health community. Thai Nguyen is the 7th province which has been ratified in 1988, awarded Labour Medal grade 3 by State President for antileprosy program fulfilment. In 2001, by leprosy elimination supervising conference, Thai Nguyen has been estimated by Central Dermatology Institute for program maintenance frequently.

OHE 16

IEC FOR ELIMINATION OF LEPROSY THROUGH THE TRILOGUE METHOD

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Introduction: At this point of the global fight for the elimination of leprosy, dissemination of correct information is of immense value to the programs. Trilogue method (patientservice provider- people) has been found to be very effective both in urban and rural areas in imparting knowledge and skills on suspecting early signs of leprosy, informing about the availability of treatment and in motivating the pa-

tients to seek medical help. In fact it relies on the participation of the community through peer groups.

Objectives:

1. To identify and train peer groups among the people in the community.
2. To form health committees among the trained groups.
3. To sustain the educational activities of the peer groups in the community.

Modus Operandi: Peer groups are identified both in rural and urban areas and they are trained by adopting necessary methods and media especially the trilogue (patient – service provider – people) method. This is followed with the formation of health committees among the trained groups with clear responsibilities of influencing the rest of the community in suspecting early signs of leprosy and informing about the availability and reliability of treatment by motivating the patients.

Conclusion: The establishment of action groups within every community to function as a constant source of motivation and action is as important as focusing objectively on educational inputs.

OHE 17

INTERFERÊNCIA DAS CAMPANHAS EDUCATIVAS SOBRE HANSENÍASE NO COMPORTAMENTO DA COMUNIDADE FRENTE AOS PORTADORES DA DOENÇA

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Em conjunto com as respectivas Secretarias Municipais de Saúde realizou-se uma campanha educativa sobre a hanseníase em 6 grandes municípios dos Estados do CE, RN e AL, voltada para uma população alvo total em torno de 250.000 pessoas e com atividades desenvolvidas durante um período de 3 meses. Para tanto foram treinados 1.045 agentes comunitários de saúde, 3.137 professores da rede pública de ensino e 1.561 lideranças comunitárias. As principais estratégias da campanha foram a realização de palestras, distribuição de panfletos e cartazes, e propaganda no rádio e televisão. Com o objetivo de verificar se a estratégia interfere no comportamento da população frente à doença, perguntou-se à comunidade se aceitaria conviver na mesma casa e se aceitaria que o filho convivesse na escola com um portador de hanseníase. Foram entrevistadas 1399 pessoas antes e 1060 pessoas após a realização da campanha. Os questionários foram aplicados pelos agentes comunitários de saúde, aleatoriamente à população da sua área de atuação. Os resultados

mostraram que o percentual de pessoas que aceitariam conviver no domicílio aumentou de 73 para 80% enquanto a aceitação para convivência na escola passou de 44 para 56%. Quando foi perguntado por que estas pessoas aceitariam a coabitação no lar, o percentual de respostas que revelavam conhecimentos corretos sobre a doença passou de 28 para 38% enquanto a falta de justificativa para esta pergunta caiu de 22 para 13%. Com relação à convivência do filho na escola, o percentual de justificativas que revelavam conhecimento sobre a doença aumentou de 47 para 57% enquanto a falta de justificativas caiu de 21 para 16%. Antes da campanha 53% das pessoas reconheceram as manchas dormentes como um sinal de hanseníase, o que aumentou para 67% após a campanha. Dentre as estratégias utilizadas na campanha as mais referidas pela comunidade como fonte de informação foram a televisão (32%) e os agentes comunitários de saúde, citados em 50% dos questionários.

OHE 18

LEPROSY CASE DETECTION USING SCHOOL CHILDREN AN INNOVATIVE APPROACH

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After the Government of Tamil Nadu State in India integrated the vertical leprosy program into the general health services, routine school surveys done by leprosy para-medical workers were discontinued. Nevertheless, early detection of leprosy among school children is important not only in the prevention of disability, but also because of its importance as a proxy indicator for the intensity of leprosy transmission in the community. This innovative program combined education of the higher elementary and high school students about leprosy and subsequently using them to identify suspects among their peers. The school principal chooses student leaders in classes VIII - XII who could be trained to do screening of children for dermatological problems. A trained leprosy worker conducts a leprosy education program for the student leaders and their teachers. The trained students then screen all children in the school for any dermatological condition and prepare a list of suspects. Within a fortnight, the leprosy worker revisits the school and screens all children on the suspect list for leprosy.

This paper explains the methodology and compares the new case detection rate (NCDR) using this method with that done when the vertical program was in operation. In 1992, the NCDR was 9.13 per 10,000 children. The NCDR using school children is 8.28 per 10,000. The paper concludes that using

school children in case detection is as effective and efficient as doing a routine school survey. It has the additional benefit of creating awareness among the children.

OHE 19

MAINSTREAMING LEPROSY INTO THE CONCEPT OF CONVERGENCE -A STRATEGY FOR REACHING WOMEN IN LEPROSY ELIMINATION PROCESS

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The Tamil Nadu Corporation for Development of Women Limited (a Govt. of TN-Organization) initiated the concept of Convergence with Directorate of Public Health, DAN IDA Health Care Project, Family Welfare, Reproductive Child Health, Aids Control Society and Directorate of Medical Services. The Vision of convergence is "Government of Tamil Nadu is committed to support health development as a means of socio economic development, through behavioral change communication processes and IEC efforts, through women Self Help Groups (100,000 groups functioning currently) thereby maximizing the benefits to the entire population." An IEC working group was formed under the concept of Convergence to work with Self-Help Groups. Since Tamil Nadu is moving towards Elimination of Leprosy, it recognized this opportunity to be the "best" to take IEC messages on Leprosy to these groups and to facilitate case finding through them to reach the women, particularly the poor women. In Tamil Nadu, during the MLEC-III conducted in November 2002, seven districts were identified as endemic and it was decided to have Active Search as a strategy while the rest of the States followed Passive Search. For every 5000 population 2 teams were formed for Active Search with a Health Inspector and a Village Health Nurse from the Primary Health Centres and each of these teams had one SHG woman in it. 11.8 million people were covered and 14,340 SHG members involved. They were trained in Leprosy and involved in case detection. The outcome is encouraging. This paper aims to clarify the concept of Convergence, mainstreaming Leprosy into it, facilitating involvement of women SHG for Leprosy Elimination, the results of such involvement and the lessons learnt.

OHE 20

NECESSIDADES EDUCATIVAS VIVENCIADAS PELOS DOENTES DE HANSENÍASE EM UM SERVIÇO DE REFERÊNCIA EM PORTO ALEGRE

Letícia Maria Eidt

Ambulatório de Dermatologia Sanitária / Secretaria Estadual da Saúde e do Meio Ambiente do Estado do Rio Grande do Sul

A Hanseníase caracteriza-se, principalmente, pelo acometimento de pele e nervos periféricos. Se não tratada precoce e adequadamente, pode evoluir para incapacidades físicas inestéticas e mutilantes, que muito contribuem para o preconceito existente a cerca desta moléstia. Além do tratamento com a poliquimioterapia, que interrompe a cadeia epidemiológica e previne a evolução da doença para deformidades físicas, a educação para a saúde do doente, de seus familiares, da comunidade em geral e das equipes de saúde são aspectos fundamentais para o sucesso dos programas de controle da Hanseníase. O presente trabalho relata a experiência da autora na assistência e educação para a saúde a pacientes com Hanseníase no Ambulatório de Dermatologia Sanitária, localizado na cidade de Porto Alegre, serviço de referência para atendimento a hansenianos no Estado do Rio Grande do Sul, Brasil. Aspectos como a necessidade de contínua atualização dos profissionais da saúde, a importância da divulgação dos sinais e sintomas da doença, a eliminação de falsos conceitos sobre a moléstia, o compartilhar de informações com o doente, estimulando-o ao autocuidado e o envolvimento da família e da comunidade no tratamento dos pacientes, entre outros, são apresentados.

OHE 21

SPECIALIST REFERRAL TEAMS: A MODEL FOR LEPROSY ELIMINATION CAMPAIGNS

Mark Macdonald and Gopal Pokhrel.

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Leprosy in Nepal is an important public health issue. With a prevalence rate of 3.8/10,000 (September 2001), WHO has targeted Nepal as highly endemic in the race to eliminate leprosy. A National Leprosy Elimination campaign (NLEC) was conducted in 1999, and this proved useful both in increasing public awareness and in finding new cases.

Aim: To assess the impact of specialist referral teams on difficult to diagnose cases in a Leprosy Elimination Campaign (LEC).

Methods: From 1st- 7th October 2001 a Leprosy Elimination Campaign was held in selected high prevalent districts in Nepal (PR > 5/10,000). Specialist referral teams, consisting of trained staff from Anandaban Leprosy Hospital, were involved in pre-campaign capacity building of health services staff, orientation of search teams and a public awareness programme. Case detection consisted of house-to-house photo survey, with referral to integrated basic health services for confirmation of diagnosis of sus-

pects. Difficult to diagnose cases were sent to specialist referral teams at selected centres.

Results: A specially designed questionnaire was used to make an evaluation of the cases seen and treated, and to determine profiles of difficult to diagnose patients and the performance and usefulness of these teams. Data on 627 patients seen at referral centres during the campaign period was evaluated.

Conclusions: A review of the results and recommendations for the place of specialist teams in leprosy elimination campaigns will be presented.

OHE 22

SURFACING OF LEPROSY AFFLICTED PERSONS - A RATIONAL APPROACH

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Murugesan, N. State Project Co-ordinator, DANIDA/DANLEP, Tamil Nadu, India.

As part of intensive efforts for eliminating leprosy in the integrated setting, based on scientific analysis, areas needing greater attention were identified. These were considered as Focal Areas if it satisfied two or more of the criteria given below:

1. 5 or more new cases detected in clusters (Same house or neighbourhood) in that area for one year.
2. More than 3 new cases (MB or PB or both) detected for one year.
3. No new case was detected for 3 years
4. New cases detected with Grade II disability for one year irrespective of number of cases.
5. Smear positive cases, for one year irrespective of number.

Areas with a population of a unit of 1000 or multiples of 1000 were selected for intervention, which was called Focal Survey. Over all objectives of the interventions were: Strong input of IEC through interpersonal communication with a back up of mass media and encouraging the suspects to report voluntarily for examination.

Focal survey- what?

Community volunteers and peripheral field workers visited the houses in the selected focal areas. They passed on information to the people on signs and symptoms of leprosy, effectiveness of MDT, medicines on free of charge, treatment facilities, date and time of visit of search team to their houses and persuading the people with suspect lesions to be available at home for examination.

Equal opportunities were given to all the 1410 Primary Health Centre and Urban areas all over Tamil

Nadu to select the Focal Areas as per criteria and conduct focal surveys.

As per local needs, based on criteria, all over Tamil Nadu focal areas were identified and Focal Surveys were carried out in Jan-April 2001.

The paper would highlight the outcome of the Focal Surveys:

- Coverage of population and leprosy cases found and follow through action right from patient education, treatment and release of patients.
- Effectiveness of the approach, conclusions, suggestions and recommendations.

OHE 23

THE PROMOTION OF BEHAVIORS OF LEPROSY PATIENTS IN COMMUNITY HOSPITALS THROUGH GROUP PROCESS WITH SOCIAL SUPPORT

Pairoj Prompunjai, Nalinee Poolnaimuang, Wasana Sonthiphumas, Suchada Thanyasukpaisan.

Office of Communicable Disease Control Region 5 Makorn Ratchasima, Nakornracharima Province, Thailand.

The objective of this quasi-experimental research is to identify group process with social support in order to promote behaviors of leprosy patient. The subjects was recruited from multibacillary leprosy patients in community hospitals. There were 61 subjects who passed eligible criteria and then divided purposively into experimental group (31 subjects) and control group (30 subjects). Data was collected by interview before and after the intervention was implemented. The results were analyzed by Percentage, Mean, Standard Deviation, Student t Test, Paired Sample, T-test, Z-test, Pearson Product Moment Correlation and Chi-square Test.

The results show that there are increasing of the perception in term of susceptibility, severity, positively benefit among experimental group. In addition, the behavior of leprosy patients is improved significantly. The proportion of contact cases among exper-

imental group is increased significantly. More over, perception of positive benefit and services satisfaction are correlation significantly with behavior of leprosy patients.

The researcher recommended that group process with social support should be implemented in community hospitals. The community hospital staff who are responsible for leprosy should be trained to give good quality of services.

OHE 24

TREATMENT DEFAULT AMONG PATIENTS DISCOVERED DURING LEPROSY ELIMINATION CAMPAIGN (LEC): EXPERIENCE OF KANO STATE NIGERIA.

M.N. Mahmoud,

TBL Control Program, Ministry of Health, Kano State, Nigeria

Leprosy Elimination Campaign is an initiative adopted and recommended by the World Health Organization with the main objectives of creating community awareness on leprosy activities, capacity building (most especially among the lower cadre of health providers), and to enhance case finding and case holding. A Statewide LEC was conducted in Kano State, Nigeria, in the first half of the year 1999. The exercise was conducted with the set target of achieving the above objectives. The campaign was mainly sponsored by the World Health Organization, with support of the Netherlands Leprosy Relief and the Federal Ministry of Health. The campaign was to a large extent, a huge success taking into consideration its objectives. All villages in the State were visited, and over 1000 general health workers were trained on Leprosy. More than 68% of patients registered during the year were found during the campaign. However the State Tuberculosis and Leprosy Control Program observed a high default among the patients discovered during the exercise, and conducted a defaulter retrieval activity and also made an attempt to find out why these particular patients defaulted. Statistics on all the patients treated, defaulted, retrieved and lost are collated and analyzed.

IMMUNOLOGY

OI 1

A NON-INVASIVE METHOD FOR DIAGNOSIS OF LEPROSY BASED ON DETECTION OF SPECIFIC ANTI-MYCOBACTERIAL ANTIBODIES IN SALIVA

M. Yushin, M.N. Dyachina, A.A. Juscenko, V.A. Bochanovsky

Leprosy Research Institute, Astrakhan, Russian Federation

The aim of the present work was to improve methods of diagnosis of leprosy through the development of immune test system for anti-*M. leprae* antibodies (Ab) in saliva. Samples of saliva and blood sera from 116 leprosy patients at different stages of their disease and 23 healthy donors (control group) were

Nadu to select the Focal Areas as per criteria and conduct focal surveys.

As per local needs, based on criteria, all over Tamil Nadu focal areas were identified and Focal Surveys were carried out in Jan-April 2001.

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imental group is increased significantly. More over, perception of positive benefit and services satisfaction are correlation significantly with behavior of leprosy patients.

The researcher recommended that group process with social support should be implemented in community hospitals. The community hospital staff who are responsible for leprosy should be trained to give good quality of services.

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studied with using indirect enzyme labeled immune assay. As test-antigen for detection of anti-*M. leprae* Abs, preparations of *M. lufu*, a value of which for leprosy serodiagnosis was proved by us earlier, were used. Rabbit Abs against human peroxidase-labeled immunoglobulins (IgG, IgA, IgM) were used as conjugate. The investigations showed that Ab titers in saliva and blood sera were comparable both in patient and control groups. Correlation analysis indicated interrelations between Ab titers in saliva and serum samples. Dynamic investigations showed high titers of Abs both in saliva and blood sera in patients with active leprosy. Inactive leprosy patients giving seronegative results for 1-2 and more years, showed no specific anti-mycobacterial Abs in their samples of saliva. In the periods of activation of the disease (relapses, exacerbations of leprosy neuritis) Ab levels against *M. leprae* in saliva were increasing in parallel with increasing anti-*M. leprae* Abs in blood sera. Thus, a test-system was developed, high diagnostic value and reliability of which was achieved owing to using a new antigen from *M. lufu* and conjugate of peroxidase-labeled rabbit Abs against human immunoglobulins of IgG, IgA, IgM classes. Detection of anti-*M. leprae* Abs in saliva opens possibilities for early diagnosis of leprosy infection in leprosy contacts and general population of leprosy endemic areas. Monitoring of Ab levels in saliva of leprosy patients under treatment allows estimating effectiveness of antileprosy therapy.

OI 2

ANTIGENIC SPECIFICITY OF THE *Mycobacterium leprae* HOMOLOGUES OF ESAT-6 AND CFP-10.

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The recent completion of the sequencing of the genomes of *M. tuberculosis* and *M. leprae* provides the opportunity to identify leprosy-specific antigens. An analogous approach applied to *M. bovis* BCG allowed the identification of deleted genes and the development of antigens that can distinguish between *M. tuberculosis* infection and vaccination with BCG. Among those antigens which have shown promise are two low-molecular weight *M. tuberculosis* culture filtrate proteins, ESAT-6 (*esat-6*) and CFP10 (*hlp*), both encoded by genes in the RD1 region, a genetic segment that has been deleted from all strains of BCG. Because the *M. leprae* ESAT-6 (ML0049) and CFP-10 (ML0050) proteins have only 36% and 40% identity, respectively, to their homologues in *M. tuberculosis* (Rv3875 and Rv3874), we decided to analyze the immunologic cross-reactivity of these proteins in mice by characterizing the B and T cell

epitopes recognized. We had previously reported this analysis of the ESAT-6 homologues, and found that the dominant B and T cell epitopes recognized in H-2^d haplotype (BALB/c) strain mice for the *M. tuberculosis* and *M. leprae* proteins were in different regions. In addition, polyclonal antisera against the two forms of ESAT-6 did not cross-react at the level of the whole protein or with any of the heterologous peptides. We have since performed a similar immunological analysis of cross-reactivity with the CFP-10 homologues, and found that polyclonal antiserum raised against ML0050 did not cross-react with the *M. tuberculosis* homologue, and vice versa. We are currently in the process of analyzing antibody and T cell immune responses against members of the ESAT-6 family of proteins and other unique proteins discovered in the analysis of the *M. leprae* genome.

OI 3

CELL MEDIATED IMMUNITY IN LEPROSY PATIENTS WITH ERYTHEMA NODOSUM LEPROSUM (ENL)

Murdo Macdonald, Niraj Shrestha, Patrick Haslett, Rakesh Manandhar, Matthew Albert, Steven Lubinsky, Paul Roche and Gilla Kaplan

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The dramatic resolution of erythema nodosum leprosum (ENL) following therapy with thalidomide suggests that immunologic changes associated with this treatment may afford insights into the pathogenesis of ENL. It has been reported recently that thalidomide may promote Th-1 immunity. However, it is unknown if thalidomide acts in this way in patients with ENL.

Aim: To study cell-mediated immune responses in Nepali leprosy patients with ENL undergoing thalidomide treatment, and to compare their response to those of lepromatous patients without ENL.

Methods: Venous blood was obtained from appropriate (LL) patients: 20 with and 20 without ENL. Plasma levels of interferon gamma (IFN- γ), tumour necrosis factor alpha (TNF- α) and interleukin 12 (IL-12), and of soluble IL-2 receptor (sIL-2R) were measured using a standard immunoassay. Leprosy-specific and mitogen-induced IFN- γ producing cells in the peripheral blood were measured by ELISPOT and flow cytometry, respectively on days 0, 7 and 21 of a 21 day course of thalidomide.

Results: Thalidomide-induced activation of Th-1 immunity was suggested by an increase in numbers of T cells induced ex-vivo to produce interferon IFN- γ as assessed by both ELISPOT and flow cytometric assays ($p > 0.01$). This activation was transient, however, observed on day 7 of thalidomide treatment. Although

it is difficult to discern obvious trends in the plasma cytokine levels, there is some correlation between the patterns in TNF- α levels and those for IL-12.

Conclusions: Our results suggest transient T cell activation following thalidomide treatment, and may give some clues to the pathological processes underlying ENL as well as to new treatment strategies.

OI 4

CYTOKINE LEVELS IN TYPE I REACTIONS: RELATION TO NERVE DAMAGE AND THE RECURRENCE OF REACTION.

Murdo Macdonald, Niraj Shrestha, Rakesh Manandhar, Maria Jacob K. and Paul Roche.

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Aim: To elucidate the role of cytokines during and after steroid treatment of Type I Reaction (T1R), and their relation to recurrent reaction episodes

Methods: We enrolled 192 borderline (BT, BB, BL) leprosy patients, 96 with T1R and 96 without, in this study. Blood was collected from T1R patients at various timepoints before, during and after prednisone treatment, and used in a standard 24 hour whole blood assay.

Results: Leprosy specific antigen-induced levels of IFN- γ , TNF- α and IL-10 were measured in a 24-hour whole blood assay in T1R patients. Cytokine levels were significantly increased when compared with appropriately matched borderline leprosy patients without T1R. Steroid treatment lowered levels of IFN- γ , but levels of TNF- α increased as the doses of steroids were lowered. IL-10 levels increased during steroid therapy. High TNF- α levels in untreated patients (higher than 75th percentile) was associated with a 5 times greater risk of reactivation of symptoms during treatment phase. High levels of TNF- α after treatment with 30mg of steroids was associated with a 3-5 times greater risk of nerve function impairment or failure to improve nerve function. The relationship between cytokine levels and subsequent reactions was investigated by follow up for up to three years after initial observations.

Conclusion: This study seeks to link cytokine levels with recurrent T1R reactions and nerve function impairment and offers a means to identify patients failing to respond adequately to steroid therapy.

OI 5

DENDRITIC CELL-MEDIATED PRODUCTION OF IL-12 AND IFN- γ BY *Mycobacterium leprae*-DERIVED CELL MEMBRANE

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The development of reliable vaccination agents toward leprosy is currently desired. In order to identify molecules capable of inducing effective cellular immunity against *Mycobacterium leprae*, the antigenicity of *M. leprae*-derived cell membrane fraction was examined using human dendritic cells (DCs). Immature DCs internalized and processed the cell membrane components, and expressed Ags, which reacted to lipoarabinomannan mAb or to leprosy patient's sera. The expression of MHC class II, CD86 and CD83 Ags on surface DCs was up-regulated indicating that the DCs were potentially stimulated by the membrane Ags. Moreover these stimulated DCs induced significantly higher proliferation of autologous CD4⁺ and CD8⁺ T cells and higher IFN- γ production by the T cells than those pulsed with equivalent doses of *M. leprae*-derived cytosol fraction or whole live *M. leprae*. The involvement of CD40 ligand signaling on membrane pulsed DCs enhanced the IFN- γ production. CD4⁺ and CD8⁺ T cells from tuberculoid leprosy patients produced marked and significantly higher IFN- γ than those from healthy donors, when they were stimulated by autologous cell membrane pulsed DCs. The CD8⁺ T cells stimulated for 10 days by DCs pulsed with the membrane and CD40L, produced intracellular perforin in the Ag dose or CD40L dependent manner, in 50% of lymphocytes donors. Furthermore, the *M. leprae* cell membrane was more efficient in the CD40L-associated IL-12 p70 production from DCs than the cytosol fraction, but was less efficient than cell membrane from *M. smegmatis*. Both hydrophobic and hydrophilic fractions of *M. leprae* cell membrane induced IL-12 p70. These results suggest that *M. leprae* cell membrane has pleural antigenic molecules that might be useful as the vaccinating agents against leprosy

OI 6

EFFICACY OF SHORT TERM MULTIDRUG THERAPY ON THE CONTROL MULTIBACILLARY LEPROSY

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Faculty of Medicine of Ribeirão Preto, São Paulo University.

The purpose of this study is verify whether the short term multidrugtherapy (MDT) on leprosy treatment can be efficient on the immune response and the consequent control of the evolution of the disease. To evaluate this hypothesis 67 multibacillaries leprosy patients (MB) (lepromatous leprosy-LL and border-

line leprosy-BL) were randomized to receive 12 or 24 doses of MDT and 9 healthy controls were evaluated. All the patients were classified by Ridley-Jopling criteria and the bacilloscopic index (BI) serum antibody anti PGL-1 (APGL-1), inflammatory cytokines and the co-stimulatory and adhesion molecules serum levels were measured before and after MDT. The APGL-1, IFN- γ , IL10, IL6 and TNF alpha serum levels were determined by ELISA assay. The results showed that MDT 12 and 24 doses can reduce the APGL-1 levels in a similar range. The decrease of BI and APGL-1 levels is followed by the augment of IFN- γ serum levels associated with enhancement of LAF/CD4+ molecules. The quantification of the LAF/CD8+ molecules is higher in MB patients before the treatment and after 24 doses of MDT the values are similar to the normal controls. Since IFN- γ is a cytokine able to induce an enhanced cellular immunity this results can suggest that 12 doses of MDT might be efficient on the control of MB leprosy specially in those patients with moderate bacillary index (below 3,0)

OI 7

ENUMERATION OF IFN- γ -PRODUCING CD4+ T CELLS AS A TOOL FOR SELECTING HIGH-LEVEL IFN- γ -INDUCING *Mycobacterium leprae* ANTIGENS

Márcia V. B. S. Martins^{2*}, Mônica C.B.S. Lima^{1,2,3*}, John S. Spencer¹, Maria A. M. Marques¹, Heejin Kim¹, Bruce C. Gregory¹, Nadia C. Duppre¹, José A. C. Nery¹, Euzenir N. Sarno², Patrick J. Brennan¹, Maria C.V. Pessolani² and Geraldo M. B. Pereira^{2,3}.

Department of Microbiology, Colorado State University, CO, USA¹; Leprosy Laboratory, Oswaldo Cruz Institute, FIOCRUZ², and Laboratory of Immunopathology, School of Medical Sciences, State University of Rio de Janeiro, Rio de Janeiro, Brazil³.

*These authors contributed equally to this work.

The sequencing of the genomes of *M. leprae* and other mycobacteria has afforded new opportunities for the development of pathogen-specific diagnostic tests for mycobacterial infections, critical in the context of leprosy eradication. Recently, antigen-specific IFN- γ production was used with success for the diagnosis of latent tuberculosis. We evaluated the IFN- γ inducing capacities of various fractions derived from *M. leprae* itself (e.g. ammonium sulfate or ethanol precipitated cytosolic proteins; cytosolic proteins fractionated by anion exchange chromatography or isoelectric focusing) and various recombinant proteins dictated by analysis of the genome (e.g. ESAT-6, CFP-10, 10kDa, Ag85B, Hlp, EfTu, MMP-I, MMP-II) and genetically fused versions of some of these recombinant proteins (e.g. CFP10-ESAT-6; ESAT-6-Ag85B). The initial screening was done with blood samples from two untreated newly diag-

nosed leprosy patients (TT and BT; from Leprosy Lab Outpatient Unit, Rio de Janeiro). The presence of IFN- γ -producing CD4+ T cells (IFN-T) was detected by intracellular cytokine assay, using flow cytometry, in response to several of these antigens and, when observed, was associated with high-level IFN- γ in the culture supernatants as determined by ELISA. In particular, some of the native *M. leprae* fractions, as well as MMP-I, had high frequencies of IFN-T and induced high IFN- γ supernatant levels, comparable for instance to that of *S. aureus* enterotoxin-B. (Research was supported by NIAID, NIH and FAPERJ).

OI 8

EXPRESSION OF CHEMOKINES AND THEIR RECEPTORS IN LEPROSY SKIN LESIONS

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Chemokines are small peptides that are potent activators and chemoattractants for leukocyte subpopulations and some nonhaemopoietic cells. Chemokines and their receptors have been associated with infectious diseases.

Study: We have investigated the expression of chemokines and their receptors in leprosy skin lesions using immunohistochemistry. Skin biopsies from 25 leprosy patients across the leprosy spectrum, 11 patients undergoing Type I reversal reactions and 4 normal donors were immunostained by ABC peroxidase method using antibodies against CC and CXC chemokines and their receptors. We have also investigated mRNA production for MCP-1, RANTES and IL-8 chemokines using an *in situ* hybridisation technique.

Results: Chemokine and receptor expression was detected in all leprosy skin biopsies. Expression of CC chemokines MCP-1 ($p < 0.05$), RANTES ($p < 0.005$) and CXC chemokine, IL-8 ($p < 0.005$) were significantly elevated in borderline tuberculoid leprosy in reversal reaction compared to borderline tuberculoid leprosy. However, the expression of CC (CCR2 and CCR5) and the CXC (CXCR2) chemokine receptors did not differ across the leprosy spectrum. Similarly, there was no significant difference in the expression of MCP-1 and IL-8 mRNA. Nevertheless, a small but significant elevation in RANTES mRNA ($p < 0.05$) was detectable in borderline lepromatous leprosy in reversal reaction compared to borderline lepromatous leprosy.

Conclusion: Surprisingly, we did not find any difference in the expression of chemokine receptors across leprosy spectrum. In addition, RANTES expression was slightly elevated in borderline tuberculoid leprosy in reaction. The presence of a neutrophil chemoattractant IL-8 in leprosy lesions, which do not contain neutrophils, here strongly suggests a role of IL-8 as a monocyte and lymphocyte recruiter in leprosy lesions.

OI 9

HUMAN T CELL RECOGNITION OF FRACTIONATED ANTIGENS FROM *Mycobacterium leprae*: POTENTIAL AS DIAGNOSTIC REAGENTS.

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One approach to the development of species-specific mycobacterial antigens is to progressively fractionate the antigens in whole bacteria until functional specificity is achieved. Equivalent preparations of *Mycobacterium leprae* and *Mycobacterium tuberculosis* cell wall and cytosolic antigens were used to test lymphocyte proliferation and IFN production in 6 day assays in leprosy and tuberculosis patients in Pakistan. The *M. leprae* antigenic preparations were less potent for T cells from tuberculoid leprosy patients than the *M. tuberculosis* antigens, and also induced T cell responses in tuberculosis patients. Further fractionation of *M. leprae* cytosolic antigens (MLSA) produced components of potentially greater specificity. The presence of *M. leprae*-specific antigens within MLSA was confirmed in healthy, non-BCG-vaccinated young adults in Malawi, where IFN- γ production to MLSA in diluted whole blood assays was more strongly associated with skin test indurations to Rees MLSA than to *M. tuberculosis* PPD. Thus fractionation of the cell wall or cytosolic proteins of *M. leprae* may yield specific diagnostic reagents for leprosy.

OI 10

IFN- γ DETECTION AND ABSENCE OF IL4 *IN SITU* UNDER NON STIMULATED CONDITIONS IN PAUCIBACILLARY SINGLE SKIN LESION LEPROSY

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Objectives: Define in early leprosy lesions the Cell Mediated Immunity by cytokine profiling: IFN γ , IL12, IL10, IL 4, TNF α and MIP1 and assess *M. leprae* DNA.

Methods: 259 SSL-PB leprosy patients were enrolled (1997-98) for ROM therapy and were clinically monitored. Six cytokines- IFN- γ , IL10, IL12, IL4, TNF α and MIP1 α had mRNA assessed by RT-PCR using Real Time PCR (ABI Prism 7700 Perkin Elmer) in skin biopsies from 39 patients with different clinical outcomes. *M. leprae* DNA-PCR was performed in skin biopsies using primers for the specific 18KDa protein gene.

Results: Highest values of IFN- γ were among the TT group (median=1.77) with well-formed granulomas, followed by BT (1.08) and I group (0.02). IL10 values were similar for TT (0.79) and BT (0.72) groups. MIP1 γ detection was higher in TT lesions followed by BT and I groups. IL4 values were zero for all specimens tested. Statistically significant correlation was observed between IL12 and IFN- γ ($r=0.4$, $p=0.02$) and between IFN- γ and IL10 ($r=0.67$, $p<0.05$), possibly reflecting regulatory measures related to macrophage activation. Also IL10 and IL12 correlation was observed ($r=0.6$, $p<0.01$) suggesting *in situ* relationship between induction and control mechanisms in early leprosy lesions. 48.6% *M. leprae* DNA-PCR positivity was observed.

Conclusions: Our results support the concept that SSL-PB leprosy patients are tuberculoid-like with reasonable strong CMI contributing to the good prognosis after early treatment with ROM. TDR/WHO grant 98100

OI 11

IMMUNOPHENOTYPIC STUDY IN PAUCIBACILLARY SINGLE SKIN LESION LEPROSY

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Objectives: Assess the microanatomy of single skin lesion paucibacillary leprosy (SSL-PB) characterizing the phenotypes of different cell populations present in the cellular infiltrates.

Methods: 36 SSL-PB leprosy patients from Central Brazil, treated with ROM therapy were evaluated by immunostaining in skin biopsies collected before drug intake. Immunophenotypic study was performed in deparaffinized skin biopsies using monoclonal antibodies and immunoperoxidase methods, after microwave antigen retrieval. The distribution, location and estimated proportion of seven cell populations were evaluated: T lymphocytes (CD3⁺), B lymphocytes (CD20⁺), T lymphocyte subpopulations (CD4⁺, CD8⁺) and NK cells, CD 68⁺ macrophages and mast cells. Samples were previously coded and all laboratory tests performed independently, by different experts. Data were analyzed taking into account conventional histopathology and *M. leprae* DNA-PCR findings.

Results: 50% of SSL-PB were classified as BT, 27.8% TT and 22.2% I. *M. leprae* DNA was detected in 14/36 (45%). Cell phenotypes immunohistochemistry markers were observed in all preparations regardless of the morphological classification. Presence of neural aggression observed in histopathology was associated with positivity for *M. leprae* DNA by PCR ($p < 0.05$). Detection of different cell phenotypes in early leprosy lesions, many of them with confirmed *M. leprae* DNA detection, provides indepth evaluation of the *in vivo* immune/inflammatory response in early paucibacillary leprosy. TDR/WHO grant 98100

OI 12

IMPROVING SUBUNIT DNA VACCINES AGAINST MYCOBACTERIAL INFECTIONS.

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Immunisation with *Mycobacterium bovis* (BCG) confers significant protection against leprosy and has contributed to the control of the disease. We have demonstrated that immunisation with a DNA vaccine expressing the immunodominant 35 kDa antigen of *M. leprae* causes equivalent protection to BCG in the mouse footpad model of *M. leprae* infection (1). We have investigated two ways of improving the efficacy of this approach, using DNA expressing the *M. avium* homologue of the 35 kDa protein (DNA-35), which shows 95% aa identity to the *M. leprae* protein, and infection with virulent *M. avium*. First, we co-immunised mice with DNA-35 and a plasmid producing both chains of IL-12 as a self-cleaving protein. This resulted in increased frequency of antigen-specific IFN- γ secreting T cells, and a reduction

in specific IgG antibody responses. Moreover, following IVI infection with *M. avium*, these mice showed significantly reduced bacterial loads compared to mice immunised with DNA-35 alone or BCG. This increased protection was associated with a significantly stronger IFN- γ response to both the 35 kDa protein and *M. avium* sonicate after challenge. Second, we examined whether targeting the 35 kDa protein to the B7 molecules on antigen presenting cells increased the vaccine efficacy. The 35 kDa gene was fused to the gene for CTLA-4-Ig within the DNA vaccine. Mice immunised with this construct showed an increase in both specific IFN- γ T cell and IgG responses. However, this was not associated with increased protection against *M. avium* infection. Therefore plasmid IL-12 is an effective adjuvant to increase the protective effect of DNA vaccines against *M. avium*. We are testing whether this increases protection against *M. leprae* infection. Future subunit vaccines against tuberculosis should also include dominant *M. leprae* antigens to ensure they provide cross-protection against leprosy.

1- Martin E, et al (2001) DNA encoding a single mycobacterial antigen protects against leprosy infection. Vaccine 19;1391-6

OI 13

IN SITU EXPRESSION PATTERN OF IFN- γ , IL-4 AND *M. leprae* ANTIGENS ACROSS SPECTRUM OF LEPROSY REFLECT DISEASE ACTIVITY RELATED TO REACTIONS

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Recent studies on lesional skin derived T cell clones (TCC) from leprosy patients experiencing reversal reaction (RR) showed a polarised shift of *M. leprae* responsive TCC to Type-1 like phenotypes with predominant production of IFN- γ /TNF- α and low production of IL-4/IL-5/IL-13. With this background knowledge, we assessed the presence of IFN- γ and IL-4 (both protein and mRNA) in lesional skin biopsies of untreated leprosy patients during RR and erythema nodosum leprosum (ENL) reactions. The *in situ* cytokines were identified on frozen biopsies by both immunohistochemical staining and *in situ* hybridisation and RT-PCR methods. On the other hand *in situ* presence of *m.leprae* antigens was identified in both frozen and paraffin embedded biopsies by specific monoclonal antibodies to phenolic glycolipid-1 (PGL-1) lipoarabinomannan (LAM) by immunohistochemical single and double stainings. We found that both IFN- γ and IL-4 protein and mRNA were present in varying amounts in the lesions of untreated paucibacillary (PB) and multibacillary (MB) patients irrespective of their spectral status. No significant differences were seen regarding the *in toto* presence of

these cytokines in individual lesions although their presence varied indifferent granulomas within one lesion. However in lesions with RR and ENL higher levels of IFN- γ and IL-4 were seen although in ENL IL-4 was relatively higher although not significant. These data of *in situ* expression of T cell cytokines appear to indicate the ongoing disease activity as is the case in patients with reactions. The *in situ* presence of PGL-I and LAM with the macrophages in lesions of MB patients decreased dramatically with the treatment. However, in some patients, presence of these antigens persisted in lesions of MB as well as in PB patients, but with differing staining pattern. Such dynamics in the expression pattern of PGL-I and LAM, in leprosy lesions appeared to be associated with reactions. Our studies suggest that the evaluation of *in situ* expression pattern of IFN- γ , IL-4 and *M. leprae* antigens can be regarded as important differential diagnostic criterium for recognising leprosy lesions and may have predictive value for recognising reactions during the evaluation of the disease

OI 14

INTERLEUKIN-10 PROMOTER SINGLE NUCLEOTIDE POLYMORPHISMS: MARKERS FOR DISEASE SUSCEPTIBILITY AND DISEASE SEVERITY IN BRAZILIAN PATIENTS

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Single nucleotide polymorphisms at positions -3575, -2849, and -2763 on the promoter region of the interleukin-10 gene are arranged to form haplotypes that affect levels of IL-10 production. In this study we have determined IL-10 genotype and haplotype frequencies in leprosy patients compared to controls, and analyzed their occurrence with particular forms of leprosy (multi- vs. paucibacillary as severe and mild forms, respectively). No significant differences was observed in genotypes comparing patients to controls, but in -2849 SNPs genotypes were different in multi-bacillary (MB) when compared to paucibacillary (PB) patients ($P=0.04$). The observation of haplotypes suggested that -3575T/-2849A/-2763C is associated with the occurrence of the disease ($P=0.038$) irrespective of the further clinical outcome. Besides, AGC haplotype was diminished in patients group as compared to controls ($P=0.001$). The comparison among patient groups demonstrated that the rarely found IL-10 haplotype AAA was strongly associated to the develop-

ment of the severe ($P=0.003$) form of leprosy and TGA haplotype was more frequent in paucibacillary group. The data suggest that distal IL-10 promoter haplotypes could be used as genetic markers that predict susceptibility as well as disease severity in leprosy.

OI 15

LATERAL FLOW ASSAY FOR CLASSIFICATION OF LEPROSY PATIENTS AND IDENTIFICATION OF HIGH-RISK CONTACTS

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The interruption of leprosy transmission is one of the main challenges for leprosy control programs since no consistent evidence exists that it has been significantly reduced after introduction of MDT. Sources of infection are particularly patients with high loads of bacteria and infected persons in which the clinical signs have not yet become apparent. Detection of antibodies to PGL-I of *M. leprae* to identify those cases may be a tool for the interruption of transmission. An operational applicability of serology within the leprosy control services requires a simple test system.

We have developed a lateral flow assay for the detection of antibodies to PGL-I which takes only 10 minutes to perform. We have compared its performance with that of ELISA. An agreement of 89.7% was observed between ELISA and the lateral flow assay when tested on 620 serum samples; the agreement beyond chance (Kappa value) was 0.76. No significant difference was found between the lateral flow assay and ELISA when seropositivity rates obtained in groups of leprosy patients, household contacts and controls were compared. Storage of the only reagents required, the lateral flow test and the running buffer, for up to a month at high temperatures, does not influence the results of the assay.

The lateral flow assay is a fast and easy-to-perform method for the detection of IgM antibodies to PGL-I of *M. leprae*; it does not require any special equipment and the highly stable reagents make the test robust and suitable for use in tropical countries.

OI 16

LEPROSY TRANSMISSION AND MUCOSAL IMMUNE RESPONSE

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Decrease in the prevalence rate of leprosy has not reflected in the incidence of new cases. Very little is known about the transmission of leprosy. Though household contacts of multi-bacillary cases are at high risk of developing disease, majority of the new cases have no history of household contact. A study was undertaken to look at the transmission and the development of mucosal immunity. Subjects (3035) from three villages were examined and followed twice at six monthly intervals. Polymerase Chain Reaction (PCR) was used to detect presence of *M. leprae* DNA on the nasal mucosa and mucosal immunity was tested by measuring the salivary *M. leprae* reactive IgA antibodies (sML-IgA) using ELISA. More than 60% of the subjects from all the three villages showed sML-IgA. This response was seen in all the age groups. The response between BCG vaccinated and non-vaccinated individuals did not show any difference. Overall PCR positivity (presence of *M. leprae* on nasal mucosal) was found to be 1.65% (42 out of 2552), 4.5% (56 out of 1252) and 1.9% (25 out of 1308) in the initial screening, 1st follow-up and 2nd follow-up respectively. Most of the positive subjects in the follow-up were negative in either the previous or subsequent follow-up suggesting transient nature of the PCR positivity. Presence of *M. leprae* reactive antibodies in the majority of population suggested a possible widespread exposure to *M. leprae*. This mucosal immune response could be of protective importance as most of the subjects showing presence of nasal *M. leprae* had these antibodies. Shorter intervals between the follow-ups may shed more light on role of mucosal immunity and fate of *M. leprae* in the nasal passage.

OI 17

M. leprae INDUCES NF-B NUCLEAR TRANSLOCATION IN PBMC FROM LEPROSY PATIENTS

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NF-B is a transcription factor involved in the regulation of many inflammatory genes, including TNF and IL-1. It has also been suggested to be involved in the regulation of apoptosis. *M. leprae* is known to induce TNF production by PBMC from leprosy patients *in vitro*. Recent data from our laboratory showed apoptosis to occur in a dose-dependent manner and that TNF seems to be a mediator of this process. In order to investigate whether NF-B is activated in response

to *M. leprae*, nuclear proteins from stimulated PBMC were analyzed by EMSA. Initial results demonstrate that *M. leprae*, when added at 1 and 10g/ml, induces nuclear translocation of this transcription factor. To identify NF-B subunits activated by *M. leprae*, samples were assayed by super-shift. Subunits p65 and p50 were detected, while p52, c-rel and Rel-B were not. These results indicate that NF-B is activated in PBMC by *M. leprae*. Moreover, its role in the induction of TNF synthesis and apoptosis of TNF synthesis and apoptosis is under further investigation.

OI 18

M. leprae-SPECIFIC, HLA CLASS II-RESTRICTED KILLING OF HUMAN SCHWANN CELLS BY CD4+ TH1 CELLS: A NOVEL IMMUNOPATHOGENIC MECHANISM OF NERVE DAMAGE IN LEPROSY.

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Peripheral nerve damage is a major complication of reversal (or type-1) reactions in leprosy. The pathogenesis of nerve damage remains largely unresolved, but detailed *in situ* analyses suggest that type-1 T cells play an important role. *Mycobacterium leprae* is known to have a remarkable tropism for Schwann cells of the peripheral nerve. Reversal reactions in leprosy are often accompanied by severe and irreversible nerve destruction and are associated with increased cellular immune reactivity against *M. leprae*. Thus, a likely immunopathogenic mechanism of Schwann cell and nerve damage in leprosy is that infected Schwann cells process and present Ags of *M. leprae* to Ag-specific, inflammatory type-1 T cells and that these T cells subsequently damage and lyse infected Schwann cells. Thus far it has been difficult to study this directly because of the inability to grow large numbers of human Schwann cells. We now have established long-term human Schwann cell cultures from sural nerves and show that human Schwann cells express MHC class I and II, ICAM-1, and CD80 surface molecules involved in Ag presentation. Human Schwann cells process and present *M. leprae*, as well as recombinant proteins and peptides to MHC class II-restricted CD4(+) T cells, and are efficiently killed by these activated T cells. These findings elucidate a novel mechanism that is likely involved in the immunopathogenesis of nerve damage in leprosy.

OI 19

MATRIX METALLOPROTEINASE (MMP) mRNA EXPRESSION IN THE SKIN LESION OF LEPROSY PATIENTS

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Introduction: MMPs are a zinc-dependent proteases family that collectively are able to degrade most extracellular matrix components. In general, MMPs are not constitutively expressed by the cell in vivo, but their expression can be modulated by cytokines such as TNF- α .

Objective: To determine the pattern of expression of MMPs in reactions in leprosy patients who showed enhanced TNF- α production.

Methods: Skin biopsies of 20 leprosy patients and 2 controls were collected and total RNA was extracted. RT-PCR to MMP-2, MMP-9 and TNF- α was performed, and the amplified products analyzed through electrophoresis in agarose gel.

Results: The dermis of all (n= 15) reactional patients (RR and ENL) were positive to TNF- α and MMP-9 mRNA, and 84% (n= 12) to MMP-2 mRNA. In the dermis of the 5 unreactional patients, 60% (n= 3) were positive to MMP-2, MMP-9 and TNF- α mRNA. The 2 health controls are positive to TNF- α mRNA, but negative to MMP mRNA. In 50% of the patients MMP mRNA expression decreased during the treatment. In the epidermis of leprosy patients the TNF α mRNA was detected in all patients and MMP-2 and MMP-9 in 50% (n=3) and 16% (n= 1), respectively. TNF α and MMP mRNA was not observed in the epidermis of the unreactional patients. Preliminary experiments with Real Time PCR confirm the above data.

Conclusion: The MMP mRNA expression was detected only together with TNF- α expression both in the dermis and epidermis. It is likely that these enzymes play a role in inflammatory reaction in leprosy.

OI 20

MHC AND IMMUNE RESPONSE ACROSS THE LEPROSY SPECTRUM.

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We earlier showed that HLA Class II genes modulate immune response following infection with *M. leprae*

with preferential interaction among mycobacterial epitopes and particular Class II motif characterized by 'Arg' rich pocket 4 residues of the DRB1 molecule. It has been observed that cytokine polarized clinical states of leprosy correlate with the representation of phenotypable fine T cell subsets. We found that the functionally polarized subsets of CD4 memory T cells are identifiable on the basis of expression of CD11a, CD45RA and CD62L, viz those that primarily produce IL-4 (MT₂, CD45 RA- CD62 L + CD11a^{dim}) or primarily γ -Ifn (MT₁, CD45 RA- CD62 L - CD11a^{bright}). The frequency and representation of phenotypically definable memory T cell subsets (MT₁ and MT₂) was defined in all patients. We observed an overrepresentation of MT₁ cells among BT subjects (Median, 53) compared to those with BL leprosy (Median, 15). Conversely MT₂ cells were over represented in BL patients (Median, 23) as opposed to BT subjects (Median, 3). Although median value of MT₁ representation among BL subjects was significantly lower than BT subjects, certain BL/LL patients had comparable higher frequency of MT₁ cells as observed in BT cohorts. These results suggest a possible heterogeneity of immune response against *M. leprae* in these patients. Careful analysis of the data with regards to the bacillary load of BL patients revealed that MT₁ cells were increased in only those BL/LL patients who had become bacillary negative following therapy. All BL/LL patients with a bacillary index of 2 or 4 showed lower frequency of MT₁ cells. Our data indicates immune dynamics in leprosy and provides evidence that functional immune response as measured by cytokine producing memory T cells is dictated by the antigen load and presentation of relevant peptides of *M. leprae* by the host MHC.

OI 21

NEURAL PATHOLOGY DURING TREATMENT AND RFT

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Histological findings of 24 nerves, 15 developing pain and tenderness during treatment and 9 after RFT are presented in this study. Eight cases showed macrophage type and 15 had epithelioid cell type of granulomas. All cases were active except 3 macrophage granulomas where regressive changes were evident. One case had fibrosis with lymphocytic infiltration. No morphological difference could be observed between nerves biopsied during treatment and

during RFT. Histology of epithelioid cell granulomas had interesting and diverse manifestations such as severe type I reaction, caseation necrosis with liquefaction and calcification. Three macrophage granulomas showed regressive changes, two were in ENL, while one case showed histoid changes. All the cases studied showed similar granulomatous response irrespective of whether the pain and swelling appeared during treatment or during surveillance. Nerves are thought to be immunologically more protected structures but once the reaction is triggered the special nature of neural tissue seems to make the reactional episodes more explosive. Ascertaining relapse in nerves is more ambiguous due to smouldering nature of neural pathology.

OI 22

QUANTITATIVE ESTIMATION OF SALIVARY IgA ANTIBODIES IN LEPROSY BY ELISA USING INDIGENOUS POOLED SALIVA AS STANDARD

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Background: *M. leprae* being the first organism to be discovered, yet a specific method for cultivation of *M. leprae* is still lacking. Leprosy is a unique disease; the disease is difficult to define due to the lack of gold standard for diagnosis. It is known that the primary lesions may be in the nasal mucosa. All mucosal sites are linked by lymphocyte re-circulation. The mucosal immune system is of importance in a putative protective response to infection.

Aim: To investigate *M. leprae* reactive antibodies in saliva as a marker of anti-*M. leprae* immunity using indigenous pooled saliva as standard.

Materials and Methods: Saliva samples were collected from subjects in leprosy endemic areas. ELISA studies were performed on all the saliva samples using whole α -irradiated *M. leprae*. Saliva showing high IgA concentration was pooled in appropriate quantities and a two-fold dilution of the pooled saliva was done to construct the standard curve. HRP conjugated antihuman IgA was added and the reaction was developed using o-phenylenediamine containing 0.05% hydrogen peroxide.

Results: Standard curves prepared using pooled saliva samples were used to determine the concentration of IgA in terms of arbitrary units (AU) and used to compare the antibody levels in different individuals.

For most of the saliva samples tested, 1:04 dilution of saliva appeared to be the right dilution. The optimum concentration of *M. leprae* cells used for coating was 1×10^7 cells/ml and the secondary antibody was diluted 1: 40,000.

Conclusion: The pooled saliva used as a standard contributes to the uniformity in ELISA results. It was seen that this kind of quantitation was sufficiently a robust technique to give reproducible results.

OI 23

REAÇÃO DE MITSUDA EM PACIENTES PORTADORES DE HANSENÍASE NA FORMA TUBERCULÓIDE E DIMORFA DURANTE E APÓS O SURTO REACIONAL.

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A hanseníase, de acordo com o sistema de classificação adotado pelo VI Congresso Internacional de Leprologia, 1953, apresenta duas formas polares, clínica e imunologicamente distintas: o tipo virchoviano e o tuberculóide. Apresenta ainda dois grupos instáveis, o indeterminado e o dimorfo. Em todas elas, exceto na indeterminada, a evolução crônica pode ser interrompida por surtos agudos, denominados de tuberculóide reacional (TR), dimorfo reacional (DR) e, quando na virchoviana, de eritema nodoso. A resistência à Hanseníase pode ser avaliada através da Reação de Mitsuda e, neste sentido, diferentes autores relatam que esta pode estar aumentada, diminuída ou inalterada em pacientes Tuberculóides e Dimorfos durante os surtos reacionais, sem contudo realizarem trabalhos específicos sobre o tema. Com esse objetivo, nesta apresentação, avaliou-se o comportamento clínico da reação de Mitsuda em 43 pacientes das formas Tuberculóide e Dimorfo, durante e após o surto reacional, e observou-se que há predominância da manutenção dos resultados da Reação de Mitsuda - tanto quando a avaliação foi feita separadamente, nos grupos TR e DR, quanto quando conjuntamente. Ademais, as alterações, quando ocorreram, foram predominantemente no sentido de aumento após o surto, ou seja, é possível que, na realidade, durante o surto reacional, alguns indivíduos possam apresentar uma diminuição de sua resistência específica ao *M. leprae*.

OI 24

RT-PCR ANALYSIS OF PATHOGEN AND HOST EXPRESSION IN LEPROSY PATIENTS

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Molecular analysis of nucleic acids in Paraffin-embedded infected tissues (PET) using RT-PCR is an effective approach to analyse gene expression of both host and pathogen genes. Punch biopsies obtained from leprosy patients across the leprosy spectrum (n=46) were fixed in formaldehyde and embedded in wax. RNA extraction conditions were optimized and first strand cDNA synthesis was carried using oligo dT primers. Semi-quantitative PCR was carried out using human cytokine specific primers as well as *M. leprae* specific primers.

Analysis of the expression of regulatory cytokines, TGF- and IL-10 in relation to Th1/Th2 cytokines in different disease states confirm and extend the earlier observations that the LL condition is a mixed type of response having both Th1/ Th2 cytokine production. Also, TGF- mRNA was found to be up-regulated at the LL end of the spectrum and could be responsible for the absence of any effect of TNF- and IFN- γ in borderline and lepromatous conditions. Finally the reactional conditions, reversal and ENL show similar cytokine profiles.

Till date there is no documentation of the gene expression of *M. leprae* in infected host tissue. The same RNA extracted for cytokine analysis was also used for analysis of *M. leprae* specific genes 18kDa heat shock protein, 35kDa Major Membrane Protein I and two genes belonging to the *Mce* operon (Mammalian cell entry) namely *mceIA* and *lprK*. Amplification of these genes by RT-PCR from leprosy biopsies confirmed the expression of these genes *in vivo*. All amplified products have been cloned and sequenced to confirm the reliability of the system.

OI 25

SCREENING NEW LEPROSY ANTIGENS FOR POTENTIAL AS LEPROSY SKIN TESTS

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There remains a requirement for leprosy-specific tests to detect leprosy exposure in communities with high levels of tuberculosis. We have previously demonstrated that levels of the cytokine interferon-gamma (IFN- γ) produced in a simple overnight whole blood culture with leprosy antigens are increased in healthy contacts of leprosy patients.

Aim: To investigate the efficacy of three *M. leprae* antigens (35kD antigen, 45kD antigen, and the *M. leprae* homologue of ESAT-6 (ESAT-6 ML)) as potential new skin test antigens.

Methods: Whole blood was collected from almost 300 Nepali leprosy patients, TB patients, leprosy household contacts and unexposed subjects and used in overnight whole blood assays. Cells were stimulated with the above named antigens, and IFN- γ was measured in supernatants. The resultant cytokine levels in these stimulated short-term cultures were compared with longer (5-day) culture and with T-cell proliferation.

Results: Very high IFN- γ response levels were observed in leprosy health workers compared with healthy control subjects. Both 24 hour and 5-day cultures gave similar results. In both cases cytokine levels observed were highest in response to *M. leprae* 35kD antigen, followed by ESAT-6 and 45kD.

Conclusion: These data indicate the potential of these three relatively leprosy-specific antigens for use as leprosy skin tests in the future.

OI 26

SCREENING OF NEW *Mycobacterium leprae* ANTIGENS AS CANDIDATES FOR THE DEVELOPMENT OF TESTS FOR THE EARLY DIAGNOSIS OF LEPROSY

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The greatest needs from leprosy research are definitive diagnostic antigens to help understand transmission and allow early detection of disease. In order to further investigate the *in vivo* skin tests or related *in vitro* tests, PBMC from leprosy patients, contacts of leprosy multibacillary patients, operational contacts, TB patients, and exposed or non-exposed healthy controls from leprosy endemic and non-endemic areas were stimulated with antigens from a collection of 26 *M. leprae* antigens, including crude and fractionated subcellular fractions of *M. leprae* and recombinant antigens. Cell-mediated responses were measured through IFN- γ secretion using ELISA, and some T-cell activation parameters (such as CLA and

CD69 expression) were estimated by flow cytometry. Initial results obtained with these different groups of subjects indicate that some fractions/antigens are good inducers of IFN- γ production, and of CLA and CD69 expression, in leprosy patients, but not in TB patients. Responses were lower in lepromatous leprosy patients. These preliminary results suggested that some of our *M. leprae* antigens hold promise as specific diagnostic tools for leprosy. (Research supported by NIAID, NIH).

OI 27

STUDY OF EXPERIMENTAL LEPROSY IN INTERLEUKIN-12 DEFICIENT MICE

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IL-12, a key regulatory cytokine of the immune system, induces the production of IFN- γ by T cells and NK cells and promotes the development of a Th1 type cell mediated immune response. To study its role in experimental leprosy, *Mycobacterium leprae* infection was evaluated in IL-12 knockout (KO) mice. Wild type control mice (C57Bl/6) and IL-12 KO mice were infected in both hind foot pads with 6×10^3 viable *M. leprae* and bacterial growth, cell profiles, histology, and gene expression were monitored for over twelve months. In wild type mice, growth of the bacilli in the foot pads peaked on the order of 10^5 at six months post infection. In contrast, growth of *M. leprae* was enhanced in IL-12 KO mice, reaching 10^5 by three months post infection ($P < 0.01$) and continuing to multiply to reach 10^6 by 12 months post infection ($P < 0.01$). Histopathologically, control mice exhibited mild lymphocytic and histiocytic infiltrates at 12 months post infection. IL-12 KO mice also developed a mild inflammation with equal numbers of lymphocytes, macrophages and epithelioid cells. Lymph node cells from the draining popliteal lymph nodes were examined throughout infection for lymphocyte differentiation and activation surface markers. Cells bearing the CD44^{high}, CD45RB^{low} markers (activation/memory phenotype) constituted only $15.57 \pm 3.93\%$ of the CD4⁺ cells in the lymph nodes of wild type mice at three months post infection. This cell population increased to $29.14 \pm 4.17\%$ by six months and to $36.26 \pm 10.49\%$ by twelve months. A similar profile was observed in the lymphocytes of IL-12 KO mice. In summary, IL-12 KO mice exhibited a decreased ability to control *M. leprae* KO mice, yet did so without the massive granulomatous infiltration observed in those mice.

OI 28

T CELL RESPONSES TO PEPTIDES FROM *M. leprae* 10 KDA PROTEIN IN THAI LEPROSY PATIENTS, HEALTHY CONTACTS AND NON-CONTACTS

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Detection of *M. leprae* infected individuals using a T cell based assay is hampered by the lack of suitably specific test reagents. Thus the objective of this study was to identify *M. leprae*-specific immunogenic peptides from *M. leprae* 10 kDa protein. Although this protein has a homologue in *M. tuberculosis*, it was previously found to contain *M. leprae*-specific epitopes located within amino acid residues 24-39 as tested by murine T cell hybridoma and T cell clone. In this study, we analyzed the proliferative responses of peripheral blood mononuclear cells (PBMCs) to three synthetic peptides from 10 kDa protein of *M. leprae* among 73 paucibacillary (PB) and 124 multibacillary (MB) leprosy patients, 57 healthy household contacts and 20 non-contacts. These 18-mer peptides were located in 3 areas between residues 11-28, 22-39 and 55-72 containing 3-4 residues distinct between *M. leprae* and *M. tuberculosis*. Surprisingly, the result showed that frequencies of responders to all peptides were similar among the PB and MB patient groups. The most immunogenic peptide was p55-72, recognized by 34% and 48 % of PB and MB leprosy patients, respectively. *M. leprae*-specific P22-39 was recognized by 23-27% of patients but only 7% of healthy contacts which might be useful for discriminating between disease and sub-clinical infection. All peptides were recognized by non-contacts with significantly lower frequencies than the patient groups, suggesting that they were likely to be *M. leprae*-specific. Determination of the exact species-specificity would require further evaluation using T cell lines or clones. Combination of these peptides may increase the sensitivity of a prospective diagnostic test reagent above that, observed for the individual peptides.

OI 29

T CELL SUBSETS EXPRESSING NEURAL CELL ADHESION MOLECULE: ASSOCIATION WITH ANTIGEN INDEPENDENT, MHC UNRESTRICTED T CELL CYTOTOXICITY IN LEPROSY PATHOLOGY

Eric Spierings, Tjitske de Boer, Tamara Dekker, Birhane Kaleab, Ben Naafs, William R. Faber, Pranab K. Das, Brigitte Wieles and Tom H.M. Ottenhoff

Department of Immunohematology and Blood Transfusion and Department of Dermatology, Leiden University Medical Center, The Netherlands, Department of Dermatology, Amsterdam Medical Center, The Netherlands

We have investigated the role of Neural Cell Adhesion Molecule (NCAM or CD56) in the killing of Schwann cells and other NCAM positive targets by an NCAM expressing human T cell subset, isolated from leprosy patients. Involvement of NCAM expressing T cells in leprosy pathology was suggested by the observations that NCAM expressing T cells could be isolated from inflamed neural tissue. Furthermore, antigenic stimulation of these cells with *Mycobacterium leprae* increased both the number of NCAM⁺ T cells and their cytolytic activity against NCAM⁺ target cells. The cytolytic activity of NCAM⁺ T cells was antigen independent and could be attributed to the CD8⁺ T cell subpopulations. NCAM expression was not a stable but rather seemed an acquired characteristic, since it could be modulated *in vitro* on sorted, NCAM⁺ cell populations.

In addition, a longitudinal analysis of leprosy patients undergoing active erythema nodosum leprosum (ENL or type 2 leprosy reactions) showed that *M. leprae* stimulation increased NCAM expression on CD8⁺ peripheral T lymphocytes only at the time of active ENL. In line with these observations, stimulation with *M. leprae* increased antigen independent lysis of NCAM positive target cells in close association with the period of active ENL. At the same time, CD8⁺ NCAM⁺ T cells could be visualized in ENL skin lesions.

These results reveal a novel mechanism of antigen independent, T cell mediated tissue damage, which is likely to play a role in leprosy and possibly other peripheral neuropathies

OI 30

THE APPLICATION OF SEROLOGICAL TOOLS IN PATIENT MANAGEMENT AND LEPROSY CONTROL

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The detection of human antibodies to the *Mycobacterium leprae* cell wall component phenolic glycolipid I (PGL-I) and its semi-synthetic derivatives can be performed using ELISA, agglutination tests, dipsticks or lateral flow tests. The results from these tests used to answer a number of important questions that are of direct relevance to patient management and leprosy control.

Specifically, serological testing can be used to assist with the classification of leprosy patients into multibacillary (MB) and paucibacillary (PB) after clinical

diagnosis, to detect patients who have an increased risk of relapsing after treatment and to identify contacts of leprosy patients that are in danger of developing leprosy in future.

This presentation will give a critical overview of the various techniques in use, their relative advantages and limitations and the way in which these tools can be used to assist in patient management and leprosy control.

OI 31

THE ROLE OF MANNOSE BINDING LECTIN AND INFLAMMATORY RESPONSE IN LEPROSY

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Mannose binding lectin (MBL) is a serum protein component of the innate immune system. MBL is able to enhance the phagocytosis of the pathogens by binding to the sugars on the microbial surface through an opsonin mechanism resulting in complement system activation. The deficiency of MBL is generally associated to susceptibility to infections. Leprosy is a chronic inflammatory and infective disease caused by the intracellular parasite *Mycobacterium leprae* which strongly bind to MBL. To evaluate the involvement of MBL on the evolution of the disease were selected 58 untreated leprosy patients, classified by Ridley & Jopling criteria (lepromatous leprosy-LL = 14, borderline lepromatous-BL = 8, borderline tuberculoid-BT = 11 and erythema nodosum leprosum-ENL = 25) and 10 healthy controls. Sera samples from the patients and controls were analyzed for determination of MBL, inflammatory cytokines (TNF α , IL6, IFN- γ), erythrocyte sedimentation rate (ESR), C-reactive protein (CRP) and anti PGL1 antibody (APGL1). It was observed that all ENL patients presented significantly higher levels of MBL (M = 2335,3 ng/ml) than LL (M = 301,3 ng/ml), BL (M = 428,2 ng/ml), BT (M = 486,1 ng/ml), or the normal control (M = 508,7 ng/ml). Additionally significantly elevated values of all the inflammatory parameters were found in ENL, when compared with the other forms of the disease and to controls. Although the bacilloscopic index (BI) of ENL and LL patients were similar (4.5 ± 1.1 and 5.0 ± 1.5 respectively) the APGL1 levels (ENL 7.5; LL = 3.1), inflammatory cytokines (TNF α , IL6, IFN- γ , ESR and CRP levels were significantly higher in ENL than in LL, indicating that the reactional episode, type 2 reaction, could stimulate the liver cell to produce more MBL and induce the phagocytosis of the parasite, increasing the intracellular destruction. Thus, the data suggests that the protein MBL may act protecting the leprosy patients against the dissemination of the infection.

OI 32

THE ROLE OF TH1 AND TH2 CYTOKINES IN ACUTE LEPROSY NEURITIS

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BPRC, Hyderabad, India

Study: To assess cytokine production in nerves from patients with acute neuritis (defined as tenderness and/or loss of function within the last six months). The clinical samples skin and nerve biopsies from 57 patients with acute neuritis (BT = 30, BL = 18 and LL = 9) were collected.

Immunohistochemistry was done on skin and nerve sections to detect the cytokine proteins IFN- γ , IL-6, IL-10, IL-12, IL-13, TNF- α , TGF- β and iNOS.

Results: Morphology: Granulomas were better defined and organised in nerve lesions. Cellular infiltration also more prominent in nerve. Th1 type cytokines (IFN- γ and IL-12) were present at high levels in skin and nerve. Nerves from LL patients had both low levels of IFN- γ and IL-12 and moderate levels of IL-6 and TGF- β . Th2 type cytokines IL-6, IL-10 and IL-13 were present across the spectrum.

Comments: Nerve damage may occur through two mechanisms, a Th1 dependent mechanism in BT and BL patients and a Th2 dependent mechanism in LL patients.

OI 33

TNF PROMOTER GENOTYPE INFLUENCE TNF PRODUCTION IN LPS- BUT NOT *Mycobacterium leprae*- STIMULATED WHOLE BLOOD CELLS IN VITRO.

Moraes M.O., Salgado J., Abreu A.P., Alves C.F.R., Santos A.R., Nery J.A.C., Sampaio E.P., Sarno E.N. Leprosy laboratory, Tropical Medicine Department, IOC-FIOCRUZ

Single nucleotide polymorphisms (SNP) on TNF promoter are associated with the risk and progression of infectious and inflammatory diseases. Mutations at position -308 in TNF α (TNF2) promoter gene might affect levels of the cytokine production that are central in the outcome and the natural course of leprosy. The study was set out to investigate the contribution of TNF2 SNP in the cytokine mRNA expression and protein secretion in vitro. Paucibacillary leprosy patients were genotyped by PCR-RFLP for the presence of TNF2 allele (carriers = 13, non-carriers = 21). Whole blood cells from these patients were stimulated with LPS (1ng/ml) and *M. leprae* (1 μ g/ml). To mRNA expression analysis, semi-quantitative RT-PCR was performed after 3h stimulation. TNF α mRNA did not show any differences among the patients analyzed regardless the stimulus or the genotype of the patients. Nevertheless, LPS induced an increased in TNF α secretion in TNF2 carriers as compared to non-TNF2 carriers at 6h only ($p < 0.05$). In *M. leprae*-stimulated cultures no significant differences were achieved. TNF2 allele influence the increased production of LPS-stimulated TNF α production was time dependent and restricted at the protein levels suggesting a post transcriptional regulatory role associated to the promoter polymorphism.

MICROBIOLOGY & MOLECULAR BIOLOGY

OM&BM 1

ACCUMULATION OF NORFLOXACIN AND DAPSONE IN *M. smegmatis*

K.Venkatesan, Nirmala Deo and A. Mathur*

Central JALMA Institute for Leprosy, Agra -282 001 (India);*Deceased

Quinolones are being increasingly used as second-line agents in the treatment of tuberculosis caused by multidrug-resistant strains. Dapsone is the main component of the MDT regimen for leprosy. At this juncture adequate knowledge of the transport of

these chemotherapeutic agents will be of help in the development of new agents. A preliminary study has been conducted at this Institute on the accumulation of norfloxacin and dapsone using modified fluorescence methods. By employing exogenous norfloxacin concentration of 10 μ g/ml, a steady state concentration (SSC) of 100 ng of norfloxacin/mg cells, by dry weight was obtained for *M. smegmatis*. Adequate care was taken to nullify the errors due to drug adsorption to the cell surface and to maximise the desorption using several standardised washings in the buffer. The addition of either dinitrophenol (2.0 mM) or CCCP (150 μ M) 10 minutes before or

OI 32

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OI 33

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MICROBIOLOGY & MOLECULAR BIOLOGY

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after addition of norfloxacin did not affect drug accumulation suggesting an absence of energy involvement in its transport process. In a parallel study on dapsone accumulation, the drug accumulated to a level of 78-106 ng/mg cells of *M. smegmatis* (by dry weight) during 15-60 minutes of incubation at an exogenous concentration of 10 µg/ml. Further studies using other agents like ofloxacin, rifampicin and clofazimine and several other mycobacteria are being planned. The experimental conditions for each mycobacterial strain and each antimicrobial agent are to be suitably standardised in order to get useful information. The method, once standardised, will be applied to drug resistant strains so as to evaluate the role of efflux pump in the emergence of drug resistance.

OM&BM 2

AN *IN VITRO* MODEL FOR STUDYING THE EFFECTS OF *M. leprae* ON SCHWANN CELL/NEURON INTERACTIONS

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Globally, millions of leprosy patients suffer from irreversible nerve damage, resulting in disabilities or blindness as a consequence of infection with *Mycobacterium leprae*, an obligate intracellular pathogen. The mechanisms of nerve damage have not been fully elucidated due to a lack of a well-developed *in vitro* model which maintains the viability of *M. leprae* and closely mimics disease conditions. Therefore, an *in vitro* model was developed using freshly harvested nude mouse-derived *M. leprae*, rat Schwann cells and Schwann cell/neuron co-cultures incubated at 33°C, a conductive temperature for *M. leprae* viability. At 33°C, Schwann cells and mitogen-expanded Schwann cells appeared to be morphologically similar, express similar levels of Schwann cell markers and function in a comparable manner when seeded onto cultured neurons as those cells maintained at 37°C. *M. leprae* within Schwann cells retained 56 % of their original viability for at least 3 weeks post infection at 33°C compared to only 3 % at 37°C. Infected cells exhibited morphological changes, gene expression alterations 33°C, but were capable of interacting with and myelinating neurons. Infected myelinated co-cultures maintained myelin sheath architecture and were morphological comparable to non-infected cultures at both temperatures. In conclusion, an improved model for studying the effects of *M. leprae* on Schwann cells has been described. Preliminary results using this model indi-

cate that *M. leprae*, under the conditions specified, do not appear to have detrimental effects on Schwann cell functional capabilities in the peripheral nerve and suggest that the majority of the neuropathy observed in leprosy is most likely due to an aggressive immune response to infection within the nerve.

OM&BM 3

CARBOHYDRATE METABOLISM IN LEPROSY PATIENTS

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Leprosy infection is often accompanied by metabolic disturbances, and carbohydrate metabolism is no exception. To a large extent, parameters of carbohydrate metabolism depend on sex and age of the patients and reflect a metabolic state at the moment of taking samples. A state of carbohydrate metabolism was estimated in 150 leprosy cases, including 117 (78%) patients with multibacillary (MB) and 33 patients (22%) with paucibacillary (PB) forms of leprosy. Among the patients (of 45 to 93 years old) there were 75 males and 75 females. Carbohydrate metabolism was assessed by integral index of glycemia, i.e. glycolized hemoglobin (HbA1c) defined for the past 3 months by means of colorimeter method. Upper normal limit of HbA1c was 7.5%. In leprosy patients with normal carbohydrate metabolism level of HbA1c did not depend on either sex or age. Disturbances in carbohydrate metabolism were found out in 37 patients (25% of all studied), out of them there were 30 MB (81%) and 7 PB (19%) patients. Ratio of the patients with and without metabolic disturbances was approximately 1:3 in MB and 1:4 in PB leprosy. Diabetes II type was found out in 13 MB-patients (11%) and in 2 patients with PB leprosy (6%). Prevalence of diabetes in patients under observation was 10%. In one case diabetes preceded the development of PB-leprosy, and in other cases sugar disease occurs against the background of leprosy process. Latent disturbances of carbohydrate metabolism were detected in 15% of cases observed. Thus, the data obtained showed a higher prevalence of carbohydrate metabolic disturbances in leprosy patients (to 11%) as compared with that in general population, necessitating further investigations to elucidate their possible causes and mechanisms.

OM&BM 4

COMPARISON OF PCR MEDIATED AMPLIFICATION OF DNA AND THE CLASSICAL METHODS FOR THE DETECTION OF *Mycobacterium leprae* IN LEPROSY PATIENTS AND CONTACTS

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Traditional staining and microscopic examination techniques for the detection of *Mycobacterium leprae* and Polymerase chain reaction (PCR), DNA amplification of a 531-bp fragment of the *Mycobacterium leprae* specific *pra* gene were compared on different clinical specimens on 60 leprosy patients attending the Sanatorium of Fontilles and divided for the purpose of the study in: multibacillary patients (MB) with positive Bacteriological Index (BI), 30 MB patients with negative BI and, 10 paucibacillary (PB) together with 4 non-leprosy patients as controls.

The results in the multibacillary BI positive group show a good correlation between practically all methods and specimens, most techniques detecting 100% of the cases.

The results in the MB negative group reveal that a combination of test (humoral response to D-BSA, together with PCR biopsy and PCR post biopsy swab) are the most sensitive in some cases of this group for monitoring leprosy patients who have completed chemotherapy. In the paucibacillary group no level of positivity was detected by conventional or PCR methods.

The prevalence of antibodies to *Mycobacterium leprae* antigens in serum was measured together with the presence of *Mycobacterium leprae* DNA in the nose and lepromin status in a group of 43 contacts of leprosy patients. Two individuals were found to form a potential high risk group.

OM&BM 5

DETECTION OF ANTILEPROTIC DRUG (S) INDUCED DNA DAMAGE IN HUMAN PERIPHERAL BLOOD LYMPHOCYTES BY THE ALKALINE SINGLE CELL GEL ELECTROPHORESIS

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Multidrug treatment (MDT) is the WHO recommended method of treatment for leprosy. In MDT, dapsone and rifampicin are effective chemotherapy followed by other frontline drugs like clofazamine, and ofloxacin. These drugs are reported to induce cytogenetic damage in different test systems. Our previous studies indicated higher incidence of DNA strand breaks, chromosomal aberration, and mi-

cronucleus frequency in the peripheral blood lymphocytes of leprosy patients treated with MDT. Therefore, to clarify the possible role of components of MDT in inducing DNA damage in leprosy patients, in this study, the induction of DNA damage by antileprotic drugs (dapsone, rifampicin, clofazamine, minocycline and ofloxacin) and subsequent repair was investigated by the alkaline comet assay in human blood lymphocytes. Lymphocytes isolated from leprosy patients and healthy individuals were treated with increasing concentrations of antileprotic drug(s) for varying duration of exposure and subjected for the comet assay. Metabolic activation/inactivation of the drugs was studied by incorporating rodent liver microsomal activation system (S9-mix). DNA damage data in lymphocytes of leprosy patients were compared with that of health individuals.

OM&BM 6

DETECTION OF *Mycobacterium leprae* NASAL CARRIERS BY POLYMERASE CHAIN REACTION IN SINGLE LESION LEPROSY PATIENTS

Silva, M.H.M., Castro, F., Visconde, A.M., Sousa, A.L.O.M., Rebello, P.F.B., Gomes, M.K., Nararashi, K., Sacchetim, S.C., Costa, M.B., Stefani, M.M.A., Martelli, C.M.T. and Gillis, T.P.

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Objective: Detect *M. leprae* DNA by PCR in nasal swabs among Brazilian single skin lesion paucibacillary leprosy patients (SSL-PB).

Methods: 259 newly detected SSL-PB leprosy patients, negative bacilloscopy, were recruited in 3 endemic regions. 155 nasal swabs and 134 skin biopsies were collected before ROM therapy, snap-frozen and stored (liquid nitrogen) for *M. leprae* DNA detection by PCR. After DNA extraction each specimen was amplified, undiluted and at 1:5, using pairs of primers for a 360 bp *M. leprae* specific fragment and products detected by slot blot hybridization using digoxigenin-labeled 212bp DNA probe. Specimens were coded and tested blinded to patient's characteristics at IPTSP/Brazil in collaboration with National Hansen's Disease Programs.

Results: In nasal swabs, *M. leprae* DNA was detected in 9.7% (15/155) of SSL-PB. Higher positivity (14.1%) was found among specimens from patients living in the North region compared with samples from Southeast and Central Brazil, compatible with endemic levels. No association was found between patient's characteristics or presence of household leprosy contact with PCR positivity. There was no agreement between positivity of *M. leprae* DNA PCR in skin biopsies and nasal swabs (Kappa=0.07).

Conclusion: Detection of *M. leprae* DNA in nasal swabs from SSL-PB patients may reflect exposure in endemic areas without agreement with bacilli detection in skin biopsy by PCR. TDR/WHO grant 981007

OM&BM 7

DISTINGUISHING VARIANTS OF *M. leprae* LABORATORY STRAINS.

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Laboratory Research Branch, Division of National Hansen's Disease Programs, HRSA, Baron Rouge, La. 70894, USA

Genotyping has practical application in outbreak investigations and variant classification of cultured strains. Though remarkably little variability has been noted among *M. leprae*, in recent times a few loci for allelic diversity have been identified. These include mainly small insertion sequences and tandem repeating elements. At least one of these, the TTC triplet occurring in the putative sugar transporter pseudogene, has been found to occur at variable copy numbers in different clinical isolates. To better understand the suitability of this and other VNTR markers in differentiating variant strains of *M. leprae*, we examined a battery of 12 *M. leprae* isolates derived from leprosy patients in different regions of the United States, Brazil, Mexico, and the Philippines, as well as from wild nine-banded armadillos and the Sooty Mangaby Monkey. The stability of the TTC VNTR was compared among the individual isolates as well as to those from bacilli obtained on subsequent passage in nude mice and armadillos. Copy numbers for the TTC repeat ranged from 10-15 among the isolates tested. No regional clustering was noted and all of the U.S. isolates showed a variable number of repeats. Strains derived from wild animals were not identical. Greatest variability in TTC was seen over long term passage with the Thai-53 strain, which has been maintained continuously in nude mice for many years. Thai-53 TTC copy number varied markedly over 8 passage intervals. However, the TTC VNTR genotype of most individual strains remained relatively constant for isolates passaged outside man for fewer than 12 generations. In addition, the TTC VNTR genotype of these strains tended to remain constant when passaged through an alternate animal host, the experimentally infected nine-banded armadillo. Even though the TTC VNTR occurs in a non-coding region of the *M. leprae* chromosome, its apparent stability among most short term passaged isolates suggests that it has utility for differentiating laboratory strains of *M. leprae*, and may be useful in assessing drift amongst isolates carried in long term culture.

OM&BM 8

EVALUATION OF TNF- α AND IL-10 SINGLE NUCLEOTIDE POLYMORPHISM (SNPS) AMONG HIV/*M. leprae* CO-INFECTED AND LEPROSY PATIENTS

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The effective immune response against pathogens depends on an interaction of different cells and molecules from which pro and anti-inflammatory cytokines like TNF- α and IL-10 have a fundamental role. Thus, up or down regulation of these genes can influence clinical manifestations and outcome of several diseases including aids and leprosy. Recently, several SNPs have been described in cytokine genes and associated with gene expression and a number of diseases. Although the mutant -308A TNF- α allele have been associated with protection in leprosy, no polymorphic TNF alleles was associated to outcome in HIV infection. The aim of this study was to evaluate the possible association of promoter SNPs on TNF- α (-238, -308) and IL-10 (-819, -1082) positions with the outcome in HIV/*M. leprae* co-infected compared with leprosy patients. Twenty one co-infected patients classified as multi (10) and paucibacillary (12) MB/PB leprosy were evaluated besides a group of 300 leprosy patients (210 MB and 90 PB). The results indicated that for the TNF- α polymorphisms the frequency of -238A was higher in the co-infected group compared with leprosy patients ($p=0,04$) corroborating with previous studies in which this allele was associated with the more severe MB forms of leprosy. For the IL-10 polymorphisms only the -819T allele showed an increased frequency in co-infected patients ($p = 0,01$). Frequencies of -308 and -1082 did not show difference between groups. However, horizontal analysis of the co-infected group shows the higher frequency of -1082A (related to the down regulation of IL-10 gene) linked with a low frequency of -308A (related to the up regulation of TNF- α gene) suggesting a combination of genetic factors probably associated with susceptibility for the co-infection HIV/*M. lepra*eng laboratory strains of *M. leprae*, and may be useful in assessing drift amongst isolates carried in long term culture.

OM&BM 9

FURTHER STUDIES ON *M. leprae* - PERIPHERAL NERVE PROTEIN INTERACTION AND THE ROLE OF THE 25 kDa GLYCOPROTEIN MYELIN P₀.

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The invasion of Schwann cells and axons by *M. leprae* results in demyelination and axonal degeneration leading to motor, sensory and autonomic nerve damage and disfigurement which is the hallmark of leprosy. Other workers shown that tissue proteins such as fibronectin, β integrin, laminin-2 and α dystroglycan are involved in *M. leprae* - target tissue binding. Our earlier biochemical studies have revealed that a 25 kDa glycoprotein of the peripheral nerve has an affinity for *M. leprae* and is involved in binding. This glycoprotein is a major phosphorylated protein of the human peripheral nerve. Its molecular weight, carbohydrate content and phosphorylatable nature are similar to myelin P₀.

The present study is an immunological confirmation that this protein is the myelin P₀. The 25 kDa phosphorylated protein was confirmed as myelin P₀ by the following experiments – dot blot assays, immunoprecipitation, western blot and by immuno-histochemistry using monoclonal antibodies to P₀ and the HNK-1 epitope.

Since myelin P₀ is a peripheral nerve specific protein, it could be one of the key target molecule for *M. leprae* binding/internalisation and may also explain the neural predilection of *M. leprae*

OM&BM 10

GENE EXPRESSION IN *Mycobacterium leprae*

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The genome of *M. leprae* has been completely sequenced and annotated. 1604 open reading frames and 1104 pseudogenes have been identified, however, the minimum gene set required for growth and survival (transcriptome) has not been defined. We have developed a protocol for *M. leprae* RNA purification and obtained RNA from two strains of *M. leprae* (T-53 and 4089). The expression of approximately 5% of the potential transcriptome was analyzed using RT-PCR. cDNA was produced using 1 μ g of RNA

from each strain, random hexamers and reverse-transcription (RT). Gene transcripts were amplified from cDNA using PCR with primer sets flanking several potentially functional families. The cDNA from both strains was amplified and results demonstrated that genes encoding several enzymes including those involved with, folic acid synthesis, iron utilization, co-factor biosynthesis, gluconeogenesis, degradation of phosphorous compounds, degradation of DNA, detoxification, synthesis of mycolic acids, modification and maturation of ribosomes, synthesis of RNA, glycolysis, glyoxylate bypass, and genes containing secretion motifs or encoding stress proteins, and several genes with unknown functions were transcribed in both strains. These data have provided the first insight into the transcriptome of *M. leprae*. However, not all genes were expressed in both strains. Comparative analysis of gene expression these strains will be discussed in greater detail. It is anticipated that this analysis along with cDNA array analysis will help to identify a larger set of functional genes in *M. leprae* which will potentially help us to understand the minimal requirements for growth and replication of this pathogen. This information may lead to the identification of new drug targets, skin test antigens and to identify factors that allow this pathogen to evade the immune system and destroy peripheral nerves.

OM&BM 11

GENETIC SUSCEPTIBILITY TO ERYTHEMA NODOSUM LEPROSUM (ENL) IN LEPROSY

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Erythema nodosum leprosum (ENL) is a distressing complication, experienced by up to 40% of lepromatous leprosy patients, which is characterized by severe systemic symptoms, including fever, painful cutaneous lesions, and neuritis, which often result in permanent nerve damage. The determinants and mechanisms underlying the onset of reactional states, progressive nerve damage and the regulation of immunity in these patients are not well understood.

Aim: To investigate the role of genetic factors in leprosy patients in their propensity for developing ENL.

Methods: We have recruited over 950 Nepali individuals, including both leprosy patients and their first-degree relatives. DNA was obtained from blood samples taken from each of these participants, and the SSO technique used to estimate the prevalence of polymorphisms in a number of candidate genetic loci: specifically, HLA-DR, TNF- α and Vitamin D receptor genes.

Results: Our results indicate that while the genetic loci under investigation may play a role in a patients' susceptibility to ENL, other factors may also have an effect. We will present data with regard to our analyses of the incidences of polymorphisms at these loci in each of the groups studied.

Conclusions: We have applied a rapid technique to determine the prevalence of specific genetic polymorphisms among leprosy patients and their first-degree relatives. In addition, the establishment of a large databank of DNA from patients susceptible to ENL will be an important resource for future studies.

OM&BM 12

GENOMIC DIVERSITY IN *RPOT* GENE OF *Mycobacterium leprae* AND GEOGRAPHIC DISTRIBUTION IN LATIN AMERICA

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In the study to establish the genotyping of *Mycobacterium leprae*, two genotypes of the *rpoT* gene were detected among isolates. Some of them showed the *rpoT* gene with 4 copies of 6 base tandem repeats and other isolates harbored 3 copies of 6 base tandem repeats in the gene. Most striking finding was the apparent dominant distribution of the 6bp 4 tandem repeat genotype of *M. leprae* in the main island of Japan and Korea. In contrast, almost all isolates from other regions in the world revealed 3-copy type. It is clear 6bp 4 tandem repeat genotype spread in Japan in concordance with the migration of the people from Korea to Japan. Biased distribution of each genotype in the world led us to imagine the spread of the leprosy concordant with the migration of Mongoloids to Latin American countries as revealed for other microorganisms. Geographic distribution of different *rpoT* genotypes of *M. leprae* isolated in Paraguay, Peru and Mexico was investigated in connection with human prehistoric migration. All *M. leprae* genotype of *rpoT* gene isolated in Paraguay and Peru showed three tandem repeats of 6bp. On the contrary, isolates from Mexico showed the 6bp 4 tandem repeat genotype. It seems that the *M. leprae* distributed in Mexico was carried by the movement of Mongoloid but the bacilli in two South American countries is originated in another source.

OM&BM 13

Mycobacterium leprae DNA DETECTION BY POLYMERASE CHAIN REACTION FOR EARLY LEPROSY

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Objective: To detect *M. leprae* DNA by PCR in skin biopsies among Brazilian single skin lesion paucibacillary leprosy patients (SSL-PB) prior to one dose ROM therapy.

Methods: 259 newly detected SSL-PB leprosy patients, negative bacilloscopy, were recruited in 3 endemic regions from 97/98 and followed-up for 3 years. Before drug intake, 4 mm punch skin biopsies were collected for conventional histopathology. In a subgroup of 134 patients, half of the skin biopsy was snap-frozen and stored (liquid nitrogen) for *M. leprae* DNA detection by PCR. After DNA extraction (phenol/chloroform/ isoamyl alcohol) each specimen was amplified, undiluted and at 1:5, using pairs of primers for a 360 bp *M. leprae* specific fragment. Products were detected by slot blot hybridization using digoxigenin-labeled 212bp DNA probe. Specimens were tested blinded to patient's characteristics at IPTSP/Brazil in partnership with National Hansen's Disease Programs.

Results: 43.3% (95%CI 34.8-52.1) of *M. leprae* DNA positivity was detected among SSL-PB, representing an increase of 37.3% (50/134) bacilli detection when compared to the rare bacilli found in histopathology readings (12/134). There was an increased positivity trend with age ($p<0.01$). Patients with skin lesion on the face, Mitsuda negative ($<5\text{mm}$), anti PGLI negative were independently associated with positivity.

Conclusion: *M. leprae* DNA by PCR was a valuable tool for diagnosis confirmation among early paucibacillary leprosy patients and to explore prediction factors of disease progression.

TDR/WHO grant 98100

OM&BM 14

NASAL PRESENCE OF *Mycobacterium leprae* AND MUCOSAL IMMUNITY IN HOUSEHOLD CONTACTS OF LEPROSY PATIENTS

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Transmission of leprosy in the household contacts (HC), as reflected in new case detection rate does not appear to be affected significantly in the post-MDT era. Incidence rates have been reported 8-10 times higher in the HC than the general population. Major route of transmission of *M. leprae* is thought to be mainly through the respiratory system with nose as the site of initial infection. The aim of the study was to see the mucosal immunity and exposure to *M. leprae* in HCs of patients and non-contacts (NC) to understand transmission. The principal methods employed for this were the polymerase chain reaction (PCR) to detect small quantities of *M. leprae* DNA and measurement of mucosal immunity by ELISA. 201 subjects out of 3035 were identified as HCs. Saliva samples and nasal swab were collected from subjects to carry out this study. Overall analysis of all the samples shows that the percentage of PCR positivity is almost same in HC (2.3%) and NC (2.5%). Similarly in both groups 68% of the subjects show mucosal immune response. Both the groups show similar pattern of exposure to *M. leprae* with PCR positivity peak seen in monsoon. Amongst the household contacts, females show higher PCR positivity (3%) than males (1.5%). The difference in the PCR positivity in noncontacts in males (2.2%) and females (2.8%) is relatively small. Exposure to *M. leprae* is likely to be followed by immunity in most individuals, which is consistent with wide spread transmission of *M. leprae* producing transient nasal carriage and the development of a mucosal immune response, which may be protective.

OM&BM 15

PATTERN & SIGNIFICANCE OF PARASITAZATION OF ENDOTHELIAL CELLS IN LEPROSY: MORPHOLOGICAL & INVITRO STUDIES.

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Previous studies have implicated the role of the endothelial cell in the dissemination of leprosy. In this paper we present a detailed morphological study of 17 skin biopsies (4 BT, 3 BL & 10 LL) in which acid fast bacilli were found in the endothelial cells and re-

late it to other morphological features in the biopsies.

Among the 17 biopsies in whom bacilli were present in the endothelial cells; bacilli were also present in the nerves in 13 biopsies, in the macrophage in 16; smooth muscle in 10 and in the sub epidermal zone in 2 biopsies. Bacilli were present also in the walls of the blood vessels in 5 biopsies and in the lumen in 1 biopsy. Interestingly there was 1 biopsy in a BT patient in which bacilli were present only in the endothelial cells and absent elsewhere in the section.

In vitro studies on *M. leprae*-endothelial cell interaction were carried out using immortalized endothelial cell lines. The short term cultured endothelial cells were isolated and phosphorylated with gamma P₃₂ ATP. *M. leprae* binding studies were carried out on nitrocellulose blot. Preliminary experiments suggest that there is a phosphorylated glycoprotein receptor (55 kDa) on the endothelial cells that interacts and binds to *M. leprae*.

These morphological and in vitro studies suggest that *M. leprae* has an affinity for endothelial cells which it parasitizes. The organism is then probably released into the blood stream resulting in its dissemination to distant sites of predilection in the body

OM&BM 16

PERSISTERS IN LEPROSY AFTER MULTIDRUG TREATMENT IN MB PATIENTS

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With the Multi-Drug Treatment (MDT) of leprosy, the results have been satisfactory all over the world. However, the presence of drug sensitive viable organisms is well recognized in MB leprosy. These persisting bacilli have special significance due to their relapse potential. This study has been initiated to gain an overview of this problem and follow the trends in multibacillary cases treated with MDT. In this study, biopsies for Mouse Foot Pad (MFP) have been obtained from MB patients treated with (i) standard MDT + Minocycline + Ofloxacin for 12 months, (ii). Standard MB MDT after 12, 24 and 36 months. Bacilli harvested from the biopsies were inoculated in to mouse foot pad and estimation of bacillary ATP levels by bioluminescence assay as per established methods. Available results indicate that despite reduction in viability after MDT, viable persisters are detected even beyond one and 2 years of treatment. There has not been much change in the trends over the last 5–10 years. It would be important to carry out such surveillance in larger number of MB cases to know the trends and the resultant relapses.

OM&BM 17

PROTECTION OF MICE AGAINST *Mycobacterium leprae* INFECTION BY A DNA VACCINE ENCODING *M. leprae* ANTIGEN 85A AND MUTANT MURINE IL-12

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Female BALB/c were administered one of three DNA vaccines: *M. leprae* DNA: Ag85A; DNA: Ag85A + wild-type murine DNA: IL-12w; and DNA: Ag85A + mutant murine DNA: IL-12m. Expression of Ag85A by the preparation of DNA: Ag85A had been confirmed by specific stimulation of IFN by murine spleen cells before it was employed in this experiment. Control mice were administered saline or the empty vector; live BCG served as a positive control. The mice were injected into the posterior tibial muscles with 200 g/dose/mouse of one of the preparations on four occasions four weeks apart, except for BCG, only two doses of which were injected. Four weeks after the last dose, the mice were challenged with 5000 *M. leprae* into a hind foot pad, and the organisms were harvested approximately five months later. The results of the harvests are summarized in the table. As shown by the control group, the results of the harvests demonstrate that the inoculum employed included only a small proportion of viable organisms. BCG appears to have conferred modest protection. Only the mixture of the DNAs encoding Ag85A and IL-12m conferred protection, whereas the mixture of the DNAs encoding Ag85A and IL-12w appears to have enhanced the infection.

Material	Median no. AFB/foot pad (x 10 ³)	P
Control	1.06	0.00001
BCG	0.488	0.038
Vector	1.69	0.075
DNA::Ag85A	3.90	0.240
DNA::Ag85A + DNA::IL-12w	4.57	0.041
DNA::Ag85A + DNA::IL-12m	0.266	0.0197

OM&BM 18

SCHWANN CELL GENE EXPRESSION PROFILE IS MODULATED BY *Mycobacterium leprae*

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The primary effects of *Mycobacterium leprae* invasion on the physiology and metabolism of Schwann cells, and to what extent these effects might be related to the progressive, irreversible degenerative nerve damage observed in leprosy, are poorly understood. In this study, we have applied differential display PCR and DNA microarray techniques to identify genes selectively expressed or repressed in Schwann cells in response to *M. leprae* infection. Schwann cell lineage ST-8814 was cultured and incubated with *M. leprae* isolated from armadillo and from human biopsies between 1 and 24 hours. Complementary DNA synthesized from RNA isolated from these cultures was used for differential display RT-PCR reactions and hybridizations against oligonucleotide chips. Currently bands identified in polyacrylamide gel electrophoresis as differentially expressed have been cloned and sequenced for subsequent northern blot and real time PCR confirmation. Images of microarray hybridizations have been acquired using the Gen Pix software. The cluster analysis has been performed using the Tree View software. Preliminary results indicate that *M. leprae* is able to alter the gene expression profile of *in vitro* cultured Schwann cell.

NIH, WHO/TDR, sponsored this work.

OM&BM 19

SIMPLIFIED REVERSE TRANSCRIPTION POLYMERASE CHAIN REACTION FOR DETECTION OF *Mycobacterium leprae* IN SKIN SPECIMENS

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Diagnosis of leprosy based on detection of *Mycobacterium leprae* RNA remains a complicated process. To simplify the detection procedure, a one-step RNA extraction and reverse transcription polymerase chain reaction (RT-PCR) was established and evaluated for its potential in rapid detection of leprosy patients. The assay relies on the extraction of *M. leprae* RNA, and single-tube reactions of reverse transcription, followed by PCR amplification. Using *M. leprae*-specific primers targeting 171-bp fragment of the *M. leprae* 16S rRNA gene, the RT-PCR designed for convenience, and reproducibility resulted in detectable *M. leprae* in both slit skin smears and skin biopsies. The assay was specific for *M. leprae* in comparison with results obtained from *Mycobacterium tuberculosis* and *Mycobacterium smegmatis*. The use of digoxigenin-label DNA enhanced the pos-

itive signal of the amplified RT-PCR product. The method could detect less than 10 CFU of mycobacteria in analyzed samples indicating the sensitivity of the test. In the initial application, diagnostic results were obtained from 24 leprosy patients. Of these, 20 were multibacillary (MB) and 17/20 patients were positive for 16S rRNA of *M. leprae* in skin specimens. The assay particularly useful since slit skin smears negative in staining for acid fast bacilli were positive by RT-PCR. The method has also been evaluated for its potential to help monitor bacterial clearance in leprosy patients during chemotherapeutic treatment. We propose that this form of RT-PCR gives values in term of its simplicity and sensitivity to identify *M. leprae* in skin specimens especially when acid-fast bacilli are not discernable. The usefulness of RT-PCR in detection of viable leprosy bacilli needs to be extensively explored.

OM&BM 20

SINGLE NUCLEOTIDE POLYMORPHISMS (SNPS) OF TNF- α AND IL-10 GENES AND SUSCEPTIBILITY TO LEPROSY AMONG HOUSEHOLD CONTACTS.

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The interindividual variations in the host response to a certain pathogen are one of the most important variables for the determination of susceptibility and severity of the disease, which is the result of environmental effects against the background of genetic factors. Thus, identification of such factors, which are somehow associated to a higher or lower susceptibility, is of fundamental importance for the prediction of development or establishment of the disease. The aim of this study was to evaluate the possible association of the SNPs at positions -238 and -308 of the TNF- α and -819, -1082 and -2849 of the IL-10 genes among household contacts of leprosy patients.

Two hundred and sixty seven household contacts were enrolled in this study from which 67 became patients and 200 remained as healthy contacts. The results showed no statistic difference on the distribution of carriers and non-carriers of the -238A allele among sick and healthy contacts. For the -308 position, the number of carriers was significantly higher among sick in comparison to healthy contacts ($p < 0,01$). Moreover, when analyzed through the clinical spectrum of leprosy, all the -238A carriers developed multibacillary (MB) forms of the disease whereas 73,3% of the -308A carriers developed the paucibacillary (PB) forms. Regarding the IL-10 SNPs,

the allelic frequency of the -819T was significantly higher in the healthy and -1082A in sick contacts ($p < 0,01$ for both). Analysis according to the clinical forms revealed an increased frequency of the -819T carriers in the PB forms when compared to the MB ($p < 0,01$).

The present data suggest that SNPs of cytokine genes could be used to screen contacts of leprosy patients as a prognostic marker of diseases susceptibility and severity

OM&BM 21

SITE OF ENTRY: AN IMPORTANT FACTOR IN THE GROWTH AND DISSEMINATION OF *M. leprae* IN MICE.

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Sixty eight thymectomized and irradiated mice were randomized and 36 inoculated intra-dermally in the flank and 36 in the footpad. In each of these two groups four different concentrations of *M. leprae* inoculation were used namely 10^7 in 0.1 ml, 10^6 in 0.1 ml, 10^5 in 0.1 ml and 10^4 in 0.1 ml. Mice were sacrificed at the 6th, 8th, 12th and 15th month and growth of *M. leprae* at the site of inoculation was estimated. Internal organs were subjected to histo-pathological examination.

The 10^4 in 0.1 ml inoculum did not promote growth in mice injected in the flank but growth was seen in all mice that were inoculated in the foot-pad. In all other groups there was growth of *M. leprae* but it was quantitatively more in the foot-pad inoculated animals than in the flank inoculated ones. Further, growth in the foot-pad inoculated mice was associated with disseminated of *M. leprae* to the internal organs while such dissemination was not seen in flank injected mice.

We conclude that in mice, entry of *M. leprae* through a relatively cooler entry point (foot pad) allows better growth of *M. leprae* locally, needs smaller doses of inoculum to promote growth and allows dissemination of the organism to the internal organs. The site of entry of *M. leprae* and the dose may have a role in determining whether the person will be infected or not.

OM&BM 22

STUDIES ON NASAL TRANSMISSION BY *M. leprae* SPECIFIC GENE AMPLIFICATION

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Nose has been considered as an important portal of exit and entry in leprosy. Due to continued high incidence rates in leprosy, there is a great need to understand the sources and spread of *M. leprae*. This study has been carried out to study the nasal positivity on in leprosy cases by using *M. leprae* specific PCR. Nasal scrapings were collected from leprosy cases across the spectrum. These were from untreated as well patients treated with standard MDT for varying duration. These scrapings were suspended in TE buffer, decontaminated and DNA was extracted by a physiochemical procedure already established at the laboratory. Gene amplification was carried out by using a system targeting 36 kD gene (Hartskeerl et al 1989). Amplicons were analysed by gel electrophoresis and southern blot hybridization. PCR positivity was been analysed in relation to type of disease and duration of treatment. Positive results were observed in a section of PB cases (classified according to current WHO criteria) and most of MB cases. This positivity persisted for varying periods after treatment. The relevance of these findings will be discussed keeping in view the potential application of this approach in studying the transmission of leprosy.

OM&BM 23

STUDIES ON STRAIN VARIATION BY *M. leprae* USING TTC REPEATS

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There is a great need to develop molecular markers for eliciting the strain variation among *M. leprae* for understanding the dynamics of transmission of leprosy. This study has been carried out to study the strain variation in leprosy cases by using TTC repeats as markers. Biopsies were collected from leprosy cases across the spectrum. These biopsies were homogenized and DNA was extracted by a physiochemical procedure already established at the laboratory. TTC regions were amplified by using the primers and procedure described by Shin et. al, (2000). Amplicons were analysed by gel electrophoresis. The polymorphism observed in the size of amplicons has been analysed in relation to geographical distribution, type of disease and possible sources. The relevance of these findings will be discussed in context of potential application in the molecular epidemiology of leprosy. Such techniques become very important due to persistent high incidence rates seen in our populations.

OM&BM 24

SUBCLINICAL TRANSMISSION OF *M. leprae*: OCCURENCE OF NASAL PCR POSITIVITY AND MUCOSAL IMMUNITY – ANALYSIS IN SCHOOL CHILDREN

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Background: The transmission of leprosy is less well understood. Infection from sub-clinical sources could play an important role than from active clinically apparent cases. Most of the individuals in high leprosy endemic areas have immunological evidence to *M. leprae*. Thus the first exposure, probably exposure in childhood is important and also, is the related mucosal immune response to characterize the immune status of the individual.

Aim: To define the means by which *M. leprae* is transmitted and the development of immunity in school children in a population in which multidrug therapy had been used for more than 10 years.

Materials and Methods: Three villages in South Maharashtra, where leprosy is endemic were selected. These villages were comparable in size, socio-economic status and prevalence of leprosy. The principal methods employed in this study were the PCR to detect small quantities of *M. leprae* DNA, and measurement of mucosal immunity by assay of salivary IgA.

Results: 633 school children (26% of the total population) were analysed for the presence of *M. leprae* DNA and mucosal immunity. Analysis of the data show that the incidence of nasal PCR positivity (PCR+) in school children and rest of the population (ROP) is same (2.7%) whereas IgA positivity is 61% and 70% respectively. PCR+ percentages in school children and ROP in monsoons is 3% and 4% respectively as compared to 1.6% (school children) and 0.7% (ROP) in the summer months. In the group (5-9 years) the PCR+ percentage in household contacts is higher (7.7%) than 10-14 years group (1.3%). A significant difference in PCR+ percentage is observed in males (1.9%) and females (3.7%) in 5-9 years group.

Conclusion: Results suggest though there is no obvious differences in between the groups, the exposure and mucosal immunity to *M. leprae* is affected by seasons and shows marked variation in males and females

OM&BM 25

THE *Mycobacterium leprae* HLP PROTEIN: A PUTATIVE ADHESIN THAT BINDS MULTIPLE EXTRACELLULAR MATRIX COMPONENTS.

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Recent reports have identified a 21 kDa histone-like protein (Hlp) as a laminin-binding protein of the *Mycobacterium leprae* cell wall (Shimoji et al, Proc. Natl. Acad. Sci 96: 9857-9862, 1999; Marques et al, Microbes & Infection 2: 1407-1417, 2000). The C-terminal domain of Hlp (also known as ML-LBP21) contains Ala/Lys-rich repeated motifs, which are also found in the heparin-binding hemagglutinin (HBHA), a major adhesin of *M. tuberculosis*. These repeated sequences constitute the heparin-binding site of HBHA, suggesting that *M. leprae* Hlp might also interact with glycosaminoglycans (GAG). In this study, we have further characterized the interaction of Hlp with laminin-2 and other extracellular matrix components. To map the functional binding sites of Hlp, truncated recombinant fragments corresponding to the N-terminal (rHlp-N) and the C-terminal (rHlp-C) domains of the protein were produced by a PCR cloning strategy. The capacity of recombinant Hlp and truncated proteins to interact with extracellular matrix components was investigated using a solid phase-based assay. In these assays, soluble laminin-1 and -2 were able to bind in a dose-dependent manner to rHlp and rHlp-C, but not to rHlp-N. rHlp and rHlp-C were also able to bind heparin and collagen I, III and IV, but not fibronectin. These observations suggest that the Ala/Lys-rich sequences present in the C-terminal half of *M. leprae* Hlp constitute the binding sites to extracellular matrix proteins. The capacity of Hlp to interact with other extracellular matrix components expands the potential role of Hlp as adhesin in mycobacterial pathogenesis. Currently, *in vitro* adherence assays are under way to evaluate the role of Hlp, collagen and GAG in the interaction of *M. leprae* with Schwann cells and epithelial cells.

This work was supported by FAPERJ, WHO/TDR and NIAID, NIH.

OM&BM 26

THE USE OF POLYMERASE CHAIN REACTION (PCR) IN LEPROSY RESEARCH AND CONTROL

Linda Oskam, Evi Beukelaar and Julia Teerling

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The PCR is a sensitive and specific technique, that allows the detection of minute amounts of DNA in a matter of hours. Since the development of the first PCR assay for the detection of *Mycobacterium leprae* more than 10 years ago, the technique has been used on a whole range of samples, varying from biopsy material and nose swabs from patients and contacts to dust samples from the environment.

The PCR has been used to investigate a variety of matters of clinical and epidemiological importance. We have now a better insight into the spread of leprosy in the society, because PCR made it possible to show that the presence of the bacterium on the nasal mucosa is widespread in the population. Also, PCR and another amplification technique, NASBA, have been used to monitor the presence of *M. leprae* DNA and RNA during and after treatment.

This presentation will give a critical overview of the possibilities, applications and achievements of molecular amplification techniques and the way in which they have influenced and will influence leprosy research and control.

OM&BM 27

THREE-COLOR IMMUNOFLUORESCENT STAINING TO IDENTIFY *M. leprae* WITHIN ENDOTHELIUM OF HUMAN PERIPHERAL NERVE.

Shi, Ling, McCormick, G, and Scollard, D.M.

Laboratory Research Branch, National Hansen's Disease Programs at LSU, Baton Rouge, LA, 70803, USA.

Studies in an animal model have suggested that *M. leprae* enter peripheral nerves by colonizing epineurial blood vessels and lymphatics, gaining access to the endoneurial compartment by passing through the vascular endothelium. To evaluate this possibility in human lesions, where excision and dissection of major nerve trunks is not possible, we have developed a method to assess endothelial involvement of cutaneous nerves in skin biopsies.

Archived, paraffin-embedded skin biopsies from HD patients were selected based on lepromatous classification (LL or BL) and presence of at least one large cutaneous nerve. Schwann cells were identified using rabbit anti-S-100, biotin-goat anti-rabbit, and streptavidin-Alexa-Fluor-350; bacilli were identified using guinea pig anti-*M. leprae* and FITC-goat anti-guinea pig; endothelium was identified using rhodamine-*Ulex europaeus* -1 (UEA-1). Examined under appropriate filters, this allowed positive identification of nerve (blue), *M. leprae* (green), and endothelium (red). Images were captured by digital photography and superimposed using Adobe Photoshop software.

Preliminary results from 5 biopsies indicate that the endothelium is infected in 29% of blood vessels associated with nerves, and 32% of blood vessels not associated with nerves. At this time, the sample is too small for differential analysis of infection of vessels at different levels of the dermis. The method appears to offer a sensitive means of positive identification of these and other structures that may be involved in vascular endothelial infection of nerves in HD.

OM&BM 28

UNIQUE METABOLIC PROPERTIES OF *Mycobacterium leprae*

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GWL Hansen's Disease Center

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The sequencing of the genomes of several microorganisms, including *Mycobacterium leprae* and *Mycobacterium tuberculosis* has been reported in recent years. *M. tuberculosis* contains a full complement of genes needed for survival and independent growth. On the other hand, *M. leprae* is deficient in genes coding for many biosynthetic enzymes, that makes the organism incapable of independent growth and survival, contradicting the claim that *M. leprae* is a competent bacterium. The finding explains the obligate intracellular parasitism of the organism and failure of attempts for over a century to culture the bacterium in chemically defined media. In addition, *M. leprae* was found to possess unique genes, not found in *M. tuberculosis*. These genes code for enzymes characteristic of the Hansen bacterium. We have discovered a unique enzyme activity, *o*-diphenoloxidase, in *M. leprae*. The enzyme is not present in *M. tuberculosis* or any other mycobacteria, including *M. lepraemurium* recovered from infected mouse tissues. It acts on phenolic substrates like 3,4-dihydroxyphenylalanine and related compounds, converting them to quinones. No rational explanation has been available for the unusual affinity of *M. leprae* for the Schwann cells of peripheral nerves, and for the hypopigmentation of skin lesions. Both Schwann cells, and melanocytes of the skin contain tyrosine hydroxylase that generates 3,4-dihydroxyphenylalanine (dopa), metabolized by the bacteria. Tyrosine hydroxylase occurs in the adrenal medulla that synthesizes dopa, epinephrine and norepinephrine from tyrosine. We found that adrenal medulla is a preferred site for early multiplication of *M. leprae*. In tuberculoid HD (Hansen's Disease) where the bacteria are restricted to specific areas of the skin, there is hypopigmentation of skin lesions. Melanocytes continually generate trace amounts of dopa, which is converted to melanin pigment. *M. leprae* diverts the substrate for its own metabolism, which prevents pigment formation. In melanocyte cultures, granules

of melanin can be observed. When we added live *M. leprae* to such cultures, pigment production was suppressed. In lepromatous condition where the bacteria are distributed diffusely, only hypo-pigmented motting results. The quinones generated by the bacteria can undergo reversible oxidation-reduction, helping in the utilization of other metabolites by the bacilli. Mycobacteria in general, can synthesize their own ATP. *M. leprae*, on the other hand, possesses a mechanism for the active transport of ATP from the surrounding milieu. β -Lactamase is a constitutive enzyme in mycobacteria, including *M. tuberculosis*. But *M. leprae* unexposed to β -lactam antibiotics showed no β -lactamase; bacteria recovered from experimentally infected armadillos treated with Bicillin (penicillin G benzathine), to control secondary infections, contained active β -lactamase. The enzyme activity persisted when these bacteria were used as inocula to infect other armadillos, which received no bicillin treatment subsequently. Once the enzyme is induced, it is not lost when the inducing agent is withdrawn; the phenomenon is referred to as de-repression. A potent β -lactam- β -lactamase inhibitor combination, UNASYN, was bactericidal to *M. leprae* and *M. tuberculosis*, even resistant to other drugs. The compound could serve as an effective alternative drug for treating HD patients.

OM&BM 29

USE OF PCR IN THE RAPID DIAGNOSIS OF RIFAMPICIN RESISTANCE IN LEPROSY

Murdo Macdonald, Niraj Shrestha, Andrea Thomas, Paul Roche, Nadine Honore and Stewart Cole.

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As rifampicin is the major bactericidal drug used in MDT therapy of leprosy, it is essential that resistance trends be monitored. The established method of assessing drug resistance, using culture in the mouse footpad, has recently been augmented by the development of a rapid PCR detection method.

Aim: To test for defined mutations in the *M. leprae* RNA polymerase α chain gene (*rpoB*), and to correlate these with drug resistance in the mouse footpad system.

Methods: A novel PCR based technique was used to examine bacteria obtained from skin biopsies from MDT defaulters or non-responders, and from samples which had previously been passaged in the mouse footpad. *M. leprae* DNA was extracted from these and a set of oligonucleotide probes immobilized on a nylon membrane used to probe for mutations associated with rifampicin resistance. The test combined positive and negative controls and used chemiluminescence for detection.

Results: A number of samples were found to have the rifampicin resistant genotype in the PCR assay. We will present data on all of these *M. leprae* strains genotyped for rifampicin resistance and tested at full (10mg/kg) and half (5mg/kg) doses in mouse footpad cultures.

Conclusions: While the rapidity of PCR based methods is a major advantage over MFP, the validation of genotype methods of detecting drug resistance in leprosy is critical for their wider use in monitoring this important problem.

OM&BM 30

VIABILITY OF *M. leprae* IN LEPROMATOUS PATIENTS AFTER COMPLETION OF 12 MONTHS OF MULTI-DRUG THERAPY.

Gigi J Ebenezer, Thomson Sugumaran, Sheela Daniel, Geetha S. Rao, S. Arunthathi, P.S.S. Sunder Rao, Charles K. Job

Schieffelin Leprosy Research and Training Center, Karigiri, Vellore District, Tamil Nadu, India-632106

The Seventh WHO expert committee had recommended shortening the duration of multi-drug therapy (MDT) to 12 months from 24 months for multi-bacillary (MB) patients. We carried out a study to determine whether viable bacilli can persist in the body of treated MB patients after 12 months of MDT. 34 untreated lepromatous patients who had an

initial average bacterial index (BI) of 3+ or more were enrolled in the study. At the end of 12 months of MDT, skin biopsies were obtained from a site, which displayed the maximum number of bacilli on skin smear examination. An *M. leprae* concentrate was prepared from each of the biopsies and inoculated into the footpads of five thymectomized and irradiated (T900r) mice. The preparation of inoculum, method of inoculation, harvesting and counting of *M. leprae* from the footpad tissue was done using the method described by Rees. Harvesting was done at 6th, 9th and 12th month. Skin histopathological examination was also done on 32 patients on completion of 12 doses of MDT. In nine (26%) out the 34 biopsies *M. leprae* continue to exist in the footpads of T900r mice. These nine patients had an initial average BI of 4+ or more at the time of starting MDT. Histopathologically, resolving granulomatous lesions were found only in eleven (34%) of the 32 skin biopsies at 12 months. Skin smears at the completion of 12 months of MDT showed a fall of one log BI or more in only 18 (56%) patients. This study demonstrates that at the completion of 12 doses of MDT, a considerable proportion of MB patients with initially high average BI, harbor bacilli. It is possible that these are dead bacilli, not yet absorbed by the tissue. Long-term follow up of these patients will reveal whether these bacilli are alive or not. It may be necessary to maintain these mice for longer periods to study the behavior of persisting bacilli.

OPERATIONAL ASPECTS OF ELIMINATION

OOA 1

ACTIVITIES OF THE TASK FORCE IN THE ACCELERATION OF THE ELIMINATION OF LEPROSY IN BRAZIL

Vera Andrade – WHO

Tadiana Maria Alves Moreira – Secretary of Health of Rio de Janeiro State

Gerson Fernando Mendes Pereira – Ministry of Health

Marcos Virmond - Institute Lauro de Souza Lima

Gil Soares - PAHO

Artur Custódio de Souza – Movement for the reintegration of leprosy affected persons (MORHAN)

The strategy to encourage municipal health secretaries to be committed to the elimination of leprosy, by increasing coverage of MDT services, is a conjoint initiative of the National Council of Municipal Health Secretaries (CONASEMS) and WHO with support from the Technical Area of Sanitary Dermatology of

the Ministry of Health, MORAHN and PAHO. To establish such strategy CONASEMS has created in 1998 the Task Force for Accelerating the Elimination of Leprosy (GT/HANSEN/ CONASEMS), which aim is to identify practical solutions at the local level within the available structure and resources of the basic health system. At the methodological level it is stressed the need to strengthen the participation of various social and institutional partners, involving mainly the municipal managers and the community. At the political level, after including the issue of elimination in the agenda of local managers, it was created adequate condition to increase the coverage for diagnosis and treatment of leprosy with the additional outcome of a political profit to the local manager due to the success of eliminating leprosy from his municipality. In august 2001 the project has covered 52% of the municipalities through the country (2898 municipalities in 14 states), out of them 38% are priority municipalities for the MoH, mainly in the north and northeast region. In Tocantins, Piaui and Rio de Janeiro the process of decentralization is in its stage of consolidation. To support the decon-

Results: A number of samples were found to have the rifampicin resistant genotype in the PCR assay. We will present data on all of these *M. leprae* strains genotyped for rifampicin resistance and tested at full (10mg/kg) and half (5mg/kg) doses in mouse footpad cultures.

Conclusions: While the rapidity of PCR based methods is a major advantage over MFP, the validation of genotype methods of detecting drug resistance in leprosy is critical for their wider use in monitoring this important problem.

OM&BM 30

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centration of diagnose and treatment the following material has been distributed: 25,000 booklets, 25,000 posters on signs and symptoms, 2 million leaflets on signs and symptoms in simple language to the community, leaders of the Children's Pastoral from 3379 municipalities and their families and educational videos for 5600 dioceses. It was sent to all municipal managers (5559), through CONASEMS, technical information, a video with two vignettes and the film produced by the Global Alliance (WHO). Nowadays, it is difficult to identify in Brazil a municipal health secretary that is not aware of the strategy for elimination of leprosy. No doubt, this strategy, by its content and quality, represents an innovative and effective contribution towards elimination of leprosy and, in addition, citizenship.

Financial support was provided by the Brazilian Ministry of Health, CONASEMS, WHO and Novartis Foundation for Sustainable Development.

OOA 2

ANALYSIS ON THE DETECTION OF NEW LEPROSY CASES BEFORE, DURING AND AFTER THE YEAR OF LEPROSY ELIMINATION CAMPAIGNS

Shen Jianping, Li Wenzhong, Yu Meiwen, Yang Jun, Zhou Longchao, Wang Rongmao, Hu Lufang, Mou Hongjiang, Ye Fuchang, He Xinguo, Pan Liangde¹

In order to analyze the impact on the situation of case finding after Leprosy Elimination Campaigns, the data of newly detected leprosy cases in the leprosy high endemic area have been collected before, during and after the year of carrying out Leprosy Elimination Campaigns. The result showed that the number of new leprosy cases detected during the year of leprosy elimination campaigns was significantly high. The number of newly detected cases after the year of Leprosy Elimination Campaigns was similar to that of detected before the year of carrying out Leprosy Elimination Campaigns in counties with persisting case finding activities. But the number of newly detected cases after the year of Leprosy Elimination Campaigns significantly decreased in counties without active case finding activities. The average distance from the house of leprosy cases detected during Leprosy Elimination Campaigns to the leprosy control unit at the count town is 62.8 kilometer which is farther more than that of other leprosy cases detected before and after the year of Leprosy Elimination Campaigns. The average disease delay-time of leprosy cases detected after the year of LEC shortened. The results also showed that carrying out Leprosy Elimination Campaigns will have no the significant impact on the trend of cases finding within a short time in local areas. But it may improve some indicators of leprosy patients and so promote the leprosy control in local areas.

OOA 3

AS AÇÕES DO PROGRAMA DE ELIMINAÇÃO DA HANSENÍASE NO MUNICÍPIO DE FERNANDÓPOLIS - ESTADO DE SÃO PAULO/ BR.

Gaggini, M.C.R.; Gomes, A.A.L; Mencaroni, D.A; Pansani, A.A; Pinto Neto, J.M.

Escola de Enfermagem de Ribeirão Preto/ USP. Av. Bandeirante, 3900. Campus Universitário – Ribeirão Preto – CEP 14040-902. São Paulo/ Brasil. CADIP Av. Brasília, 756 – Vila Regina, Fernandópolis – CEP: 15600-000 –São Paulo/Brasil.

O município de Fernandópolis situado a noroeste do estado de São Paulo, a 553 Km da capital do estado, constitui-se em um pólo regional com 60.521 habitantes. Configura-se como referência na área da saúde para uma micro-região de treze municípios. Adotou dentro do processo de municipalização da saúde a Gestão Plena de Atenção Básica Ampliada. Como problema de Saúde Pública destaca-se a endemia hanseníca, objeto de vários estudos. O objetivo desse estudo é descrever como ele está se organizando para cumprir as metas de eliminação dessa endemia que até 2001 estavam sob responsabilidade do estado. Mantém altos coeficientes de prevalência a mais de trinta anos, sendo considerado atualmente hiperendêmico com 10,25 casos/ 10 mil habitantes. Apesar de possuir onze unidades básicas de saúde concentra as ações de tratamento e seguimento dos doentes e contatos em uma unidade de saúde específica para o atendimento de doenças infecto-contagiosas e parasitárias, ficando sob responsabilidade das demais portas de entradas do SUS a suspeição diagnóstica. Assim, acreditamos que a centralização de algumas ações poderá melhorar alguns indicadores operacionais. No entanto, os grandes desafios permanecem: o diagnóstico precoce; a descentralização e ou desconcentração das ações para todas as Unidades de saúde e atingir a meta da eliminação até 2005

OOA 4

BRIDGING EFFECTS OF INTEGRATION: COULD INTEGRATION OF LEPROSY HAVE UNINTENDED IMPACTS?

Nimal D. Kasturiaratchi

Consultant Novartis Foundation and Director, Medical Education Unit, Faculty of Medicine, University of Peradeniya, Peradeniya 20400, Sri Lanka

In many former colonial countries there still exists a sharp demarcation between preventive and curative sectors of healthcare. The bureaucracies in most health services are divided along these lines with little or no interaction between them. One of the reasons for the continuation of this division seems to be that the two sides have evolved to be relatively independent of each other in carrying out their routine

duties. However, with the introduction of new health policies such as the integration of leprosy services, new perspectives are unfolding which provide practical guidance to bring the curative and preventive sectors closer.

This paper discusses the influence of integration on the general health system of Sri Lanka based on empirical evidence. It could serve as an eye opener for individuals trying to bring together existing health services to facilitate the provision of better and more cost effective healthcare.

OOA 5

CHARACTERISTICS AND TREATMENT OUTCOME IN LEPROSY PATIENTS DIAGNOSED DURING ACTIVE AND PASSIVE CASE-FINDING ACTIVITIES

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Objective: To assess whether the case-finding method is a determinant for diagnostic characteristics and treatment outcome of newly diagnosed leprosy patients in northern Mozambique.

Methodology: A retrospective cohort study about the differences between entrance characteristics and treatment outcome in self-reporting patients and active case-finding during a Leprosy Elimination Campaign in 1999 in northern Mozambique.

Results: As a consequence of LEC activities three times more patients were found compared to a comparable period one year earlier. More young (<15 years) PB cases were diagnosed during LEC activities with – surprisingly – equal percentage of disability grades. No gender imbalance was found in diagnosed LEC patients contrary to self-reporting patient groups.

Comparing active case finding in 1999 with the passive group of 1998 and 1999 showed a slight but statistically significant better treatment result for the passive group. The classification of leprosy (in favour of PB) and age (in favour of older age groups) were also determinants for favourable treatment outcomes.

Finally, the type of health worker proved a major determinant of a favourable treatment outcome. Limited trained volunteers had a significant better result of treatment compared to trained nurses.

Conclusions: LEC proved to be a useful addition to the national Leprosy and Tuberculosis program in Northern Mozambique. As a result, many new cases were diagnosed and put on treatment, and their treatment results were comparable to those of self-reporting patients.

The type of health worker appeared to be a major determinant of a favourable treatment outcome. Lim-

ited trained volunteers have a significant better result of treatment compared to trained nurses, regardless of detection method.

OOA 6

COMMUNITY INVOLVEMENT FOR LEPROSY ELIMINATION

P.R. Mangani; B.L. Sharma; S. Postma

Delay in achieving elimination in an area enables the programme managers to analyse the factors responsible. The reasons elicited were enlisted. They are; lack of Community involvement and support, stigma attached to the disease and passive role of service recipients.

The process of community involvement was given higher priority through service based action programs like; Care & concern Camps, Skin Disease Diagnosis Treatment & Education Camps, Dastak i.e. knocking the doors to knockout leprosy, introduction of festivity in Leprosy Elimination etc. This has led to creation of concern, demystification and destigmatisation of disease and openness for early diagnosis and treatment. This has also helped for Zeroing distances between the patients, people around and providers.

OOA 7

CO-OPERATION BETWEEN NATIONAL AND INTERNATIONAL N.G.O.'S IN THE FIGHT OF LEPROSY –YEMEN EXPERIENCE

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Leprosy in Yemen is considered as a public problem more than a health problem. Before 1964, leprosy patients were subjected to an obligatory isolation in unsanitary houses outside the main cities.

Between 1973 and 1982, some leprosy patients were given medical care by dapsone monotherapy. Though MDT was officially adopted in Yemen in 1983, there were no real leprosy control activities due to lack of support till an agreement between Ministry of Public Health (MOPH) – Republic of Yemen and German Leprosy Relief Association (GLRA) – Wurzburg – Germany was signed in 1989.

In 1992, a local non-government organization called Yemen Leprosy Elimination Society (YELEP) was formulated. This Society together with GLRA further strengthened our fighting against leprosy in Yemen. With the support of GLRA, YELEP and other na-

tional and international non-government organizations the prevalence of leprosy was brought down from 0.70 per 10,000 populations in 1992 to 0.32 per 10,000 population in 1999

OOA 8

DEVELOP PARTNERSHIP, STRENGTHEN INTEGRATION, TRANSFER SKILLS AND OWNERSHIP TO HASTEN ELIMINATION

Mahmood K., Dr.

State Leprosy Officer, Tamil Nadu, India

The presentation evolves around Tamilnadu's success story. The PR was 118 / 10000 in 1983 when MDT was introduced, which was drastically reduced to just 31 / 10000 in 1991 when total coverage was reached. In October 2001 the PR was 3.7, indicating elimination a definite possibility.

Since maintaining a vertical structure with declining PR was not cost effective the programme was integrated with the Primary Health Care system in 1997.

Massive capacity building measures were undertaken to ensure that the PHC system provides better MDT services. This means, to suspect and refer cases for confirmation, treat, manage complications and refer, maintain simple information and reporting system and counseling to patient, family and community.

Integration has not reduced detection of new cases by routine methods. Instead, voluntary reporting has increased due to easy accessibility. The availability of the Female Health Worker has helped women in terms of coverage and accessibility to services.

In essence, integration ensures full participation of the PHC services in Leprosy Elimination. The deficiencies are addressed by regular capacity building measures to upgrade skills and equip the PHC system to accept responsibility and ownership of the programme to hasten Elimination.

The presentation records with appreciation the sacrifices made by all those involved in the Programme beginning with the Missionaries, various Partners and the Community. It is their contribution that has helped in greatly reducing the disease burden and the stigma attached with it.

We shall move forward in building a World without Leprosy with all our Partners

OOA 9

EARLY LEPROSY CASE DETECTION BY VOLUNTEERS IN DIFFICULT AREAS IN THANE DISTRICT, INDIA

Prakash R. Dewarkar, M. Joy, B. Geeta, S. Vinaya, C. Kamlesh, and A.A. Samy

ALERT-India; Association for Leprosy Education, Rehabilitation & Treatment – India, B-9 Mira Mansion, Sion (West), Mumbai – 400 022, India.

House to house leprosy case detection is very expensive and time consuming if we depend only on regular trained Para Medical staff. Given the fact that sufficient number of trained paramedical personnel not available one may have to seek alternate human resources for the primary task of leprosy case detection. ALERT was required to survey for identifying new cases in far flung remote villages of Thane District that had become part of the Navi Mumbai Municipal Corporation limits in the recent years and is also part of ALERT's leprosy control project area. There was an urgent need to ascertain the leprosy situation in 40 villages newly added.

As qualified persons were not available, particularly because numbers were not adequate to complete the survey within a short period of 5 to 6 months ALERT decided to engage volunteers and give them intensive training to identify cases of suspected leprosy.

These volunteers made house-to house visits and examined 1,29,383 persons in 40 villages. Volunteers suspected 332 'leprosy cases'. Of these, the doctors and trained paramedical workers confirmed as high as 54 per cent as leprosy cases. A further 10% were kept under observation. This study indicates that a significant number of new cases (14/10,000) has been detected with less expenditure and in a short duration by utilizing the services of adequately trained volunteers in difficult areas too.

OOA 10

FIRST STEP TOWARDS INTEGRATION: DEVELOPING A BLUEPRINT

Nimal D. Kasturiaratchi, Sunil Settinayake, Penny Grewal

University of Peradeniya (Sri Lanka), Anti-Leprosy Campaign (Sri Lanka), Novartis Foundation for Sustainable Development (Switzerland)

Planning and implementing the structural changes to integrate leprosy in the general health services is a challenging task as established procedures, responsibilities and relationships, both institutional and personal have to be altered. A blueprint which clearly articulates the vision of how the integrated system should function is critical to guide the implementation process. In Sri Lanka the blueprint was drawn up in a highly participative manner involving intensive discussions with various categories of health care staff both at peripheral and central levels over a three month period.

The blue print clearly outlines the new procedures, roles and responsibilities as well as monitoring mechanisms based on a careful understanding of the func-

tioning of the general health services, likely problem areas and pragmatic ways to deal with them. Various technical details had to be worked out including, a distribution system for MDT, simplifying records and the reporting system, monitoring procedures at the local level, and role definitions for the most important partners involved. This process culminated in a goal oriented project planning workshop at which the detailed plan for the integration process was developed, which was then presented to the National Steering Committee and WHO for approval.

This paper describes the process adopted, the components of the blueprint, proposals for action and how it was used as a springboard for action. The blueprint also serves as a source of institutional memory and a shared reference document for the different players to be involved in the process

OOA 11

FOCAL SURVEY FOR INTENSIFIED CASE DETECTION – A COMPARATIVE STUDY CONDUCTED AT ENDEMIC AND NON ENDEMIC STATES IN INDIA

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This is an intensive case detection activity implemented in selected pockets of certain endemic and non-endemic states in India, where the case detection is low due to various reasons. The survey team consist of 20 Paramedical workers (PMW's), 2 Non Medical Supervisors (NMS) and a Medical Doctor. 10 PMW's, 1 NMS and the Doctor are from out side the state. The duration of survey is one week, covering a population of 7000 – 10000. In most of the places the focal survey team could detect 2-3 fold more new cases than the normal case finding activity. It was also observed that, whether it is an endemic or non-endemic state the case detection was almost same. The results of this survey helped the management to decide the future strategy of leprosy work in the area. It was also reported that after the focal survey there was an increase in new case detection in the respective places

OOA 12

IMPLEMENTATION OF MODIFIED LECS WITH INTEGRATED APPROACH IN THE STATE OF ORISSA- INDIA HELPED IN REDUCTION OF NCDR

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Orissa is one of the constituent states situated along the east coast of India with a population of 36.7 million. Leprosy was highly endemic in the State with PR 121/ 10000 in 1983. In 1998 though PR had come down to 9.6/10000 but NCDR with 21.7/10000 was posing main hindrance in leprosy elimination within targeted period. Successive 3 rounds of Modified LECS in the State with regular intervals have helped in bringing down NCDR to 7.8 and now goal of elimination looks real possibility in next 3 years. MLECs are well planned, short time, intensive, integrated community approach for detection of all undetected cases of leprosy in a community where disease is highly prevalent and dealt by vertical infrastructure. MLEC-I was implemented in Orissa in 1998 resulted in detection of 62844 cases in 28961085 populations with NCDR 21.7. MLEC-II was implemented in 2000, resulted in detection of 27197 cases in 27715988 popl. With NCDR 9.8. MLEC-III was implemented in 2001 with detection of 12326 cases in 15802564 popl. with NCDR 7.8/ 10000. Fall in detection rate in 3 and 1/2 years was 64%. This fall would have not been achieved even in another 10 years of MDT implementation with routine manner through vertical infrastructure. 3 rounds of MLEC in Orissa not only helped in detection of large number of undetected cases within shortest possible time but also helped integration of leprosy control activity with General Health care System and at village level with integrated child and women development scheme, in reduction of average duration of case presentation from more than 2 years to only 6 months, improvement in drug compliance from 78% to 99.6% and voluntary reporting of cases from 50% to 79.6% and have created new hope for elimination of leprosy in a highly endemic State of Orissa.

OOA 13

INTEGRATING LEPROSY CONTROL INTO GENERAL HEALTH SERVICE IN A WAR SITUATION: THE LEVEL AFTER FIVE YEARS IN EASTERN CONGO

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Although plagued by insecurity and inaccessibility due to two consecutive wars, South Kivu Provincial Leprosy Control Programme, DR Congo since 1995 started a process to integrate leprosy into general health facilities. General health workers (GHW) were trained, and a network of district TB/Leprosy supervisors provided, as regularly as possible, drugs, logistics and supervision to general facilities having patients. A questionnaire survey of 9 of the 14 dis-

tricts in the province assessed the level of integration after 5 years. Structural integration was assessed by the proportion of health facilities with MDT and functional integration, by the proportion of health facilities where general health workers (GHW) are involved in leprosy activities. 37.5% of facilities had MDT and 73% had a trained nurse. GHW were involved in screening in 59% of facilities but diagnosed in only 36%. For drug dispensing and POD, they were involved in 78% and 26% respectively. Their degree of involvement put health facilities into four grades of functional integration: 1. Fully functional, fully integrated: tasks performed entirely by GHW, 2. Semi-functional: jointly performed with supervisors, 3. Semi-integrated (structured but not functional): leprosy supervisors did these activities alone, and 4. Non-integrated: nobody performed these activities. 80% of facilities had some degree of integration. 70% of the facilities were fully integrated in dispensing MDT and keeping records; 31% were semi-functional and 49% semi-integrated in diagnosis of leprosy.

The leprosy prevalence at the districts directly correlated with the levels of structural integration, dispensing MDT and case finding. The presence of a trained nurse significantly related to performance of case finding and records keeping, but it was irrelevant to suspecting leprosy, dispensing MDT or doing POD. Structural integration is thus low in South Kivu and the gap between % of facilities with MDT and % with a trained nurse suggests a delay in actually integrating leprosy after training. This could be a direct result of movements of trained nurses because of the war. Functional integration is higher in MDT activities and low in case finding and POD, where obviously more skills are required.

OOA 14

INTEGRATION OF LEPROSY SERVICES AND THE CONCERNS ABOUT QUALITY OF CARE. THE EXPERIENCE OF JIGAWA STATE OF NIGERIA.

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Since the inception of the Nigerian National Tuberculosis and Leprosy Control Programme (NTBLCP), integration into the Primary Health Care system (PHC) has been a major objective. Jigawa State, located in northern Nigeria, is currently one of the most leprosy endemic states in the country and in the fore front of the integration initiative. During a Leprosy Elimination Campaign (LEC) organised by Jigawa in 1999, 304 PHC workers from various health units, and 368 volunteers were trained in basic leprosy, all of whom participated in case finding and initiating MDT treatment. Consequently there was rapid expansion of MDT services from 75 clinics

prior to the LEC to 264 in 2000. Since then, leprosy patients are managed by the PHC workers, while specialised staff provides technical advice.

In order to assess the impact of the integration on the quality of leprosy services in Jigawa State, treatment records of 159 selected leprosy patients in Jigawa State were studied. 76 of these patients were detected and treated by the vertical staff between 1997 to 1998 (pre-integration), while 83 were detected and managed within the period 1999 onwards (post-integration).

The study found that quality of care for leprosy patients including assessment at diagnosis, monthly follow up, disability prevention and management and treatment results were not significantly affected by the integration of the MDT services. It is therefore concluded leprosy care is not necessarily jeopardised by integrating into the GHS, instead could improve the accessibility of MDT services.

Details of findings to be discussed.

OOA 15

INTEGRATION OF LEPROSY WORK – AN EXPERIMENTATION

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It was expected that the leprosy services would be integrated with the general health services in the area with reduced prevalence rate. The introduction of MDT has resulted in a sharp decline in prevalence rate by over 90% with a drastic reduction of visible deformities among new cases. Districts where MDT has been implemented for 15 years have the NCDR of 20/10,000 on an average. In a 5000-population area, the estimated active caseload will be 10 and this load is expected to be managed by a general health worker. Accordingly a 10-years retrospective study was conducted in an experimental zone of the Balarampur control unit of Gandhi Memorial Leprosy foundation in Purulia district of west Bengal. Total 41 General Health workers were involved in the programme from 1988 to 1997. It was observed that the contribution of the general health workers was substantial in relation to case-detection, patient persuasion, and inclusion of leprosy in health-talks and handling adverse situations. Total 440 persons were referred, 373 diagnosed as leprosy cases, 1029 patients were persuaded for regular drug intake and leprosy was discussed in 1204 health talks. Six social problems were handled. It was observed to be cost effective with better utilization of logistics and human resources. The integration processes should be supported with adequate training and supervision and monitoring system at least for next five years till the GHWs develop their own expertise. They should also gradually be exposed to and entrusted with the

processes of rehabilitation and POD activities, which is utmost necessity in leprosy field

OOA 16

IS LEPROSY ERADICATION PROGRAM FEASIBLE IN VIETNAM?

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Since leprosy is no longer a serious national health problem in Vietnam, the decreasing workload in terms of leprosy disease prevalence has pushed the stakeholders to find the ways to sustain leprosy works. The target set for eradicating leprosy is to cut the transmission of leprosy, and the provincial managers have to focus on areas where leprosy is endemic, or leprosy pools.

LEC is continued where leprosy prevalence is still high or previously known to have had many leprosy cases. Recruitment of ex-leprosy patients as volunteers among community members can be a good idea: Health education materials should be distributed to the community to create people's awareness on leprosy, break down the silence and stigma surrounding leprosy and promote early reporting of leprosy patients. The use of community volunteers and exleprosy patients as health educators is considered. Education for school children is seen as the most effective approach to broadcast messages on leprosy to the people. A kind of quizgame called democratic picking flowers has been initiated and proved that it is very promising.

Besides the traditional training, the problem-based teaching and learning as well as field training are adopted. A new module of training called active education has been realized, setting a new style of training in Vietnam.

According to the WHO proposal, Vietnam begins to implement for a post-elimination surveillance system. A part of leprosy program is shifted to rehabilitation aspect, which is the rising concern of the people and local government for leprosyaffected-people. These efforts for improving the (ex-) leprosy patients lives should be mobilized nation-wide, to respond to the noble mission: working together for a world without leprosy.

OOA 17

LEPROSY ELIMINATION MONITORING (LEM) 2001, BANGLADESH

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Leprosy Elimination Monitoring Exercise was carried out in Bangladesh between 21 January 15 February 2001. To validate data on prevalence, detection, integration and quality of MDT Services. The sample covered 1202 cases, records collected from 60 MDT centers (10%) of 20 randomly selected districts. Data collection was done by qualified Medical officers, especially trained for this activity using WHO recommended schedules.

Exercise was guided supervised and lead by WHO nominated Monitor along with one independent national Monitor nominated by the national Govt.

The actual data collection in the field was carried out between 30 January - 08 February 2001. The data consolidation and report preparation was done between 09-14 February 2001.

Over 5 years reduction in prevalence is observed. However this fall is not associated with expected change in clinical profile of new cases. As majority of the cases were detected by voluntary Reporting (40%) with long duration of delay (average 20 months) and grade 2 disability (10%). This pattern confirms further the need for intensive BCC in population and reorientation of staff on identification/detection of early Leprosy.

The summary of the main findings and observations of LEM will be presented

OOA 18

NEPALESE LESSONS ON COMMUNITY AWARENESS AND CAPACITY BUILDING OF HEALTH SERVICE DELIVERY SYSTEM TOWARDS LEPROSY ELIMINATION

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Nepal, a tropical country in South Asia has a history of high prevalence of Leprosy since last 150 years. Nepal has adopted the WHO resolution to eliminate leprosy by 2005 from the world and by the end of 2003 from the country.

Leprosy elimination activities were escalated from 1996 onwards with intensive Leprosy Elimination Campaign (LEC) during 1999 and 2001. Nepal is actively engaged in Information Education and Communication methods and mediums. The country is building up the capacity of health service delivery system / basic level health care workers to provide

diagnostic and treatment services up to the Village Development Committee level, which is lowest. It is found that strong political commitment followed by an efficient programme support on intensive IEC component helps achieve this time bound vision.

This paper discusses the objectives, strategies, activities and major outcomes of elimination efforts. Paper includes secondary information (data) gathered from LCD/ DHS/MOH and presented with the help of simple statistical tools.

The study revealed the fact that prevalence rate has gone up significantly after planned LEC; such sustained campaign has been contributing to reach the un-reached population (hidden/undetected/cases of consequence) in the areas where the prevalence rate is more than 3/10, 000. The current trend shows that the MB proportion, child proportion and GII disability is declining considerably providing hopes of elimination within the stipulated time

OOA 19

PROBLEMS ASSOCIATED WITH INTEGRATION OF LEPROSY IN BIHAR STATE IN INDIA AND POSSIBLE SOLUTIONS

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Bihar is the second largest populated state in the country comprising 11% of the population of India. It is highly endemic for leprosy. It has the highest number of cases of leprosy in India and it accounts for 28% of caseload of the country. Since introduction of MDT in 1996 more than 800,000 cases have been treated and at present (Jan 2002) total of 105000 cases are registered for treatment with MDT. The phase II of NLEP has identified integration with General Health Care Services as one of the key strategies for easy accessibility of leprosy services for early detection and treatment. Integration in Bihar has been undertaken from July 2001. There are however a few problems being faced in applying integration in practice and therefore the emphasis is presently being given on functional integration down to Health Sub Center level. Integration of following aspects is being implemented viz. Provision of diagnosis facilities on all days at PHC, Addl. PHC and Government hospitals and drug delivery to patients. Some of the factors which contribute to the problem are deficiency of GH staff.(44%) and NLEP staff (56%) with a wastage of 3% every year, poverty, low literacy and low awareness level among the medial fraternity and community. The Government has taken various measures to tackle these problems. The details will be discussed.

OOA 20

PROJETO PRIORITÁRIO "TOLERÂNCIA ZERO: MATO GROSSO SEM HANSENÍASE"

Secretaria de Estado de Saúde de Mato Grosso

Mato Grosso é campeão brasileiro de prevalência em hanseníase com 20 casos por 10 mil habitantes. Por esta razão o Governo em parceria com a SES-MT, lançou o projeto "Tolerância Zero" que tem por objetivo a eliminação da doença como problema de saúde pública até o ano 2005. Atualmente são 2.913 casos notificados e 3.900 casos estimados. Como incentivo a detecção precoce a SES-MT proporciona um "bônus" para equipes e saúde da família e agentes comunitários. Para cada caso detectado, o agente irá receber R\$ 20 (vinte reais) e os integrantes da unidade de saúde R\$ 100 (cem reais) por paciente com alta por cura. Na primeira etapa que compreende 2001 a 2002, o projeto foi implantado em todos municípios do Estado, que foram divididos por ordem de prioridade em 4 categorias, tendo por parâmetro a prevalência e o número de habitantes. Cada município deve elaborar um plano de intervenção para implementar atividades em sua área de abrangência, considerando o perfil epidemiológico e operacional da região, identificando as áreas de maior risco da endemia para definição de ações a serem desencadeadas, compor equipe técnica com profissionais qualificados, desenvolver parcerias com demais entidades, ONGs e órgãos, além de criar agenda de treinamentos e acompanhamento da equipe. Os municípios que atingirem as metas estabelecidas receberão um incentivo de acordo com os níveis de prioridade que vão de R\$ 30 mil a R\$ 2 mil reais, visando a detecção de 95% dos casos estimados nos municípios e redução da prevalência de 30% ao ano. Este recurso deverá ser investido, pelos municípios, na implementação das atividades de promoção, prevenção e atenção básica de saúde.

OOA 21

REACHING NLEP SERVICES TO THE DISTANT POOR TRIBAL POPULATION IN CHHATTISGARH

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DANIDA assistance in the programme of NLEP helped in the satisfactory coverage of under-privileged poor people living in the distant inaccessible tribal areas. The indicators also reflect that prevalence of leprosy have been reduced considerably in these areas since DANLEP extended services to cover wider areas in all the districts including tribal districts. As women population who in general gets

neglected and deprived of many health facilities, in NLEP particularly coverage of women in the programme has been seen to be satisfactory. The trend of reduction is an indication of probability of elimination of leprosy by 2003.

OOA 22

REGIONALIZAÇÃO DAS AÇÕES DE ELIMINAÇÃO DE HANSENÍASE INTEGRADAS NA ATENÇÃO BÁSICA – BAHIA, PERNAMBUCO E PIAUÍ

2001 – 2002

Lúcia Possídio (8ª DIRES – Petrolina Pe.); Geania Rocha (15ª DIRES – Juazeiro Ba.); Tâmara Stélvia (Secretaria de Saúde Pi.); Vera Andrade (GT/HANSEN/CONASEMS)

Através da articulação com GT/HANSEN/CONASEMS e principalmente a partir da vontade e adesão dos gestores estaduais e municipais da Bahia, Pernambuco e Piauí foi elaborado um plano na perspectiva da estratégia de aceleração proposta pelo referido grupo técnico, que prevê o aumento da oferta do diagnóstico e tratamento da hanseníase com a descentralização e desconcentração das ações, integrando-as nas atividades da atenção básica, passando pela implementação de uma rotina de atualização sustentável dos profissionais de saúde da rede, pela ampla divulgação sobre a universalização da cura da doença e pelo estabelecimento de parcerias com instituições e áreas afins, sociedade organizada e comunidade. A 8ª Regional de Saúde /Pe. expandiu o PCEH para 100% dos seus municípios, a cobertura anterior ao plano era 43%. Em relação aos serviços a cobertura passou de 11,4% para 82,3%. No Piauí as ações de eliminação foram descentralizadas para mais 50 municípios e o número de unidades em 53 municípios aumentou de 50 para 136. Na 15ª Regional de Saúde/ Ba. o PCEH estava implantado em 100% dos municípios. A cobertura dos serviços no período anterior ao plano, era de 15,7% que passou para 64,5%. O trabalho que vem sendo desenvolvido busca atingir o objetivo proposto de facilitar o acesso da população ao diagnóstico e ao tratamento integrando as ações de eliminação nos serviços da atenção básica, detectando precocemente os casos reduzindo a morbidade e o aparecimento de casos com incapacidade física. Nessa perspectiva pode-se afirmar que o controle e eliminação da hanseníase como problema de saúde pública pode ser efetivado

OOA 23

RESISTANCE TO CHANGE: HIGH POINTS IN THE SRI LANKAN INTEGRATION PROCESS

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The sheer scale of the process of converting a vertically structured leprosy service into a horizontally structured system, during decentralization inevitably involved a number of formidable challenges. The Anti-Leprosy Campaign had for decades been accustomed to working directly only with the 24 leprosy workers - with the general health services playing only a supportive role. Now it had to collaborate on a broader basis with provincial health directors, epidemiologists, dermatologists, pharmacists, and directors of numerous local hospitals, motivating them to provide the necessary services without the necessary "authority" to ensure that the services are provided. It became clear that considerable skills in the areas of team building and teamwork, conducting negotiations, and monitoring were needed.

Integrating leprosy services into the local health-care system has also involved a sometimes delicate exercise in sharing responsibility and adjusting to new roles. Natural resistance to these changes was observed both within and outside of the ALC.

This paper shows how the different levels of players perceived integration and how they reacted. The paper also proposes what should be done to sensitize stakeholders and what they ought to consider before launching integration.

OOA 24

ROLE OF COMBINED MONITORING AND UPDATING REGISTERS IN ELIMINATING LEPROSY IN AFRICA, GUINEA AND CAMEROON EXPERIENCES

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Leprosy Elimination Monitoring (LEM) is a process to collect data and build three groups of 22 indicators enabling to identify leprosy programme weaknesses and to propose measures for improving activities towards the elimination of leprosy. Updating Leprosy Registers (ULR) is an exercise to review leprosy information forms and examine leprosy patients under Multiple Drug Therapy (MDT) in view of obtaining the real prevalence according to the definition of a case of leprosy. These two activities can be combined and implemented by external monitors, leprosy programme national managers and district health teams. Combined LEM and ULR exercise is a strong tool for the reduction of leprosy prevalence and improvement of leprosy programme activities. The Regional Office of WHO for Africa initiated 2 combined LEM/ULR in Guinea and Cameroon, respectively in November-December 2000 and Au-

gust 2001. These combined exercises permitted to reduce the prevalence of leprosy of 50% in Guinea and 38% in Cameroon. Re-cycling old cases of leprosy, late or false diagnosis, over-treatment of MB patients, mismanagement of MDT blister packs were main problems identified with LEM indicators. Recommendations were proposed to solve those problems. They consisted mainly the integration of MDT services into general health services and routine ULR during supervisory visits to peripheral health facilities.

[Key words] Updating, Monitoring, and Elimination

OOA 25

SURVEY OF LEPROSY IN UNAPPROACHABLE AND UNCOVERED AREA

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There is no doubt that due to the implementation of multidrug therapy the prevalence rate (PR) of leprosy has declined drastically. New case detection rate, however, has reduced only marginally or has remained static in certain areas, this may be due to the foci of infections in the society lurking in unapproachable areas or due to mobility of the community members and spreading the disease.

The survey report of such population is reported

- a) The examination 3030 labourers of five different construction work places revealed six leprosy cases giving a PR of 20/10000.
- b) The group of male fishermen (304 persons at Panvel) who remained 8 months on sea were examined in rainy season revealed four new cases (PR 131/1000) of which one was smear positive MB case.
- c) The examination of 3457 tribal population on hilly area of Pen yielded 11 leprosy cases (PR 32/10000) of which five were MB. Such pilot studies suggest that special surveys of selected population groups may have to be undertaken systematically, if the leprosy elimination target by the year 2005 AD is to be reached.

OOA 26

TECHNICAL SUPPORT TEAM (TST) FOR THE PROMOTION OF LEPROSY AND TUBERCULOSIS WORK IN THE DISTRICT – A CONCEPT PAPER

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The National Leprosy Elimination Programme (NLEP) and the National Tuberculosis Control Programme (NTP) are the two effective programmes taking care of the leprosy and tuberculosis problems in India respectively. The involvement of Non Governmental Organisations (NGO) in the National Leprosy and Tuberculosis programmes are well recognized. German Leprosy Relief Association (GLRA) and Swiss Emmaus Leprosy Relief work (ALES) are two international organisations engaged in leprosy and tuberculosis work in India. These two organisations already launched Technical Support Teams (TST) in 5 districts of Andhra Pradesh for providing support to the ongoing National Leprosy Elimination Programme (NLEP). This district based Technical Support Team consist of a well-experienced Medical Officer, trained both in leprosy and tuberculosis, a trained supervisor and a driver. The same team will be used for the support of the Revised National Tuberculosis Control Programme (RNTCP), by augmenting the system.

The concept of TST for leprosy and tuberculosis conveys the following:

Intensified leprosy elimination process and effective integration with General Health System.

Improved cure rate of sputum positive tuberculosis to more than 85%.

Through a well drawn out work plan with the government this concept will prove to be an effective strategy.

OOA 27

URBAN LEPROSY CONTROL IN ENDEMIC COUNTRIES — AN UNDER - RECOGNIZED PROBLEM

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Since the recommendations of the International Leprosy Congress held in Bergen, Norway in 1973 focused world attention on the need for research in urban leprosy, several national and international meetings have stressed the exclusive importance of this aspect of leprosy management. It is however debatable whether the reduction in mean prevalence rate (PR) through MDT is due to an exclusive strategy adopted consciously in urban areas by the planners of leprosy control.

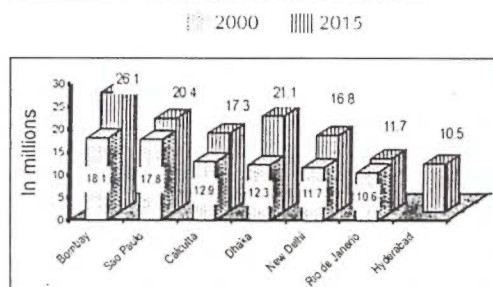
Perhaps we are driven to the necessity of bestowing attention on this subject as the incidence rate of lep-

rosy is not coming down due to urban pockets, especially those in the slums, with hidden leprosy. Due to rapid industrialization and migration of population into the slums, especially of metropolitan cities of the endemic world, special challenges are posed to reach the target set for elimination of leprosy. The population in major cities in the Indian sub-continent is expected to increase by nearly 40% by 2015.

The slum population (about 6 million) in Bombay itself reaches the dimension of the entire population of some countries in the developed world.

Though the lesser cities also face the problem in varying degrees, the exact magnitude is not known. The anomaly of using P.R to judge the effectiveness of leprosy elimination is classically exemplified by the unrealistic statistics relating to the megalopolis of Bombay, where the P.R is reported to be just 2 per

10,000 in the face of about 5000 new cases (10% skin smear +ve) being detected every year.



It is strongly urged that the recommendations already made by a series of Seminars, Workshops, Congresses etc., especially in the Indian subcontinent be implemented meticulously

POD & REHABILITATION

OPOD 1

A GRASS ROOT PERSPECTIVE ON REHABILITATION EFFORTS

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In 1975, the International Nepal Fellowship (INF), a Christian medical mission, was assigned the responsibility for the National Leprosy Control Programme in the western part of the Kingdom of Nepal. In the same year, INF founded the Socio Economic Services Programme (SES). The aims were to assess the needs of patients and where called for, to undo adverse social and economic consequences of leprosy. In 1997, SES became the Partnership for Rehabilitation Programme (PFR).

The decision to carry out an impact evaluation was taken in 1998. The objective was to investigate the outcome of the socio-economic rehabilitation interventions with emphasis upon how the clients and their communities viewed the assistance given. Starting in mid-1999, for a year and an half, two thirds of the clients from the cohort of new clients of 1995 were followed up in the field.

The study was essentially a retrospective observational, before and after, evaluation which sought to determine if the interventions were relevant and appropriate for the client needs, if they were properly carried out, and their short and long term effects on the target population.

In all instances clear cases of need were demonstrated, in the great majority of cases the interven-

tions were implemented in a way acceptable to the clients and their communities, and in almost every instance, the immediate results were positive. However, for most of the clients the input of SES/PFR only changed their life for the better for a time, but did not drastically change their situation long term. Perceived reasons as to why will be presented.

The project based within the Statistics and Research Department of RELEASE, ran over a year and an half.

OPOD 2

A HARD LOOK AT THE PROBLEM OF REHABILITATION IN LEPROSY

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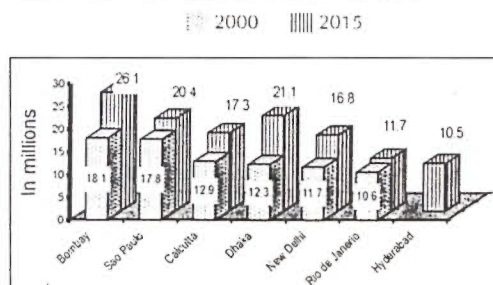
At present, rehabilitation activities are carried out by different organisations as *ad hoc* provision of some help to some of those who demand it. Such programmes do not inform us about the non-users of the services and the reasons for their not using them. By and large, the approach to rehabilitation, especially in the context of leprosy, has been governed more by emotion than reason and this has led to some distortions in our perceptions, attitudes and activities. First, any help provided to leprosy-affected persons (even providing MDT!) is equated with rehabilitation. Second, rehabilitation is still considered as charity towards the affected. Third, all persons with leprosy-related deformities are considered as needing rehabilitation. Fourth, correction of deformities is considered essential for rehabilitation. Fifth, voca-

rosy is not coming down due to urban pockets, especially those in the slums, with hidden leprosy. Due to rapid industrialization and migration of population into the slums, especially of metropolitan cities of the endemic world, special challenges are posed to reach the target set for elimination of leprosy. The population in major cities in the Indian sub-continent is expected to increase by nearly 40% by 2015.

The slum population (about 6 million) in Bombay itself reaches the dimension of the entire population of some countries in the developed world.

Though the lesser cities also face the problem in varying degrees, the exact magnitude is not known. The anomaly of using P.R to judge the effectiveness of leprosy elimination is classically exemplified by the unrealistic statistics relating to the megalopolis of Bombay, where the P.R is reported to be just 2 per

10,000 in the face of about 5000 new cases (10% skin smear +ve) being detected every year.



It is strongly urged that the recommendations already made by a series of Seminars, Workshops, Congresses etc., especially in the Indian subcontinent be implemented meticulously

POD & REHABILITATION

OPOD 1

A GRASS ROOT PERSPECTIVE ON REHABILITATION EFFORTS

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In 1975, the International Nepal Fellowship (INF), a Christian medical mission, was assigned the responsibility for the National Leprosy Control Programme in the western part of the Kingdom of Nepal. In the same year, INF founded the Socio Economic Services Programme (SES). The aims were to assess the needs of patients and where called for, to undo adverse social and economic consequences of leprosy. In 1997, SES became the Partnership for Rehabilitation Programme (PFR).

The decision to carry out an impact evaluation was taken in 1998. The objective was to investigate the outcome of the socio-economic rehabilitation interventions with emphasis upon how the clients and their communities viewed the assistance given. Starting in mid-1999, for a year and an half, two thirds of the clients from the cohort of new clients of 1995 were followed up in the field.

The study was essentially a retrospective observational, before and after, evaluation which sought to determine if the interventions were relevant and appropriate for the client needs, if they were properly carried out, and their short and long term effects on the target population.

In all instances clear cases of need were demonstrated, in the great majority of cases the interven-

tions were implemented in a way acceptable to the clients and their communities, and in almost every instance, the immediate results were positive. However, for most of the clients the input of SES/PFR only changed their life for the better for a time, but did not drastically change their situation long term. Perceived reasons as to why will be presented.

The project based within the Statistics and Research Department of RELEASE, ran over a year and an half.

OPOD 2

A HARD LOOK AT THE PROBLEM OF REHABILITATION IN LEPROSY

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At present, rehabilitation activities are carried out by different organisations as *ad hoc* provision of some help to some of those who demand it. Such programmes do not inform us about the non-users of the services and the reasons for their not using them. By and large, the approach to rehabilitation, especially in the context of leprosy, has been governed more by emotion than reason and this has led to some distortions in our perceptions, attitudes and activities. First, any help provided to leprosy-affected persons (even providing MDT!) is equated with rehabilitation. Second, rehabilitation is still considered as charity towards the affected. Third, all persons with leprosy-related deformities are considered as needing rehabilitation. Fourth, correction of deformities is considered essential for rehabilitation. Fifth, voca-

tional rehabilitation is considered as the solution to the problem of debilitation. Sixth, interventions for rehabilitation are considered as one-time activities. Limited amount of available demographic and socio-economic information shows that every assumption of ours is fallacious. These are brought out and suggestions are made for decentralising the mechanism of rehabilitation and for developing programmes based on ground realities.

OPOD 3

A HOLISTIC APPROACH TO PREVENTION OF DISABILITY IN LEPROSY

Mannam Ebenezer and Premeaj Isaac

PAMIC (Prevention and Management of Impairments and Consequences) is a multidisciplinary, multiprofessional approach to disability prevention in leprosy. WHO International Classification of Impairments, Activities and Participation (1998) for diseases classifies human functioning at the level of body, the whole person and the person within the complete social and physical environment. In the context of leprosy physical impairments lead to social, economical and psychological problems. Often physical impairments are relegated to a secondary role to psycho socio economic issues. This programme addresses disability prevention in leprosy holistically.

A questionnaire modeled along the lines of WHO's ICIDH-2 for diseases has been used to identify patient's issues under the headings of impairment, activity limitation and participatory restriction. The questionnaire is semi structured with a degree of open endedness to enable patients to describe the problems in their own words.

About 200 patients have been through this programme. After identifying the issues in a multidisciplinary approach patients are involved in drawing up of interventions and their implementation. The patients are followed up to assess the impact of this programme in preventing and managing disability. The effectiveness of this questionnaire in identifying disability issues and in arriving at interventions with the patient's input is discussed.

OPOD 4

A METHODOLOGY FOR THE EVALUATION OF REHABILITATION PROJECTS

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A comprehensive evaluation should consider both the rehabilitation project and the project environment. Assessment of the environment includes questions about the causes and types of disability, the number and status of persons with disabilities (PWDs), and the resources available to them. Status of PWDs refers for example to access to education and employment and local attitudes and practices towards disabled persons. This should establish the needs to be met and the relevance of the project. Evaluators should always begin by asking what the project set out to achieve and what approaches were used. Project performance should be assessed in these terms. Only then can they give their opinion about the project and suggest changes for the future.

It is important to ask what services are offered, who is eligible for these services (comparing written criteria to profiles of actual clients) and how many utilize them. Whether physical or psychological or socio-economic rehabilitation is the aim, it must be possible to demonstrate improvement of clients on relevant outcome measures. Where appropriate, the role of relatives or other community members may be assessed both in the client's rehabilitation process and in the running of the project.

The degree of control of clients over their own rehabilitation process will be evident from efforts by the provider to explain the choices involved and from the negotiation that goes on between provider and client, possibly with involvement from relatives or community members. Participation of clients in decision making for the project will lead to a sharing of vision and a sense of ownership.

Advocacy projects strive to change the project environment. Besides consideration of activities and output, evaluation should therefore look for changes in the social environment that favour PWDs.

Projects should have ways and means of growing and developing in response to own experiences, changing needs of clients and changing professional views. These include a sound information system, availability of literature, mechanisms for feed back of evaluation findings, availability of literature and contact with colleagues in the field of rehabilitation.

OPOD 5

AVALIAÇÃO DA FORÇA DE PREENSÃO PALMAR COM O USO DO DINAMÔMETRO JAMAR® EM PACIENTES PORTADORES DE HANSENÍASE ATENDIDOS EM NÍVEL AMBULATORIAL NO DISTRITO FEDERAL

Prof^o. Ms. Demóstenes Moreira; Prof^a. Dr^a. Rosicler Rocha de Aiza Alvarez.

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As funções básicas dos membros superiores nos pacientes portadores de hanseníase, depende basicamente da integridade sensitiva e motora da mão. A mão tem papel primordial na atividade humana, através de suas funções básicas de preensão e sensibilidade, sendo inclusive considerada como a extensão efetora do córtex cerebral. A capacidade manual (preensão), desenvolve-se gradativamente através dos sistemas sensorio-motor até atingir a acuidade necessária para que o indivíduo se adapte às atividades de vida diária. Nos indivíduos portadores de hanseníase, a capacidade de realizar a preensão manual pode se apresentar com limitações que podem variar de acordo com a forma clínica e grau de incapacidade da mão. O objetivo do presente estudo foi avaliar o comprometimento do mecanismo de preensão palmar em indivíduos portadores de hanseníase atendidos em nível ambulatorial no Distrito Federal. O presente trabalho compreende um estudo de delineamento transversal comparativo, onde avaliou-se a preensão palmar de um grupo de 50 pacientes portadores de hanseníase inscritos no Programa de Controle da Hanseníase do Distrito Federal e comparou-se com um grupo de 50 indivíduos normais. Após a determinação do grau de incapacidade dos pacientes hansenianos foi realizado a avaliação da preensão palmar com o uso do dinamômetro Jamar®. Durante a avaliação da força de preensão palmar, os participantes do estudo foram orientados a permanecerem sentados, com o ombro na posição neutra, cotovelos a 90° e punho na posição neutra (intermediária entre pronação e supinação) sem que houvesse desvio radial ou ulnar, enquanto o examinador sustentava o dinamômetro. Os pacientes realizaram três tentativas para cada mão (com duração de 5 segundos para cada tentativa) na posição de pegada dois, preconizada no aparelho, alternado a movimentação para o teste, sendo inicialmente testada a mão direita e logo em seguida a mão esquerda, seguindo criteriosamente a instrumentação do aparelho; o intervalo entre uma tentativa e outra foi de 1 minuto. Todos os participantes do estudo foram informados através de um Termo de Consentimento Livre e Esclarecido, sobre os procedimentos e objetivos da pesquisa.

OPOD 6

COMMUNITY BASED REHABILITATION IN RURAL AREA

Mathura prasad mahato; Sudhakar Bandyopadhyay

Gandhi Memorial Leprosy; German Leprosy Relief Association-India

Foundation, Balarampur

This study is based on an action programme undertaken at the Balarampur Control unit of Gandhi

Memorial Leprosy Foundation in purulia district of west Bengal. The unit covers a rural population of 300,000 in 341 villages. A list of beneficiaries was prepared for financial rehabilitation. From 1998 to 2001, total 124 persons were supported with interest free loans, which ranged from Rs.500/- to Rs. 2000/- (US\$12 to 50). The loans were distributed in presence of the social leadership. The criteria for selection were financial condition, visible deformity and helpless women. While selecting the trades, traditional and familial trades like bamboo craft, shop keeping (stationary and Grocery), shoe making, goatery, selling rice and paddy, selling of vegetables, piggery and mechanical shop were given priority. Total Rs.100,000/- was disbursed. The beneficiaries were guided and supported by the leprosy workers including initial collection of raw materials and marketing of products. Social acceptance was ensured through community awareness programme. It was observed that except three persons all beneficiaries were paying the installments regularly. Average monthly income of each person was Rs.1,000/- - Rs.2,000/-. Some of the beneficiaries have developed their own capital. Involvement of the grass-root level workers and the social leadership is mandatory to run the programme. It is suggested that small trades are worthy enough in the rural area for solution of the financial rehabilitation problem keeping the persons in the community.

OPOD 7

DETECTION OF EARLY SENSORY NERVE FUNCTION IMPAIRMENT IN THE FEET OF LEPROSY PATIENTS USING 2GM SÉMMES WEINSTEIN (SW) MONOFILAMENTS.

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The SW monofilaments are important tools in leprosy for the detection of early sensory nerve function impairment. Its use in the hand has been largely standardised but experiences of its use in the feet are few. The aim of the study was to detect early nerve function impairment in the feet comparing different grades of SW monofilaments. This study was carried out between Jan. 1997—Dec. 2000.

Sensory assessment was carried out by a single examiner using the 0.2gm, 2gm, 4gm and the 300gm SW monofilaments. 8 sites were tested on each foot, 4 in the forefoot, 2 in the mid foot, 1 in the heel and 1 on the dorsum of the great toe.

A total of 418 leprosy patients (M 293 F 125) were

registered during this period (TT 24(5.74%); BT 168(40.19%); BL 162(38.75%); LL 54(12.91%) and PNL 10 (2.39%).

It was found that 0.2gm monofilament was felt by 11(2.6%) patients; 2gm felt by 223 (53.34%); 4gm by 66 (15.78%) and 300gm by 118(28.22%). More than half the patients were able to feel the 2gm monofilament and about 16% the 4gm monofilament. A small proportion (2.6%) mainly children could feel the 0.2gm monofilament.

This study shows that to detect early sensory changes in the feet we can use the 2 and 4gm monofilaments in adults and the 0.2gm filaments in children. It helps to detect early changes in sensation, thereby preventing the complication of nerve damage through early initiation of steroids.

OPOD 8

DEVELOPMENT OF AN ACTIVITY LIMITATION SCALE FOR PERSONS WITH SENSORY LOSS

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An international collaboration of occupational therapists and people skilled in research methods aims to develop two instruments for the assessment of activity limitation and risk of increasing impairments in people affected by leprosy or other peripheral neuropathies. One will be a screening tool for use at the primary care level, while the second will examine activity limitation in more depth.

Collaborators in five countries interviewed persons affected and unaffected by leprosy or diabetes to generate lists of activities of daily living. Over 1250 activities were identified which were commonly practiced by at least 30% of the people at risk of leprosy or diabetes. These were pooled, duplications removed and a unified format of asking and recording

developed. The resulting questionnaire included 348 items covering all domains of the ICF. It was administered to 779 persons aged 15-65 affected by leprosy or diabetes; approximately 40% were also assessed for activity limitation by an occupational therapist who was blinded to the content of the questionnaire.

Data collected in February 2002 / ALS collaborative study group

	# interviewed with leprosy (# disabled)	# assessed by OT	# interviewed with diabetes (# sensory loss)	# assessed by OT	# healthy people interviewed
Brasil	95 (50)	19	30	12	
China	120 (80)	50	-		10
India	150 (122)	75	-		14
Israel	30 (23)	4	75 (51)	24	3
Nigeria	159 (129)	50	-		10

¹ i.e. WHO sum grade > 0

Based on the data collected, the questionnaire will be reduced to a minimal set of items giving the best discrimination between individuals with different degrees of activity limitation, the best reliability in comparison with expert opinion and the best applicability in the different cultural settings. Other considerations will be the duration of the interviews, the ability of the scale to identify areas requiring further intervention and the calculation of summary scores. The resulting draft scale will be presented. Further testing is planned in each centre, for test-retest and inter-rater reliability.

The draft screening tool will be a subset of items from the draft scale, aiming for maximum sensitivity to identify patients in need of referral.

OPOD 9

DISABILITY, SOCIAL AND ECONOMIC SITUATION OF THE PEOPLE AFFECTED BY LEPROSY IN SHANDONG PROVINCE, THE PEOPLE'S REPUBLIC OF CHINA

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As the decline in prevalence of leprosy, social and economic rehabilitation (SER) has become a major priority in leprosy control programme in Shandong Province. In the preparative phase of a SER programme, a province-wide survey was conducted with a semi-structured questionnaire in order to provide policy makers and programme managers with some basic information on the disability, and social and economic situation of the people affected by leprosy. In this paper the results of the study for the people affected by leprosy living in the communities were presented.

OPOD 10

EFFICACY OF SURGICAL NEURAL DECOMPRESSION WITHOUT NEUROLYSIS IN LEPROSY PATIENTS WITH PERSISTENT POST-TREATMENT NEURITIS

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Background: Surgical neural decompression in patients with leprosy has been increasingly recommended for the treatment of neuritis that persists after multidrug therapy and fails to respond to steroid therapy.

Patients and Methods: Forty-six patients (mean age 44.3 years; 34 males) previously treated for leprosy and with persistent post-treatment neuritis who were referred to our service from December 1999 to July 2001 were submitted to surgical decompression without neurolysis of the ulnar (44 cases), tibial (14), median (12) and lateral popliteal (4) nerves. The surgical procedure included anterior transposition in the cases of ulnar nerve decompression. These patients had their pain, motricity and sensitivity associated with nerve involvement assessed with standard scores before and six months or over after surgical decompression was undertaken. The dose of prednisone that was necessary to alleviate their symptoms was also assessed.

Results: Daily prednisone (mean decrease of 34.9 mg), ulnar nerve pain, motricity and sensitivity, and tibial, median and lateral popliteal nerves pain improved significantly ($p < 0.05$, paired *t* test) after the surgical decompression.

Conclusion: Surgical decompression without neurolysis was successful for the treatment of post-multidrug therapy neuritis that was unresponsive to high-dose steroid therapy in this series. Failure to improvement of motricity and sensitivity of the involved nerves was probably due to the late referral of these patients and consequent delay of the surgical intervention.

Leprosy is a disease of the peripheral nerves. The earliest pathology is oedema, which, in theory, can be controlled by steroids. However oedema can perpetuate itself by compressing the venous return.

Repeated reactions cause fibrosis of the peri-neural structures leading to adhesion and mechanical compression. More than 5 thousand cases of neuritis have been referred to us; of these, **1217 cases** were operated (mostly done under microscope). A brief analysis of the operated cases:

- Almost all cases had been treated, unsuccessfully, with steroids for various periods of time, therefore surgery was considered. Surgery helped in relieving pain and preventing further damage.
- In 76.8% (935) there was evidence of mechanical compression (photodocumented): thick paraneurium, bands, muscles (normal and anomalous), abscesses, lymph nodes. Twelve patients (1%) with complete neural loss had nerves that –under microscope and naked eye vision- looked normal and felt normal.
- Among 648 long-term follow-up cases, we noticed improved sensory modalities in about 34.7% of patients within 6-2 months, and motor function in about 7 % after 9-24 months.
- Circa 32% of patients had total neural loss before surgery. None of the operated patients had worsening of neural function following surgery.
- Eight BT patients had a new granuloma at the same operated site 1-2 years after surgery.
- Two LL patients reported with small abscesses on the same site, 10 years after large abscess had been excised.
- 106 patients had abscesses in only sensory nerves, no motor trunks involved.
- In the presence of motor damage, sensory nerve damage too was observed in all cases except two, where there was motor damage but no sensory loss.

The authors believe that more importance has to be paid to early surgery; and surgery should not be considered as the last recourse, more so when mechanic compression is suspected. Statistics will be presented to prove the superiority of surgery over steroids in dealing with chronic/ repeated neuritis.

OPOD 12

INCREASED RISK FOR DISABILITY IN MULTIBACILLARY LEPROSY PATIENTS WITH NEURITIS

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OPOD 11

IMPORTANCE AND TIMINGS OF NERVE DECOMPRESSION IN LEPROSY

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Introduction: The elimination of infection through MDT is the main objective of the program of leprosy. However prevention and management of impairments and disabilities have long been recognized as essential components in order to avoid sequels and stigmatization.

Objective: To evaluate the degree of disability in our patients from the moment they start the treatment up to five years of follow-up after discharge from treatment.

Material and Methods: A retrospective study involving 190 multibacillary patients selected submitted to the routine in our service. Patients were evaluated both the beginning, and at the end of treatment, during the five years of follow-up as well as whenever it was necessary because of the occurrence of reactional states. The evaluation of the degree of disability followed the criteria recommended by the Brazilian Ministry of Health.

Results: At the beginning of treatment the degree of disability was equal to zero in 99 patients (52.1%), equal to 1 in 47 patients (24.7%), and equal to 2 in 44 patients (23.3%). At the end of treatment 123 patients (64.7%) maintained the initial degree, 49 patients (25.8%) improved and 18 patients (9.5%) got worse. In general, the relative risk (RR) for worsening the degree of disability among reactional patients was 3.01 (95% CI 2.03 – 4.46) for those with neuritis when compared to those without neuritis. Noteworthy, patients with initial degree of incapacity equal to zero that exhibited reactional states with neuritis had an increased risk (RR = 7.62; 95% CI 1.87–31.02) of worsening the degree of disability at the end of the treatment, when compared to those that did not exhibit reactional states. Of those 91 patients with some physical disability established at the beginning of treatment, 39 patients (42.9%) remained stable and 49 patients (53.8%) improved. After 5 years of follow-up, 7 patients (21.2%) with degree 1 at the end of treatment improved their disability degree and 7 patients (20.6%) of those with degree 2 did the same.

Conclusion: Reactional states with neuritis seems to be responsible for worsening the degree of disability, mainly in those with initial degree equal to zero. There has been a highly significant improvement of the disability degrees both at the end of treatment, as well as 5 years after therapy discharge.

OPOD 13

IS THE SURGICAL CORRECTION OF FOOT DROP A MORE EFFECTIVE METHOD TO REDUCE PLANTAR ULCERATION THAN CONSERVATIVE METHODS?

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Findings from an archival study of 107 case files relating to subjects with foot drop are presented. A study was conducted at Lalgadh Leprosy Services Centre, Nepal. Within the parameter of a defined time span it was found that 67 subjects had accepted surgical foot drop correction (tibialis posterior transfer) and 40 subjects had been supplied with foot drop springs. Both groups had been supplied with protective footwear. Using standard non-parametric analysis (chi-square) it was found that the difference between the groups, when compared on post intervention plantar ulceration rates, was not significant. Compared with pre intervention ulceration, the site of ulceration on surgically corrected feet was more likely to be different than it was for feet assisted by foot drop springs ($p < 0.05$). An implication of this study is that where cost constraints are an issue and the prevention of ulceration is a primary objective, conservative treatment may be as useful as surgical intervention.

OPOD 14

PLANTAR ULCERS IN LEPROSY: PATIENTS' PERCEPTIONS AND TRADITIONAL PRACTICES OF CURE.

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Plantar foot ulcers are a major reason for hospital admission among leprosy patients. Self-care of anaesthetic feet is a significant health education challenge and many patients with anaesthetic feet have recurrent ulcers despite repeated health education.

Aim: To seek to understand leprosy patients' own perceptions about the causes and care of foot ulcers, and to investigate traditional practices used in the treatment of these.

Methods: One hundred and twenty (60 male, 60 female) patients admitted for plantar ulcer management at Anandaban Leprosy Hospital during the period March 2000- December 2001 were interviewed using a pre-tested semi-structured questionnaire. Data analysed using EpiInfo version 6.04.

Results: Approximately 90% of respondents believed leprosy ulcers to be different from other kind of ulcers; 60% thought leprosy ulcers should be treated differently, with 42% believing they needed leprosy medicine for ulcer healing. Almost one third of respondents (32%) thought recurrent ulcers were due to their disease not yet being cured. Only 3% said the healing time of a leprosy ulcer is the same as other ulcers. Of 120 respondents, 74 (62%) used traditional materials to treat their ulcers: 59 kinds of

plant product, 18 kinds of animal product, and 15 other kinds of materials were considered helpful in healing ulcers (1 oral use, 66 external use and 7 both external and oral use).

Conclusion: This study will assist health educators and ulcer care workers in identifying commonly held beliefs and practices which may aid or impede foot ulcer care.

OPOD 15

SOCIAL IMPLICATIONS OF DISABILITY AND NEED OF INTENSIVE POD PROGRAMME IN URBAN AREA

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Disability-care in urban set-up is a complex problem associated with socio-Economic, psychophysical, migratory and occupational implications. While some persons suffer from the consequences of deformity and disability, others capitalize it as their means of livelihood. Similarly one group is careful enough to adopt self-care while other group were found to be negligent. The major cause of reporting with deformity was ignorance on early signs and subsequently negligence in treatment. In spite of adequate services provided, due to migration, hard labour and excessive movement, condition of many disabled persons were worsened. This was revealed in a 20 years retrospective study conducted at GRECALTES in Kolkata. Data were analyzed from 1981-2000 A.D. During this 20 years, total 6331 leprosy patients were detected, 415 were deformed among new cases. Total 630 patients were put under deformity care services, conditions improved for 74 cases, conditions remained static and not further deteriorated for 375 and conditions aggravated for 181 patients. It is suggested that intensive community education programme, patient and patients' family members' education is necessary to curb new case reporting with deformity and to check further worsening. The strategy of recently launched POD programme should be continued and intensified. Disability care is important but prevention of disability is the necessity.

OPOD 16

SKIN TEMPERATURE ASSESSMENT BY PALPATION OF NEUROPATHIC FEET OF LEPROSY PATIENTS

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Complications of the neuropathic foot as ulceration, bacterial infection and neuroosteoarthropathy (Charcot foot) are accompanied by signs of inflammation. Of the inflammatory signs pain sensation is diminished or absent due to loss of sensory function. Increased temperature, in a part or in the whole foot, can be assessed by thermometry or, as in clinical practice, by palpation.

We have already reported a high inter-observer reliability (Kappa = 0.79) and a high correlation of palpation with thermometry (Spearman's rank correlation coefficient 0.82; $p < 0.002$). (Int J Leprosy 2000;68:65-7)

Consequently, in three field studies it was investigated whether skin temperature could be assessed reliably by palpation by leprosy patients, their family and leprosy staff.

In Ethiopia 69, in India 64 and in Brazil 76 persons participated in the study. Spearman's rank correlation coefficients between palpation and infrared thermometry ranged from 0.36 to 0.60. Correlation was highest on the dorsum of the foot, higher when performed by patients than by their family, and higher by experienced than inexperienced staff.

In the last study the assessment was repeated after one month, and an improvement was found.

The results of these studies indicate that assessment of skin temperature by palpation can be used for the (early) detection of complications in neuropathic feet of leprosy patients.

OPOD 17

THE REHABILITATION OF CURED IN COMMUNITY NEED FOR REHABILITATION OF LEPROSY PATIENTS

Abdul K. Chauhan

A in other diseases or conditions associated with disability and/or deformity, rehabilitation services are also needed for leprosy patients. The introduction of effective methods of treatment-medical, surgical and physical has brightened the prospects of cure of the disease. As a result, rehabilitation of a leprosy patient has now become practicable. Cure of the disease does not have much meaning for the patients if he still remains socially and economically dislocated.

The general principles of rehabilitation of leprosy handicapped persons are no doubt the same as those for other handicapped persons. However, there are two significant and vital differences. First, while other handicapped persons do not carry any stigma and/or are not socially dislocated, leprosy is unfortunately associated with a stigma and patients suffering or having suffered from this disease are apt to be socially ousted and considered as outcasts from society.

In other diseased, the question of rehabilitation is considered after the treatment of the patient has been completed, but in leprosy the process of rehabilitation should start as soon as a diagnosis of the disease has been made. Because of the immense difficulties in rehabilitation after he has been socially and economically debilitated or dislocate, efforts should be made to prevent debilitation.

There are vasd number of leprosy patients representing an enormous waste of human resources who are disabled physically, socially, spiritually, vocationally or economically. We are to prevent this from occurring in the first place.

OPOD 18

THE SELF-CARE KIT: AN AID TO EMPOWER PATIENTS IN CARE OF FEET

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Comprehensive Leprosy Care Project & Medical Aid Association

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The authors have developed and introduced the CLCP self-care kit to heal ulcers, improve the ichthyosis and cracks in feet by empowering patients. Empowering patients to care for their feet at home is the only practical and sustainable solution to reverse the trophic changes, heal minor wounds or plantar ulcers and prevent disabilities. The self-care kit can help trigger this change. The empowerment program with the self-care kit is carried out as a camp approach where patients are taught how to use the kits in groups. The self care kit contains a foot scraper, antiseptic solution and ointment, moisturising cream, sterilised gauze packets, bandages and scissors. Patients also receive a plastic tub and MCR footwear. The use of the self-care kit is demonstrated and patients also understand and discuss how ulcers develop and what they can do to prevent their recurrence. The health care staff provide patients replacement kit during the monthly follow up visits. Results assessed at 4 to 6 months later clearly demonstrate that 85 % of patients had improvement of which nearly 50 % cases had complete healing of their ulcers. The results document the impact of the self-care kit as an effective tool to empower patients to heal ulcers, improve the ichthyotic skin and cracks in feet. Considering the magnitude of ulcer cases and the substantial improvement in the quality of life for persons affected by feet ulcers, the new CLCP modality of the "self-care kit" could make a significant contribution to reduce the burden of foot related disabilities in leprosy.

OPOD 19

TIBIALIS POSTERIOR TRANSFER (TPT) – CIRCUMTIBIAL vs INTEROSSEUS ROUTES

Dr. Premal Das, Victor Paul, Julius Kumar, Karthikeyan and Dr. Cornelius Walter

TLM Hospital, Naini, Allahabad, 211008, Uttar Pradesh, India, tlmnaini@sancharnet.in

Objective: To compare the functional outcomes of Circumtibial and Interosseus routes of foot drop deformity correction.

Design: A prospective study conducted at The Leprosy Mission Hospital, Naini, Allahabad, from 1998 to 2001.

Setting: The Leprosy Mission Hospital, Naini, is a 110-bed referral Hospital with leprosy and non-leprosy medical facilities

Participants: 119 people affected by leprosy with more than one year duration of foot drop deformity. These people are from the rural community and residents of nearby small towns and cities.

Procedure: For several years there has been a debate over the functional outcomes and risk of inversion deformity of one procedure to correct foot-drop versus another. In the first year all patients were operated using only the Circumtibial route for correction of foot drop. The following 3 years, patients with peroneus muscle grade 3 or more underwent Circumtibial route and those with less underwent Interosseus route of correction of foot drop. The results of 55 TPT surgeries using the Interosseus route and 64 using the Circumtibial route were analysed at 1 month, 3 - 6 months and 1 – 3 year follow-up periods movements and inversion. Factors such as Surgeon, Physiotherapist, Physiotherapy technician and pre and post-operative exercise regimen were constant.

Outcome measures: The percentage of people with good outcomes (>90%) following Circumtibial and Interosseus routes of foot drop correction

Results and conclusions: The analysis is in progress and the results will be presented at the Conference.

OPOD 20

"USE OF A MULTIDISCIPLINARY ASSESSMENT TOOL IN THE PREVENTION AND MANAGEMENT OF IMPAIRMENT AND CONSEQUENCES (PAMIC) IN LEPROSY"

Dr. Mannam Ebenezer, Dr. Patheebharajan, Dr. Anil Thomas, Dr. M.V. Thomas, Mrs. Helen, Mrs. Valsa Augustine and Mr. Paul Rajkumar.

Schieffelin Leprosy Research and Training Centre, Karigiri, India

PAMIC is a multidisciplinary approach in which professionals from the medical, occupational therapy, social sciences and clinical psychology combine to prevent and manage disability issues in leprosy. The programme is hospital based and is held in the outpatient department. An assessment form based on the WHO ICIDH concept is used to identify impairments, activity limitation and participatory restriction.

The disability issues are prioritized according to patient's perception and possible interventions are identified. About 250 patients were assessed using this tool and the results are presented. 84 % of patients had activity limitation and 82 % participatory restriction. As far as activity limitation is concerned approximately 95% of patients were able to perform Activi-

ties of Daily Living, 61 % had to change their vocation with 34 % adapting to their vocation with the disability. 20 % of perceived participatory restriction in their domestic life, 19% had participatory restriction with relatives and about 36 % had participatory restriction in societal roles including vocations.

The main advantage of the assessment tool is that disability issues are seen in the light of patient's perception and interventions are drawn according to his/her priorities. The assessment form brings out finer details of activity limitation and participatory restriction so that specific interventions can be decided upon. Interaction between professionals helps to arrive at the best possible way to implement interventions taking into consideration social and economic issues

SOCIAL ASPECTS

OSA 1

A HEALTH PROMOTING INTEGRATIVE COMMUNITY DEVELOPMENT PROGRAMME

Derek Browne

Health Promotion Specialist Agency Southampton
Merrival Lodge Rhinefield Road Brockenhurst
Hampshire SO42 7SW UK

Social stigma and ostracism affect those with and 'cured' leprosy, and others in a community who have persons with disabilities, inequalities and loss of social capital. Community integration and community involvement using community resources and facilities can enhance social esteem, improve quality of living and help integrate those with physical, mental and social disabilities. Partnerships between the statutory, voluntary and private organisations within a community may be facilitated through the services of a paid community co-ordinator.

Healthy Communities which include Healthy Cities and Healthy Villages are part of the World Health Organisation plans to promote healthy and active communities in developed and developing countries. Health Care systems vary in many countries of the world from a Health Service funded mainly through Taxation as in the UK, to combinations of Tax based insurance and private funding in other countries. Many 'cured' patients of leprosy or Hansen Disease carry the stigma with their associated disabilities with them throughout life independent of any corrective surgery that may have been performed.

In our village in the UK we demonstrated a positive 72% uptake of resources and 70% improved quality of living.

OSA 2

A IMPORTÂNCIA DA AVALIAÇÃO DA QUALIDADE DE VIDA EM PACIENTES COM HANSENÍASE

Rodrigo Sestito Proto; Lúcia Mioko Ito; Ferruccio Fernando Dall'Áglio; Fábria Oppido Schalch; Simone Santos and Maurício P. Paixão.

Departamento de Dermatologia da Faculdade de Medicina do ABC.

Av Príncipe de Gales, 821- -09060-650-Santo André – SP- Brasil.

Introdução: A hanseníase, se não tratada, resulta em graves distúrbios psicológicos, físicos e sociais. Devido ao estigma que a doença causa, os índices de qualidade de vida desses pacientes decaem consideravelmente.

Casística: Foi aplicado o questionário de avaliação da qualidade de vida da Organização Mundial da Saúde (OMS), adaptado para as condições dos pacientes com hanseníase. Foram analisados 30 pacientes (16 homens e 14 mulheres), na faixa etária de 18 a 72 anos, que estão em registro ativo e acompanhamento pós- alta, no Centro de Saúde Escola Capuava (ambulatório de hanseníase). O questionário explora os seguintes itens: físicos, psicológicos, nível de independência, relacionamento social, religião e lazer.

Resultados: O nosso estudo revelou que a qualidade de vida diminuiu com a evolução e progressão da doença, principalmente em relação aos fatores psicológicos, relacionamento social, nível de independência e alteração da imagem corporal. Os pacientes com as formas avançadas da doença relatavam exclusão social, incapacidade ao trabalho e diminuição da atividade sexual.

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Discussão: A hanseníase pode ser vista como uma doença que leva à alterações psicológicas, socioeconômicas e espirituais que vão progressivamente afetando as pessoas que não estão preparadas para encararem esses fatos. Apesar de multidroga terapia anti-hanseníase ter proporcionado um certo otimismo em relação às perspectivas de eliminação da doença e prevenção das incapacidades, observa-se que os estigmas da doença ainda permanecem e os centros de tratamento não estão preparados para auxiliar estes conflitos. Consequentemente, o grau de declínio da qualidade de vida precisa ser revisado e correlacionado com vários fatores ambientais e sócio-demográficos, incluindo-os no protocolo de atendimento aos doentes com hanseníase.

OSA 3

A IMPORTÂNCIA E A NECESSIDADE DO ACOLHIMENTO AO PACIENTE COM HANSENÍASE: UM ENFOQUE BIOÉTICO

Letícia Maria Eidt

Ambulatório de Dermatologia Sanitária / Secretaria Estadual da Saúde e do Meio Ambiente do Estado do Rio Grande do Sul. Rua Mostardeiro, 920. Porto Alegre, Rio Grande do Sul, Brasil, CEP: 90430-000. FONE: 0—51 33331590; 0—51 33333085 - E-mail: leticia.eidt@globo.com

A Hanseníase, doença ainda hoje lembrada como nos tempos bíblicos com todos os seus estigmas e preconceitos, gera vários sentimentos e angústias que contribuem para a diminuição da auto-estima em seus portadores. Os pacientes quando procuram atendimento chegam fragilizados, necessitando, além do tratamento medicamentoso poliquimioterápico, sobretudo, de um tratamento humanizado. O presente trabalho apresenta os resultados de uma pesquisa qualitativa fenomenológica, realizada com hansenianos em acompanhamento no Ambulatório de Dermatologia Sanitária, localizado na cidade de Porto Alegre, centro de referência para tratamento da Hanseníase no Estado do Rio Grande do Sul, Brasil. Os dados foram coletados por meio de entrevista semi-estruturada e dialogada, posteriormente transcrita para aplicação do método fenomenológico. A importância do respeito ao ser humano hanseniano, o acolhimento e o carinho por parte da equipe de saúde, contribuindo para o resgate da auto-estima e para a adesão ao tratamento, são alguns dos aspectos abordados pelos pacientes. A autora reflete, ainda, sobre a necessidade de tratar os doentes na sua integralidade e sobre a preocupação em não se descuidar da dignidade humana como medidas necessárias à humanização do atendimento aos portadores de Hanseníase.

OSA 4

A QUESTION OF JUSTICE: REHABILITATION OF PERSONS AFFECTED BY LEPROSY

Chukwu, J.N.; Onojorhovwo, I.

German Leprosy Relief Association, 35 Hillview, Independence Layout, Enugu-Nigeria

The German Leprosy Relief Association (GLRA) supports leprosy control services in 14 states in the south-east and south-west of Nigeria. About one third of Nigeria's population of 120 million live in this area. As the backlog of leprosy cases requiring treatment declines, the GLRA has increased the profile of social and economic rehabilitation of persons affected by leprosy. In the new spirit of partnership with persons affected by leprosy, the GLRA in Nigeria has adopted the motto: "nothing about you, without you". To operationalise the concept, a series of meetings and consultations was held with field officers and representatives of persons affected by leprosy. The consultation with persons affected by leprosy was the first of its kind in Nigeria. It was a most rewarding and revealing experience. Data on the focus groups and their recommendations are presented and discussed. The paper concludes on the following note: that most persons affected by leprosy are asking for a hand-up, not a hand-out. That main-stream socio-economic field is heavily tilted against persons affected by leprosy that 'affirmative action' is necessary to bridge the gaps and assist persons affected by leprosy in the 'normalisation' process. That ILEP in collaboration with IDEA International is best positioned to play 'advocate-extraordinaire' on behalf of the affected persons and to raise the considerable sums of money needed for effective and sustainable rehabilitation. That a world without 'LEPERS' is attainable in this century, long before a world without leprosy. That the pursuit of this goal is not a favour to persons affected by leprosy but a question of justice for all.

OSA 5

A STUDY ON THE SETTLEMENTS OF THE LEPROSY AFFECTED IN INDIA

C.S. Cheriyan; T. Jayaraj Devadas

India Co-ordinator, IDEA International. No.4, Gajapathy Street, Shenoy Nagar, Chennai-600 030

Introduction: As soon as IDEA's activities were established in India, an all embracing study covering more than three hundred self settlements of persons affected by HD was launched in India for the first time, to find out the occupational requirements of the inmates and to assess their living conditions, family setups and all about their lives. It was a massive study covering as many as nine endemic states in India.

Objectives:

1. To study the living conditions of the inmates in the settlements.
2. To study the occupational status of the inmates.
3. To find out the needs and requirements of the inmates.
4. To offer suitable remedial measures.

Operational Modalities: A detailed questionnaire was worked out and the settlements were visited by a team comprising of a health educator, social worker and a physio-technician. Exhaustive interviews were carried out to get the required data.

Conclusion: After the collection of the data, they were analyzed and a comprehensive relief package was worked out and the same was administered among the inmates at the behest of IDEIA in the various settlements spread out in different parts of the country which had helped to enhance their integration with the general public, dignity through self reliance and economic advancements through occupational gains.

PUC- SP, Cx Postal 1527, 18041-970 Sorocaba, São Paulo, Brasil

Pesquisa realizada para obtenção de título de doutorado analisa as concepções e práticas de controle social da hanseníase, mediante estudo das fontes documentais de domínio público na perspectiva da Psicologia Social. O processo de institucionalização da hanseníase é enfocado a partir da noção de campo científico de Pierre Bourdieu e dos conceitos e definições cristalizadas em produtos científicos como livros, revistas e índices bibliográficos. A perspectiva diacrônica aponta as transformações ocorridas ao longo dos anos: do paradigma da hereditariedade ao bacteriano e à imunogenética atual. A série histórica analisada (1879-2000) mostra que o discurso hegemônico, excluindo os discursos marginais, tratou a doença, não o doente, ao qual não deu voz. A institucionalização do campo da hanseníase ocorreu por movimento mais amplo da Medicina Social que objetivava a promoção da saúde mediante o controle dos doentes por meio de estratégias de governamentalidade. A especialização progressiva do campo da hanseníase reduziu as possibilidades de reflexão sobre a doença pela hegemonia discursiva.

OSA 6

ASSESSMENT OF DISABILITY, SOCIAL AND ECONOMIC SITUATIONS OF THE PEOPLE AFFECTED BY LEPROSY IN SHANDONG PROVINCE, PEOPLE'S REPUBLIC OF CHINA

Chen Shumin, Liu Diangchang, Liu Bing, Zhang Lin and Yu Xioulu

Shandong Provincial Institute of Dermatology and Venereology, 250022, Jinan, China

As the decline in prevalence of leprosy, social and economic rehabilitation (SER) has become a major priority in leprosy control programme in Shandong Province. In the preparative phase of a SER programme, a province-wide survey was conducted with a semi-structured questionnaire in order to provide policy makers and programme managers with some basic information on the disability, and social and economic situation of the people affected by leprosy. In this paper the results of the study for the people affected by leprosy living in the communities were presented

OSA 7

CONHECIMENTO CIENTÍFICO E CONTROLE SOCIAL: A INSTITUCIONALIZAÇÃO DO CAMPO DA HANSENÍASE (1897-2000)

Zoica Bakirtzief

OSA 8

DELAY IN PRESENTATION: IDENTIFYING CONTRIBUTING FACTORS USING BASIC QUALITATIVE METHODS

P.G. Nicholls, W.C.S. Smith

Department of Public Health, University of Aberdeen, UK

In leprosy, the variety of help-seeking actions in a great diversity of pathways by which individuals finally present and start treatment. Many of these contribute to delay and so increase the risk of disability.

To identify the factors contributing to delay requires an analysis of decision making relating to help-seeking actions. We adopted this approach, using a variety of qualitative methods in seven centres in three continents. We used semi-structured interviews and organised group activities with patients currently receiving MDT. We validated our findings through interviews with field staff, and with project managers, teachers, political leaders, religious leaders and practitioners in alternative medicine.

The presentation will contrast the relative importance of different causes of delay between centres and suggest ways in which these may be addressed. We will comment on the effectiveness of the methods used and their implication for skills and resources. A Handbook describing our field methods and case studies will be available at the Congress.

OSA 9

DELAY IN PRESENTATION -RESULTS F FIELD-WORK IN PARAGUAY

C. Wiens, P.G. Nicholls, and W.C.S. Smith.

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We used qualitative methods to explore the factors contributing to delay in presentation in Paraguay – semi-structured interviews with patients and others and free listing with staff.

Interviews with patients and focused on help-seeking actions. We asked staff to list the normal responses of patients to (1) the diagnosis of leprosy and (2) the need to inform the family members of the leprosy diagnosis.

Staff identified the most common responses to the leprosy diagnosis as denial, fear of rejection and punishment from God. In our second series of interviews (total 14) two young women had been excluded from school and had returned to treatment after a ten year break. One young woman had twice tried to commit suicide. One man said he had cried much at the diagnosis. An older woman asked several friends to pray for her as she felt suicidal.

Responses from staff to the need to inform family members of the leprosy diagnosis included concealment, giving a different diagnosis and fear of endangering children. In the first series of interviews 18 of 36 patients expressed fears. These included fear of the response of neighbors (9), fear of the response of the family (4) and fear for the impact on the family (3).

In our presentation we will expand these findings and discuss their contribution to delay in presentation.

OSA 10

DEVELOPMENT OF A SCALE TO MEASURE PARTICIPATION

Alison Anderson, Ulla-Britt Engelbrektsson, Ishwor Khawas, Sarah Kinsella-Bevan, Megan Grueber, Ramachandra Mutatkar, Zoica Bakirtzief, Wim van Brakel

INF-RELEASE, PO BOX 28, Pokhara, Nepal

Improvement in social participation should be an important outcome of interventions in socio-economic rehabilitation. Up to now, no standard, simple, measure of participation has been available for use in the context of Nepal and other leprosy-endemic countries. Different individuals visiting a client/patient see the situation differently, and simple comparison between people or measurement of change within a situation has been difficult. Given the increasing interest in and importance accorded to rehabilitation of people affected by leprosy worldwide, development

of an instrument to measure participation has become an urgent need.

Based on observed and spoken indicators of participation from observational studies, a scale is being developed to simplify and standardise measurement of participation (or restrictions in participation), particularly in the context of clients who previously had leprosy. The conceptual framework of the scale is based on the International Classification of Functioning, Disability and Health (ICF), WHO, 2001). 'Participation restrictions' are defined as "problems an individual may experience in involvement in life situation". The scale is intended primarily for use in assessment of socio-economic rehabilitation and therefore will emphasise domains of participation which reflect this aspect.

The scale is being designed, developed and tested according to standard principles for health measurement scale development. Items were generated and piloted in Nepal; the programme has since been extended to include six centres in India and two in Brazil, in an attempt to produce a culture free scale. The methodology used in design and a draft scale ready for psychometric testing will be presented.

OSA 11

DEVELOPMENT OF SOCIAL WELFARE AND REHABILITATION SYSTEM FOR LEPROSY PATIENTS IN LEPROSY COLONY, CHANTHABURI

Supharb Krussaeng B.Sc (Psychology)

Office of Communicable Diseases Control Region 3, Chonburi Province, Thailand

The author has conducted an evaluative research on development of social welfare and rehabilitation system for Leprosy patients in Phrangkayang Leprosy rehabilitating colony at Chanthaburi province.

The study was based on descriptive research and qualitative research using participatory observation, focal group discussion and in-depth interview. Overall findings revealed total 911 members comprising registered in-patients, unregistered in-patients and relatives. Problems of high deformity resulted in limitation and disadvantages for further development. Focus was made on development of social welfare and rehabilitation system which were facilitated by intersectoral collaboration such as establishment of water resources, vocational promoting funds, guidance and support on agricultural promotion, health care, etc.. These result in better mutual cooperation and formation of self-help groups which promote interactive self-reliance and increase community participation. The author has made relating recommendation including better care of disable and old aged patients, protection of land invasion, restructuring of

leprosy colony into cooperative colony in order to be more independent and decrease financial burden of the government. These will lead to total elimination of Leprosy as public health and social problems.

OSA 12

DO NEEDS VARY AMONG PEOPLE WITH LEP-ROSY, PEOPLE WITH DISABILITY AND OTHERS FROM THE SAME RURAL AND URBAN AREAS?

Robert K. Das-Pattanayak, Wim H. van Brakel, Cornelius S. Walter

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Aim: To assess and compare observed and felt-needs among people affected by leprosy, people with disability and others living in the same rural and urban localities.

Methods: 14 slums in and around the leprosy control area of 'The Leprosy Mission' in Calcutta, and 20 nearby rural villages were selected for an in-depth survey. 1400 respondents were randomly selected from both rural and urban areas, including 400 with leprosy-related problems, 300 with other disabilities and 700 from the same rural and urban areas, but without leprosy-related problems or disability. The latter group consisted of people with no cultivable land, marginal farmers who own only a small piece of land and other slum-dwellers.

Results: Few significant differences were found between the three groups of respondents regarding some of the key indicators such as employment status and community facilities. They agreed about their fundamental needs, although the priority ranking was slightly different between the groups. Employment and income generating activities were most frequently cited as a first choice, whereas toilet facilities were the most common second choice. Basic amenities remain a major problem for the majority of our respondents in both villages and slums. Health care also ranked among the top five required services. Respondents showed interest in schemes that would require their direct involvement and own contributions.

Conclusion: No remarkable differences were found regarding observed or felt-needs between people affected by leprosy, disability or general poverty. Their needs appear to be determined by their socio-economic conditions rather than the differences in disability and disease status. The results show a desire for self-sufficiency among the respondents. Future programme activities should take this into account and programme staff should adopt a role of facilitator, rather than service provide

OSA 13

EXPERIENCES OF GENERAL PATIENTS ATTENDING GENERAL OPD IN GMLF'S LEP-ROSY REFERRAL HOSPITAL

Iayashree B.¹, M.S. Raju², V.V. Dongre³

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It is necessary to know the reactions of public towards the process of integration, where they need to take treatment along with leprosy patients. As such, 300 persons with general ailments but not afflicted by leprosy, attending General OPD started in GMLF leprosy referral hospital have been interviewed to understand their experiences and attitude towards attending the OPD.

The results show that the reasons for taking treatment from a clinic situated in leprosy hospital include several socio-economic factors. While, majority of the patients come to GOPD because, fee is less, few attended GOPD because it is near by. There are some patients who attended because they don't know that it is a leprosy hospital and some have adequate knowledge about leprosy and attend GOPD with scientific conviction. Patients with different complaints of minor nature only attended the GOPD. Majority came voluntarily and the remaining were motivated through friends and the Social Worker appointed by the GOPD, who visited the field to create awareness. Majority of the patients were satisfied with the medicine and the cost. As a result repeated attendance is observed.

¹P.M.W.

²Project Officer

³Director,

OSA 14

GENTE PREVENINDO GENTE

Rosarina de F. Sampaio da Silva

Presidente da Associação das Prostitutas do Ceará

Atualmente a Hanseníase faz parte do conteúdo programático das oficinas da Associação das Prostitutas do Ceará (APROCE). Voluntários do MORHAN junto com nossa equipe de educadoras sociais, estão participando de treinamentos em conjunto. Até o momento, nossas programações incluíam apenas DST e AIDS. Com a hanseníase, discutimos o que é a doença, como identificar a doença e esclarecimentos sobre a importância do tratamento para a cura definitiva. Após 15 oficinas realizadas percebemos que as profissionais do sexo tem demonstrado muito interesse pelo novo tema. Todas as 300 profissionais do sexo que participaram das oficinas pediram que fos-

sem realizadas outras oficinas e mais de 80% demonstraram terem assimilado como suspeitar da doença. Cientes da presença de um significativo número de casos da doença em nossa cidade e com a experiência na prevenção das DST/AIDS há alguns anos, queremos também colaborar a diminuir o preconceito que tanto atrapalha a identificação, tratamento e cura da Hanseníase. Unindo as forças de todos um dia a Hanseníase será coisa do passado. Outros resultados serão apresentados

OSA 15

HOW THE NUMB FEET SYMPTOM IS SEEN BY THE LEPROSY SUFFERERS

Sônia Marília Matsuda Lessa; Diltor Vladimir Opro-molla; Fernando Lefèvre

Universidade de São Paulo – Faculdade de Saúde Pública

Instituto Lauro de Souza Lima

Universidade de São Paulo – Faculdade de Saúde Pública

This study explores the relationship between leprosy sufferers and what perception they have of the numb feet symptom and how much they know and do about the resources available in order to prevent and cure plantar ulcers. Three different opinions have resulted from this research. The first group saw their feet as being normal, the second said their feet were kind of dead and the third one thought they were vulnerable. The first two ways of perceiving the problem are cause for concern since they don't raise the appropriate awareness about the risk factor and adequate self-treatment practices. However, the image of vulnerability the third group has can be positive because it can prevent the onset and aggravation of the ulceration process, although the existence of both external and internal factors make it difficult for some to adopt and carry out care practices at home, on a day to day basis. It has been concluded from this research that health orientation, health education and the availability of accurate information about the disease, alongside awareness about how to take care of their own bodies could play an invaluable part on the prevention and cure of plantar ulcer. Furthermore, a good relationship between patients and health workers as well as psico-social help to patients, and to their relatives, are the basic requirements for the quick identification and overcoming of the disease, helping to improve the patient's trust on the treatment and leading to a better understanding of the necessity for the continuity of treatment at home.

[Key words] Leprosy, numb feet, self-treatment and plantar ulcer.

OSA 16

IMPACT OF SOCIO-ECONOMIC REHABILITATION INTERVENTIONS FOR 25 YEARS- AN ANALYSIS

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German Leprosy Relief Association Rehabilitation Fund (GLRA-RF) was instituted in 1974 at Chennai, India to promote socio economic rehabilitation of those displaced leprosy affected persons by offering the following services such as financial assistance for self employment and micro enterprises, Housing programmes, Referrals for Training cum career guidance, Placement services, Educational sponsorships, Supply of mobility aids and appliances, Empowerment through 'Resource Link' a quarterly circular and Networking and lobbying.

The services of GLRA-RF were carried out through 52 Non Governmental Organisations situated in 11 States in India. During the period of 25 years an amount of Rs.5,914,274 was advanced by GLRA-RF and an amount of Rs.4,591 714 was mobilised through banks as loans towards self employment scheme to help 7401 leprosy affected persons needing economic assistance. The housing scheme benefited 1055 persons affected by leprosy. Through training and job placements, 6502 persons were benefited. One of the encouraging results of the loan scheme as part of the economic reinstatement is the high rate of repayment. Micro enterprises were started out of the self help groups so that the efficiency of individuals are pooled together.

After analysing the response of the beneficiaries it is revealed that the rehabilitation interventions have enhanced their normalization process of the individuals

OSA 17

IMPORTANCE OF IMPLEMENTING PUBLIC RELATION TECHNIQUES IN RESOURCE MOBILIZATION AND IMAGE BUILDING OF NGO WORKING FOR LEPROSY ELIMINATION

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By every passing year, scene in the field of leprosy is changing quite rapidly, from medical point of view, Leprosy has become a curable disease and it is quite possible that many of the states in India will declare themselves as a leprosy free state in near future.

However reality indicates that although to a great extent, it may be true but lot of ground is yet to be covered to eliminate leprosy in its true sense, and as a result of this it is quite important to have more and more programs for elimination of leprosy by involving people's active participation.

It is well known fact that no program can be effectively implemented without availability of sufficient funds and other resources which can be made available by pursuing people to contribute for the cause.

It is understood that there are nearly 200 N.G.O.'s engaged in anti-leprosy programs in India but it is also a very alarming fact that only a very few of them are really in a position to carry out their routine functions in a perfect manner while others are facing a very serious financial crisis.

To overcome this serious problems it is absolutely necessary to apply the practices of good public relations in the working of every non-governmental organization to improve its local funding source by doing good work and also projecting it before the society with the help of print and electronic media. While working in the field of leprosy for the last 11 years I have observed that in India many organizations are doing a commendable work, however they are not very serious about image building activity which can help them to solve many of their important problems like resource, human resource, peoples' co-operation and so on.

OSA 18

LEPROSY IN CARIOCA CONTEXT: PATIENTS EXPERIENCES IN RIO DE JANEIRO, BRAZIL

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Leprosy continues to be a problem throughout Brazil. High incidence and prevalence rates of leprosy can be found in neighborhoods of the North Zone (Zona Norte) of Rio de Janeiro and of the Baixada Fluminense, the lowland floodplain outside of Rio. For 11 months in 1998-1999, I interviewed patients at public health posts and hospitals in Rio de Janeiro about their experiences with leprosy and leprosy treatment. I attempted to identify elements of national and local culture that might shape or construct these experiences. I also examined problems that patients experienced within their socioeconomic and cultural milieu. Patient narratives revealed that gender, occupation, religious beliefs, living conditions, concepts of the body, and folk models of leprosy all contributed to how this disease was experienced by patients.

OSA 19

LEPROSY VILLAGE/LEPROSARIA IN SHANDONG PROVINCE — PAST, PRESENT AND IN FUTURE

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In the late phase of the leprosy control programme in Shandong Province, there are a few old and disabled ex-patients affected by leprosy in the 54 leprosy villages/leprosaria. This makes the running of these leprosy villages/leprosaria more costly. In this paper, we reviewed the history and the role of leprosy village/leprosarium in the care of leprosy patients and in the leprosy control programme in Shandong province, the People's Republic of China. And then we analyzed the present situation of leprosy-affected people living in these leprosy villages/leprosaria, using the information collected from a questionnaire-based survey. Finally, we made some suggestions and recommendations for policy makers concerned and leprosy control managers, in order to improve the present situation and better use of existing resources

OSA 20

O ESTIGMA NA REALIDADE INTRAFAMILIAR DO ADOLESCENTES COM HANSENÍASE

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Objetivou-se como o estigma se expressa na realidade intrafamiliar do adolescente portador de hanseníase, com incapacidade física, manchas visíveis, hiperpigmentação pelos efeitos colaterais da clofazimina e suas reações desde o diagnóstico até a alta. A pesquisa foi realizada no Centro de Saúde D. Libânia - Fortaleza – Ceará. Entrevistaram-se 22 adolescentes de 13 a 21 anos. Os procedimentos envolveram entrevistas, grupos de encontro e consulta aos prontuários. Referencial Teórico usado – Modelo de Kübler-Ross (1920). Percebeu-se a presença do estigma subjetivo e intrafamiliar centrado em alguns familiares; estigma social em parentes/contra-parentes, vizinhança e escola. Cinco dos entrevistados apresentaram idéia de suicídio, abandonaram estudos e emprego. Das falas emergiram 3 eixos temáticos com temas e sub-temas: HANSENÍASE E SEUS SIGNOS (manchas e neurites: abominação do corpo, vergonha, deterioração da auto-imagem, estigma subjetivo), HANSENÍASE: REAÇÕES PÓS-DIAGNÓSTICO (Reação dos ado-

lescentes: estágios de Kübler-Ross negação, raiva, isolamento, depressão, barganha e aceitação, Reação dos conviventes: apoio, proibições, estigma familiar; Reação do Grupo social: estigma social); HANSENÍASE: ESPACIALIDADE E TEMPORALIDADE (processo de diagnóstico – tratamento – expectativa de alta, alta) Conclui-se que os adolescentes necessitam de suporte psico-sócio-sanitário para enfrentar a doença em todas as manifestações e aderir ao tratamento para evitar a emergência e incapacidade físicas, o que pode afastá-lo da convivência social, da escola e do trabalho. Sugere-se formar grupos de auto-ajuda, promoção da auto-estima, combate aos estágio depressivos que possam levar ao abandono do tratamento e depreciação da imagem corporal.

OSA 21

O IMAGINÁRIO RELIGIOSO DE PACIENTES DE HANSENÍASE

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O foco da pesquisa são as relações entre a religiosidade do paciente portador de hanseníase com o processo saúde-doença. Como a hanseníase ainda se vê mesclada dos preconceitos e medos em torno da “lepra”, estigmatizada desde os tempos bíblicos, este estudo tem por finalidade compreender as características destas relações a partir do mundo vivenciado pelos hansenianos, tanto pelos que tiveram este mundo limitado pelas instituições asilares da primeira metade do século XX quanto pelos hansenianos que são hoje tratados pela terapêutica vigente. Elaboramos dez entrevistas semi-estruturadas, cinco com ex-internos e cinco com atuais hansenianos, além de cinco questionários com profissionais que atendem portadores de hanseníase sobre as influências da religião no tratamento dos pacientes. Observamos que a religião possui diversos papéis diante da situação de doença de acordo com a história que o indivíduo traça. Os ex-internos freqüentavam a religião institucionalizada imposta pela gerência asilar, ao mesmo tempo em que exerciam sua religiosidade mais particular diante das questões próprias da doença e do mundo em que viviam, mesmo este confinado pela instituição total. Os atuais hansenianos sentem o peso do estigma da hanseníase na impossibilidade de comentar a doença ao grupo religioso ao qual pertencem, salvo os casos onde houve a necessidade de esclarecê-la aos membros do grupo. A religião pode tanto dar respostas ou servir de refúgio, fornecer meios de enfrentamento ou mudar os hábitos. Os profissionais de saúde assinalaram a confiança na reabilitação e ajuda da comunidade religiosa como aspectos positivos da religião e o abandono do tratamento e a culpa como aspectos negativos.

OSA 22

O SIMBOLISMO DA HANSENÍASE NA VIDA DAQUELES QUE A VIVENCIAM

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A Hanseníase é uma doença milenar carregada de estigma e preconceitos desde os mais remotos tempos. O presente trabalho teve como objetivo desvelar quais as repercussões e o simbolismo desta doença na vida daqueles que a vivenciam, utilizando para tal, uma abordagem qualitativa fundamentada na fenomenologia. Participaram do estudo seis pessoas com a doença Hanseníase em idade compreendida entre 57 e 75 anos, de ambos os sexos, moradores no Hospital Colônia Itapoã na cidade de Viamão, antigo centro para internação e tratamento da doença de Hansen, no Estado do Rio Grande do Sul, Brasil. O instrumento utilizado foi a entrevista semi-estruturada com uma questão norteadora central: “Qual o significado da Hanseníase na sua trajetória de vida?”. A entrevista gravada foi posteriormente transcrita para a aplicação do método fenomenológico. A análise dos dados revelou os sentimentos e experiências destas pessoas em relação a Hanseníase como sendo um processo de crescimento pessoal muito importante em suas vidas. Dentre os relatos, destacou-se o sofrimento pelo afastamento das pessoas devido ao medo do contágio, porém, muita força e luta marcaram a superação da doença

OSA 23

O SUJEITO E A HANSENÍASE

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Afinal, quem é o sujeito portador do mal de Hansen? Ele é um sujeito, sr. ou sra, fulano de tal, ou é um hanseniano? A questão que pretendo polemizar, se é que isso é possível, é: - qual é o estatuto de sujeito assujeitado ao mal de Hansen? Quando ouço dizer sobre “analisar o perfil” ou fazer um “estudo sobre a personalidade” dos hansenianos percebo aí uma visão comportamentalista e unilateral desse sujeito. A patologia passa então a defini-lo, dando-lhe uma condição única de existência: um SER de hanseníase. E tudo passa a girar em torno desse mal avassalador (avassalador). Tenho observado em alguns casos que há um histórico, anterior ao diagnóstico, de alguma dor emocional, decepção ou raiva, que fez apresentar

os sintomas que, posteriormente, foram identificados com hanseníase. Os pacientes reagem contra esse mal como se precisassem atacar o inimigo, e na maioria das vezes sentem-se impotentes diante de tanta crueldade que esse mal causa. É como se o mal de Hansen encarnasse uma entidade mobilizadora que sugasse, que ceifasse a existência deles, roubando-lhes até mesmo a dignidade. Raiva, dor e hanseníase passam a ser sinônimos para dizer o quanto a vida é injusta, o quanto são desgraçados (e o são!) e o quanto a vida lhes deve. Sentem dó de si mesmos e se vitimizam do próprio sintoma, acontecendo o que Freud chamou "ganho secundário".

OSA 24

PARTICIPATION RESTRICTION: A QUALITATIVE STUDY OF INTEGRATED AND VERTICAL APPROACHES TO LEPROSY.

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Background: Integration of leprosy into the general health system is very much emphasized by health care planners. One prime reason stated for this is to reduce participation restrictions that are attached to this disease. This study was conducted in India, to compare the level of participation restriction towards leprosy in communities with a vertical and an integrated programme.

Methods: The data were collected in three areas of five villages each. The first two areas were in an integrated programme to test for internal consistency and the third in a vertical programme. All the leprosy patients with visible deformities in these villages were enrolled in the study, and an in-depth participation restriction measurement scale was administered. In addition, focus group discussions (FGD) were conducted among the family members of leprosy patients and participative rural appraisal (PRA) was done in the communities. The data were analysed using qualitative methods.

Results: A total of 24 leprosy patients with visible deformities participated in the in-depth participation restriction measurement exercise from 15 villages. 15 FGDs were conducted with families of leprosy patients and an equal number of PRAs with communities were done. The results show that participation restriction was virtually non-existent among the communities with the integrated approach and minimally experienced by leprosy patients in this model. However, a high level of self-stigmatization among leprosy patients was observed in the vertical approach and equally a high level of participation restriction was found in their communities, which led to reduced interaction between the leprosy patients

and their communities. This presentation also discusses the integrated community based - primary health care adopted in the study villages.

OSA 25

PSYCHIATRIC MORBIDITY AMONG LEPROSY PATIENTS IN NEPAL

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Aim: To assess the psychiatric and social problems caused by the stigma associated with leprosy, and to measure the extent of these problems.

Methods: In 1991, more than 400 Nepali leprosy patients were interviewed using a WHO self-reporting questionnaire (SRQ20), designed to detect non-psychotic disorders. The questionnaire was supplemented with questions about the patient's family and social situation. The same questionnaire was used in interviews with 150 leprosy patients in 2000/01. In addition, 166 non-leprosy affected people were interviewed to assess the levels of psychiatric stress in the local population.

Results: Psychiatric morbidity in this assessment is indicated by a score of greater than 11 of 20 in the SRQ20. The 1991 data showed a low but significant level of mental health problems among leprosy patients, and identified significant factors predisposing to psychiatric 'stress'. Our results indicate an increase in the psychiatric morbidity among leprosy patients in the 10-year period between the assessments using the SRQ20, from 16% (67/411) in 1991 to 31% (46/146) in 2001. Interestingly, non-leprosy affected individuals assessed on our study also appeared prone to high levels of psychological stress, as indicated by their scoring highly in the SRQ20.

Conclusions: While the perceived 'curability' of leprosy and the decline in deformity undoubtedly improved individual and social acceptance of the disease, leprosy patients remain vulnerable to psychiatric morbidity and depression

OSA 26

REHABILITATION IN THE EYES OF INSTITUTIONALISED LEPROSY PATIENTS

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There are thousands of leprosy patients staying in colony today and new patients are also coming to the

colony for their rehabilitation. This fact is disturbing in connection with the community-based rehabilitation of leprosy patients.

In this direction a study is undertaken to know the opinion of Institutionalized leprosy patients in nine Districts of Vidarbha Maharashtra India. A data is collected from 175 Institutionalized leprosy patients and analyzed. In this study, the knowledge of leprosy patients their experiences in the families and with society, the reasons for their rehabilitation from normal social environment, their opinion about their rehabilitation their educational economical and own status in the family and Society etc. such factors are studied in detail

However, it is also found that not only old or deformed patients are settled in colony but the patients with no visible deformities are also coming today in colony for stay and this is disturbing. It is also found that qualified patients have more psychological problems and today on the verge of elimination the patients are facing familial social physical economical psychological and medical problems. These patients have no hope about their acceptance in the family and society as one of them and don't believe that the concept of community-based rehabilitation will be seen in reality in future completely

OSA 27

SELF HELP GROUPS OF PEOPLE WITH DISABILITIES IN NEPAL- AN EVALUATION

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Partnership For Rehabilitation is a socio-economic rehabilitation programme of the International Nepal Fellowship, based in Pokhara, Nepal. The programme has been working with people affected by leprosy for over 20 years. In 1997, PFR started to establish self-help groups of people with disabilities with dual aims of the improvement of the economic status of the members and improvement in social participation. Most group members were affected by leprosy, but people with other disabilities were also included. The format of the self-help groups was based on UN ESCAP guidelines [1991], and included the principles of a comprehensive model of disability and methods of introducing micro credit schemes. However, the functioning of each group has varied in response to priorities set by the group members.

The first three groups set up in three communities of western Nepal have completed four years of operation and the outcome of the initiative has been evaluated.

The evaluation had two parallel aims:

- 1) To evaluate progress against the objectives set by PFR prior to group establishment.
- 2) To assess the current ability of disabled people, their families and communities to include people with disabilities into the communities represented by the self-help groups.

The results of the evaluation, which uses qualitative participatory techniques including focus group discussions and individual interviews with group members and community leaders, will be presented.

OSA 28

SOCIETY'S ATTITUDE TOWARDS REHABILITATION OF LEPROSY AFFLICTED AFTER 2000 A.D.

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In connection with leprosy programme, India is trying to achieve the goal of elimination of leprosy in the country. In coming years the case load may be reduced but as long as leprosy is there leprosy afflicted persons may have to face social problems. Therefore, it is the real difficult task to change the attitude of the society in general towards leprosy afflicted. In this direction a study is undertaken and data is collected from various personalities having different qualification status, age group and occupations. A questionnaire was designed and information about their knowledge, attitude towards acceptance of the patients, their involvement in social and religious programmes, their rehabilitation etc. is collected. The data is tabulated and analysed.

It is observed that there are still 35% people who have shown negative attitude. They have shown their inability to accept the material prepared by leprosy afflicted and 15% have suggested to keep leprosy patients away from normal social environment.

It is most surprising to receive such opinions from general public on the verge of elimination of leprosy, which are indicating to have need of continuous and consistent efforts on health educational programmes especially for many years in future.

TEACHING & TRAINING—ORAL

OT&T 1

A ATUAÇÃO DO PRECEPTOR DE ENFERMAGEM DO PSF/SOBRAL NO PROCESSO DE DESCENTRALIZAÇÃO DAS AÇÕES BÁSICAS EM HANSENÍASE.

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Secretaria de Desenvolvimento Social e Saúde de Sobral.

A atuação da preceptoria de enfermagem do PSF de Sobral, iniciou-se no processo de descentralização das ações básicas de hanseníase, para as 35 equipes do Programa Saúde da Família em 25 unidades, por acreditar que um dos fatores que impede a eliminação a eliminação da hanseníase é a dificuldade de acesso às pessoas doentes e profissionais capazes de realizarem o manejo dos casos.

Em agosto de 1999, iniciou-se o processo de descentralização da atenção às pessoas atingidas pela hanseníase para os Centros de Saúde da Família de Sobral, município, com uma prevalência de 11,9, alta endemicidade.

Na efetivação da descentralização da atenção básica aos casos de MH, as seguintes iniciativas foram tomadas pela preceptoria de Enfermagem: 1) a análise do banco de dados do SINAN, com distribuição dos 285 casos ativos por área de residência e vinculação com o Centro de Saúde da Família (CSF); 2) organização de livros de registro de casos por CSF; 3) entrega dos prontuários individuais por área de residência e vinculação a cada CSF; 4) acompanhamento semanal do atendimento aos casos em conjunto com a equipe do PSF através da preceptoria de enfermagem da RSF; 5) realização do I Encontro de Usuários e trabalhadores para eliminação da Hanseníase.

Como atividades de suporte para a descentralização e preceptoria, foram realizados treinamentos para capacitação das equipes- PSF, mobilização social c/ resadeiras e benzedoras, I encontro de usuários e trabalhadores e a criação do núcleo do MORHAN.

Como resultado observamos uma queda na taxa de abandono ao tratamento e aumento na proporção de casos detectados pelas equipes do PSF, envolvimento de familiares e comunidade com a preocupação de eliminar hanseníase de suas respectivas áreas.

OT&T 2

ALERT's ORGANIZATIONAL CHANGE! WILL IT SUSTAIN INTERNATIONAL TRAINING FUNCTIONS?

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All Africa leprosy, tuberculosis and rehabilitation training centre [ALERT] started its activities in 1965 in Princess Zenebework's Hospital in an old leprosy settlement from the beginning of 20th century at Addis Ababa, Ethiopia. ALERT constituted three major divisions: training division, leprosy and tuberculosis control division, and the hospital division. The TBL control division was taken over by the government and the control programme was integrated into the general health service. At present the International training division is being changed into a 5 years project. The purpose of this study is to have a holistic view of the organizational change and its impact with an aim of sustaining the international training functions. All available information was collected and analyzed from the board meeting minutes, annual reports, annual budget financial returns and annual training brochures. The changes made in the organizational goals, structure, responsibilities, authorities, the process of organizational change and the probabilities of sustaining the organization's international training functions will be discussed.

OT&T 3

ANALYSIS EFFECTS OF INTEGRATIVE TRAINING PROJECT OF LEPROSY CONTROL AND COMMUNITY CONTROL

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Objective: To analysis effects of leprosy control and community control training in Gansu, Qinghai, Shanxi, Xinjiang Province, which have subsidized

from Holland Leprosy Association in recent years, discuss new mode fitted for stability development of Chinses leprosy control in low epidemiological phase.

Method: The information come from Leprosy Control Association of China's work summary and training acceptance report 1 year later which have executed Integrative training of leprosy control and community control in Hanzhong prefecture of Shanxi, Gannan prefecture of Gansu, Yushu and Tongren prefecture of Qinhai, Hetian prefecture of Xinjiang from 1999 to 2000, more 2000 members of common medicine staff which receive integrative training project in three step sanitation control net from county, town, burg, which grasp knowledge of leprosy control and make use of practical work and carry through leprosy control in these regions, will go on synthesis analysis.

Results: The training staff have already achieved average 80 score in elemental knowledge of leprosy control via intensive training a day (The intensive training is average 30 to 40 score ago).

Conclusion: At present, our country have already been better sane medical sanitation control net of community, the many leprosy patients have still been mistaken and leaked diagnosed, the disabilities rate of leprosy in newly detected cases is still high from 20 to 40%, which shows many medicine staff in grass-root control net can not quite understand control knowledge of leprosy. We should make the best of medical staff's role in three step of control net, and strengthen popularity knowledge of science in community group, should be possible to diminish mistaken and leaked diagnosis rate. Early detect, diagnosis, treatment of leprosy will conduce control infection and prevention disabilities. Meanwhile, we are possible to eliminate terrible and prejudice of community group to leprosy patients, and will mobilize everyone taking active part in caring action of leprosy patients.

[Key words] leprosy control and community control; training; effects analysis.

OT&T 4

CAPACITY BUILDING OF GENERAL HEALTH CARE FUNCTIONARIES IN LEPROSY-AN ENTRY POINT FOR ELIMINATION.

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Tamil Nadu, India and Mahmood. K. Dr., State Leprosy Officer, Tamil Nadu

Integration of leprosy services with General Health Care (GHC) system is the only alternative to provide comprehensive medical services under one roof and to eliminate leprosy. For realizing this objective, the

GHC functionaries have to be fully trained to have adequate skills in-

diagnosis of leprosy and classification, treating a case with adequate Multi Drug Therapy (MDT) regimen, managing complications, stocking of adequate drugs, giving information to people on simple facts about leprosy, educating patients on regularity of treatment and sensitizing and involving community members, local volunteers, special groups and leaders in all leprosy elimination efforts, monitoring the programme through simple patient card, treatment register with simplified reporting system.

With a remarkable decline in Prevalence rate from 118/10,000 (1983) to 7/10,000 (1997),

Tamil Nadu State integrated leprosy with general health care system.

In order to equip the GHC functionaries at various levels a core group was formed at the state level with clear terms of reference to work on. They are assigned with the following tasks: to define the job responsibilities of various staff, to design curriculum for different functionaries as per job responsibilities, to develop training support materials for various categories. The outcome of the core group was very productive.

Cascade method of training was followed to cover the entire state in a short period. Functionaries from district down to the periphery were trained as per the time frame.

This paper highlights the training methodology, number of personnel trained, duration of training, contents, training methods and media and the training outcome.

OT&T 5

LEPROSY TRAINING IN THE CHANGING SCENARIO

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The changing scenario has created a need for reorganisation of the existing training programmes in leprosy and also introducing new training courses according to the need of the situation. Seventyfive persons belonging to various categories such as, experts, programme managers, field workers in leprosy including general health staff responded through a mailed questionnaire and also through personal interviews. We intend to analyse their opinions in this paper regarding the training needs, duration of training, contents and syllabi and such other factors to impart systematic and effective training to various categories of workers for successful integration of leprosy work with general health services.

OT&T 6

REVIEW OF KNOWLEDGE AND SKILLS OF TRAINED HEALTH WORKERS IN THE CENTRAL REGION OF NEPAL

Madan Ghimire, Jonathan Quimpo; Gopal Pokhrel, Uddhav Raj Pant, Ram Babu Bista, Kapil Dev Neupane and Rewati Timilsina.

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The Leprosy Mission-Nepal provides training to Basic Health Services (BHS) staff of Nepal's Central Region (CR) using a standard curriculum-based course (CLT-B) and a refresher (CLT-R). A systematic post-training evaluation using a standardised checklist was used from July 2000.

Aim: To assess the levels of post-training core knowledge and skills of BHS staff trained at the Training Centre at Anandaban Leprosy Hospital.

Methods: A post-training evaluation was done in selected Central Region districts, using the same standardized post-training checklist, enrolling a total of 150 staff. Knowledge was assessed by interview and skills by demonstration of procedures. Analysis was done using Epi Info 2000.

Results: Knowledge and skills were correlated with 3 variables: (a) years interval between training and evaluation (1 - 8 yrs); (b) whether they dealt directly with patients post-training (DP+) or not (DP-); and, (c) whether they had CLT-R (R+) or not (R-). Results suggest a decrease in knowledge and skills as the time interval widened (knowledge: 1 yr. (A)= 50% to 8 yrs (H)= 14.3% ($p= 0.53$)); skills: A= 20% to H= 7% ($p= 0.38$)). Those dealing with patients appeared to do better (knowledge DP+= 38%, DP-= 20% ($p= 0.13$); skills: DP+= 17%, DP-= 3% ($p= 0.32$)). Those who had CLT-R appeared to do better (knowledge: R+=

47%, R-= 30% ($p= 0.18$); skills: R+= 12%, R-= 4% ($p= 0.12$)).

Conclusions: This study will help in the planning of future courses, with particular attention to the need, content, timing of refreshers, and the qualifications of participants for each course batch

OT&T 7

TRAINING IN CHANGING CIRCUMSTANCES:

S.A.R. Krishnan

All Africa Leprosy, Tuberculosis and Rehabilitation Centre, ALERT, P.O.Box 165, Addis Ababa, Ethiopia.

All Africa Leprosy Tuberculosis and Rehabilitation Training Centre (ALERT) initiated Leprosy teaching and training during the early 70's to develop manpower to fight against Leprosy in Africa and the rest of endemic countries in the world. Since then many changes in training have taken place at ALERT.

The aim of this study on "Training in changing circumstances" is to observe changes, made in various training related issues by using Alert's annual international training calendar from 1991 till date, statistics on International and National trainee weeks, changes made in training programmes which were offered by ALERT in the past and to plan future training.

The results of the study shows significant changes made in international and national courses, increased the number of trainees weeks in all structured international courses, gradual decrease in all international in service training programmes and a very significant increase of participants in national courses etc. The study relates the present institutional changes in order to challenge and take advantage of the changing circumstances and to improve the international training within and outside ALERT

TREATMENT

OT 1

A COMPARISON OF 12 AND 24-MONTH MDT/WHO REGIMENS WITH MULTIBACILLARY LEPROSY PATIENTS

Sales, A.M.; Sabroza, P.C.; Nery, J.A.C.; Duppre, N.C.; Fialho, M.B.; Gallo, M.E.N.; Sarno, E.N.

Leprosy Laboratory, Oswaldo Cruz Foundation, Rio de Janeiro, R. J., Brazil.

Introduction: The adoption as of 1982 of a standard, fixed-duration, multidrug therapy regimen under the

recommendation of the World Health Organization (MDT/WHO) requiring 24 consecutive monthly doses of MDT followed by patient discharge regardless of Bacteriologic Index (BI) was a landmark step in controlling leprosy worldwide. Over time, however, it was seen that duration of treatment proved to be an obstacle for the public health care sector. Short treatment regimens allow for easier patient compliance and, perhaps even more importantly, facilitate the implementation and sustainability of national leprosy programs. Based on a growing body of evidence, in 1998, WHO recommended that MDT be

OT&T 6

REVIEW OF KNOWLEDGE AND SKILLS OF TRAINED HEALTH WORKERS IN THE CENTRAL REGION OF NEPAL

Madan Ghimire, Jonathan Quimpo; Gopal Pokhrel, Uddhav Raj Pant, Ram Babu Bista, Kapil Dev Neupane and Rewati Timilsina.

Anandaban Leprosy Hospital, PO Box 151, Kathmandu, NEPAL. E-mail: anandaban@mail.com.np

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reduced for multibacillary (MB) leprosy patients to 12 instead of 24 monthly doses.

Objective: To ascertain and compare the bacillary load, grade of disability, and frequency of reactions of a group of MB patients who received 12 monthly doses of MDT to a group who received the full 24-dose regimen and compare both at both the end of one year and the end of two years.

Material and Methods: 213 MB patients who began MDT between 1995 and 2000 were evaluated. Eighty-five patients received the full 24-dose regimen while 128 received treatment for 12 months. The latter group was then examined at the end of the following year. All patients were submitted to clinical and dermatological examinations at the beginning of treatment and at the end of the 12 and 24-month periods, at which time grade of disability and BI were also determined.

Results: At the end of 24 months, the rate of BI decline was almost identical for both groups. Moreover, reactional episode frequency was not significantly different between the two groups.

Conclusion: A reduction in treatment from 24 to 12 monthly doses of MDT did not prejudice BI status in that it similarly declined in both groups of MB patients, and the frequency rate of reactional episodes remained stable.

OT 2

ANTILEPROSY ACTIVITY OF SOME DERIVATIVES OF DITHIOCARBAMATE

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Despite effective antileprosy drugs available and success of multidrug therapy, searches for new drugs with potent antimycobacterial activity remain to be continued. In mice, experimentally infected with *M. leprae* according to Shepard's method, compounds belonging to a group of dithiocarbamates were investigated for their antileprosy activity. Untreated animals were taken as controls, and DDS as a drug of comparison. Test compounds were introduced per os via probe at doses of 10 and 30 mg/kg five times a week. Mice were sacrificed in 7.5 months after inoculation. *M. leprae* counts in soft tissues of foot pads (C.C. Shepard, D.H. McRae, 1968) were $(3.91 \pm 0.33) \times 10^5$ in control animals, $(0.27 \pm 0.07) \times 10^5$ in mice taken dapsone at 10 mg/kg and $(0.22 \pm 0.04) \times 10^5$ in mice received 30 mg/kg, the difference being statistically significant ($p < 0.01$). Amount of *M. leprae* in soft tissues of foot pads from animals received compound 1 10026127 at a dose of 10 mg/kg equaled $(0.56 \pm 0.11) \times 10^5$. With 3-fold increase of the dose of

the compound average number of mycobacterial cells decrease ten times, and mycobacterial population counted $(0.06 \pm 0.01) \times 10^5$ ($P < 0.01$). In mice administered compound 1 10026068 at a dose of 10 mg/kg the number of *M. leprae* was significantly less than in control animals $(0.83 \pm 0.15) \times 10^5$ ($p < 0.01$) but higher than in animals introduced dapsone and compound 1 10026127. Three times increase of the dose did not result in decrease of *M. leprae* amount at the site of inoculation $(0.77 \pm 0.1) \times 10^5$. Average number of mycobacteria in foot pads of mice received compound 1 9926126 at a dose of 10 mg/kg was $(2.13 \pm 0.28) \times 10^5$ and at a dose of 30 mg/kg – $(1.83 \pm 0.2) \times 10^5$, being significantly less than in control group ($p < 0.01$) but more than in animals received other compounds and dapsone. Thus, the data obtained suggest good prospects of further study of the above compound for antileprosy activity. Among test compounds belonging to dithiocarbamates 110026127 showed the highest activity to inhibit mycobacterial growth.

OT 3

AVALIAÇÃO DA SEGURANÇA, EFICÁCIA E COMPARAÇÃO DE DOSES DE TALIDOMIDA, ADMINISTRADA POR DUAS SEMANAS NO TRATAMENTO DO ERITEMA NODOSO DA HANSENÍASE (ENH)

Gerson Oliveira Penna: Celina M.T. Martelli; Mariane Stefani and Vanize de Oliveira Macedo

Universidade de Brasília em parceria com a Universidade Federal de Goiás com apoio da Celgene Corporation

Os autores apresentarão e discutirão o protocolo da investigação, aprovado pelo Comitê Nacional de Ética em Pesquisa (CONEP) do Ministério da Saúde, que está sendo desenvolvido em Goiânia e Manaus. Serão enfatizados na discussão os critérios de inclusão, de exclusão, as vantagens do uso da talidomida em detrimento dos corticosteróides, e sobretudo as perguntas que se buscam responder a partir desse protocolo.

OT 4

CLINICAL PROFILE OF PATIENTS EXHIBITING DRUG RESISTANCE TO MDT DRUGS

Geetha S. Rao, Gift Norman, Gigi J. Ebenezer, Sheela Daniel, P.S.S. Rao

Schieffelin Leprosy Research and Training Center, Karigiri, India

The multidrug therapy (MDT) recommended by the World Health Organization for the treatment of leprosy was designed to prevent emergence of drug resistance, while providing shortened and affordable

treatment required in developing countries. Emergence of drug resistant strains of *Mycobacterium leprae* could undermine current gains toward global elimination of leprosy. Twenty years after MDT has been in use, there is very little information on the profile of resistance to drugs used in the present MDT regimen. The Schieffelin Leprosy Research and Training Centre (SLRTC), Karigiri has carried out comprehensive leprosy control activities in an entire Taluk (Gudiyatham) since 1955. The institution has facilities to study drug resistance using mouse footpad inoculation (MFP). It receives skin specimens not only from the control area, but from other institutions as well. In a period 1988 - 1998, 122 biopsies from patients belonging to the control area were sent for drug resistance studies using MFP. Of the 122 biopsies 21 (17%) showed drug resistant strains. Of these, 10 (47.6%) were resistant to Dapsone alone and 2 (9.5%) were resistant to Clofazimine alone and 2 (9.5%) to Rifampicin alone. Five patients (23.8%) were resistant to both Dapsone and Clofazimine and 1 (4.8%) to Rifampicin and Clofazimine and 1 (4.8%) to Rifampicin and Dapsone. Of the 21 showing drug resistant strains, 9 (42.9%) exhibited primary drug resistance and 12 (57.1%) secondary resistant strains. The demographic information, treatment history and current clinical status of the above patients will be presented.

OT 5

COMBINED 12 MONTHS WHO MDT MB REGIMEN AND *MYCOBACTERIUM* w VACCINE IN MULTIBACILLARY LEPROSY: A FOLLOW UP OF 136 PATIENTS

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Multidrug therapy (MDT) was introduced in the treatment of leprosy in 1980s which lead to a significant change in leprosy scenario at the global level. The success with MDT administered to the MB patients has encouraged leprosy experts to shorten the regimen from 24 months to 12 months. One hundred and thirty six multibacillary patients having BI ≥ 2 treated with WHO MDT MBR (12 months) on regular follow up were included in the study. Clinical assessment and slit skin smears were carried out in all the patients. At the baseline 69% patients had BI of >3 . All patients were also given 4 doses of Mw vaccine at 3 monthly intervals. All patients showed excellent clinical response. A large proportion of patients, 39/42 (92.8%) with BI of ≤ 3 had become smear negative, whereas, only 10/36 (27.7%) patients with BI between 3.1- 4 and 5/58 (8.6%) highly bacillated patients having initial BI of > 4 had be-

come smear negative at the end of 2 years follow up. Thirty four percent of all reactional episodes and 27% of all nerve function impairments developed in the follow up period after stopping MDT. Relapse rate was 0.36/100 PYAR at 2 years and 1.38/100 PYAR at the end of 3 years follow up. All 4 relapses occurred in patients having initial BI of > 4 . All the relapsed patients responded to the retreatment with the same drug combination. Dapsone hypersensitivity, induced urticaria and flu like syndrome were noted in 5, 3 and 1 patients respectively. Although the results of this limited period follow up are satisfactory, a long term follow up in larger number of patients will settle the issue of safety and efficacy of shortened MDT MB regimen and the place of immunotherapy with Mw vaccine in multibacillary patients

OT 6

CYCLOSPORIN A (CYA) PHARMACOKINETICS IN ETHIOPIAN AND NEPALI PATIENTS WITH LEPROSY TYPE 1 REACTIONS (T1R).

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Background: Levels of cyclosporin A (CyA) show high inter-and intra-subject variability as a result of poor oral absorption and also its hepatic metabolism.

Genetic variation and the ability to metabolise CyA differently have been noted in some ethnic groups, but the pharmacokinetics of all ethnicities has not been elucidated.

Aims: To assess inter- and intra- subject variability. To assess the pharmacokinetics of CyA in leprosy Type 1 reaction (T1R) patients. To determine an appropriate dose of CyA to be used. To identify any ethnic variation.

Study: 10 Ethiopian and 10 Nepali patients with severe T1R were recruited. All patients were started on CyA (Indian generic formulation) at 5mg/kg/day. 2 mls blood was taken at intervals (0, 0.5, 1.0, 2.0 2.5, 3.0, 4.0, 5.0, 6.0, 8.0, 12 hours) after the first CyA dose.

Analysis: Concentration of CyA was assayed by liquid -chromatography tandem mass spectrometry. The maximum whole blood concentration (C_{max}) and time of its occurrence (t_{max}) was plotted graphically and the area under the curve (AUC) calculated.

Results: The cyclosporine C_{max} ranged between 328 and 1734 μ g/L, the t_{max} varied between 1 and 6 hours and the AUC between 1831 and 9704 μ g/L.h. The

mean C_{max} , 935 µg/L and AUC, 5000 µg/L.h, and median t_{max} , 2.5h, were similar to those seen in transplant patients at a dose of 5mg/kg. Although variability was high, again it was similar to that of transplant patients immediately following the first dose.

Conclusions: In this small number of Ethiopian and Nepali patients with leprosy TIR, cyclosporin pharmacokinetics are not markedly different from those seen in transplant patients.

OT 7

DAPSONE HYPERSENSITIVITY SYNDROME: SYSTEMATIC REVIEW OF DIAGNOSTIC CRITERIA

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The awareness of pharmacovigilance is increasing, even in undeveloped countries. In this context, the Dapsone Hypersensitivity Syndrome (DHS), an unusual but potentially serious side effect of dapsone (DDS) which is used in large scale for leprosy treatment, must be considered. Still, there is a consensus about the drug safety. In order to ascertain the diagnosis criteria, a world literature systematic review was done analysing reports from fifteen endemic countries since 1956 to 2001. The authors found 108 reported cases, 96.2 % occurred after 1980. From those, 57.4 % presented complete DHS symptoms - fever, rash, lymphadenopathy, and hepatitis - and 42.6 %, expressed an incomplete form. Fatal outcomes were 12.96 % of the total. An intriguing point is the 9.6% rate of mortality within the group which fulfills the criteria of complete DHS (6/62 patients) and the fact that no statistical association to death or hepatic injury can be attributed. This may express the poor quality of the information collected and reinforces the importance of its reliability.

OT 8

DOUBLE RELAPSE AFTER TREATMENT WITH RIFAMPICIN-CONTAINING MULTIDRUG REGIMENS AMONG MULTIBACILLARY LEPROSY PATIENTS

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We present herewith 12 cases of multibacillary (MB) leprosy who had relapsed twice after treatment with

various rifampicin (RMP)-containing multidrug regimens. Because these patients were derived from different cohorts, it is difficult to define the denominator for calculating the frequency of double relapse.

Relapse was defined as followings: i) occurrence of definite new skin lesions and/or reactivation of pre-existing lesions; and ii) the bacterial index (BI) at any single site was found to have increased by at least 2+ over the previous value, or the new lesions had a BI greater than that in any pre-existing but non-reactivated lesions.

The durations of the first treatment with RMP-containing multidrug regimens ranged from a single dose to 2 ± 4 months. Patients began treatment with a mean BI of 4.2 ± 1.0 . At the end of treatment, despite none of the 12 cases were BI negative, the BI continued to decline after stopping treatment and became negative in 9 cases after 5 ± 3 years of follow up. The first relapse occurred 6 ± 3 years after completion of treatment. The major clinical signs of relapse were occurrence of macules in 2 cases, diffuse infiltration in 4 cases, nodules and/or lepromas in 6 cases; with a mean BI of 4.1 ± 1.2 . All relapses have been confirmed by histopathology, and viable *M. leprae* were demonstrated from skin biopsies of 10 cases by mouse foot pad inoculation; drug susceptibility test indicated that all 10 strains of *M. leprae* remained susceptible to RMP. All relapsed cases were retreated with WHO/MDT regimen for 24 months, and administration of the monthly doses was supervised at our institute. At the end of 24 months of treatment, none of the 12 cases were BI negative, but after 4 ± 2 years of follow-up, 8 of them became BI negative.

The second relapse occurred at 6 ± 1.5 years after stopping treatment with WHO/MDT. The major clinical signs of relapse were macules in 3 cases, nodules and/or lepromas in 9 cases, with a mean BI of 4.3 ± 0.9 . Again all relapses were confirmed by histopathology, and viable *M. leprae* were demonstrated in skin biopsies of 8 cases by mouse foot pad inoculation; all 8 strains of *M. leprae* remained susceptible to RMP. After the second relapse, all these patients were treated with another course of MDT for 24 months; they are being followed-up, and so far without any sign of relapse.

The results clearly confirmed our earlier findings that MB relapse does exist, and in certain patients, they may even relapse more than once. The results also clearly indicate that after treatment with any RMP-containing regimen, the average incubation period of MB relapse is at least five years after stopping treatment; therefore, attempt to detect individual relapsed case and to define the magnitude of MB relapse, patients must be followed up with a minimum duration of five years after stopping treatment.

OT 9

DRUG RESISTANCE IN THE TREATMENT OF LEPROSY -STUDY IN THE RELAPSED CASES FOUND IN SANATORIA

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Department of Dermatology, Juntendo University School of Medicine

We studied 14 relapsed cases of leprosy that have once cured with various anti-leprosy drugs. Genomic DNA was prepared with *M. leprae* isolates harvested from skin biopsy samples. Mutations of genes involved in resistance to DDS, RFN and OFLX were examined. Mutations related to DDS-resistance were found in 9 out of 11 cases, the same to RFP were found in 9 out of 11, and the same to OFLX were found in 2 out of 3. Seven cases had mutations related to 2 or 3 drugs. In many cases, these drugs were given with small dosage. No mutation was found in the cases without history of administration of particular drug(s). The method used in this study is considered to be a trustable and effective to find drug-resistance. Application of simple molecular tests to assess the drug-related mutations in *M. leprae* may offer another strategy to the leprosy control in the endemic areas where the decrease in the new case incidence has not been apparent. (This work was supported by an Emerging and Reemerging Infectious Disease Promotion grant from the Ministry of Health, Welfare and Labor in Japan.)

OT 10

EFICACIA DE LA PENTOXIFILINA COMO COADYUVANTE TERAPÉUTICO DE LAS VASCULITIS NECROTIZANTES EN REACCIONES REVERSALES (T1)

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Dentro de los episodios reaccionales (ER), la reacción Tipo1 conocida con las denominaciones de reacción reversal(RR), reacción de reversa, reacciones limítrofes ó reacción dimorfa; predomina en enfermos de lepra dimorfa o borderline, usualmente "upgrading"; causadas por un incremento de la inmunidad mediada por células (CD4 activadas, elevación de IL2, y aumento de IFN α y del Factor de necrosis

tumoral alfa(FNT α). Clínicamente se expresa por edemas acrales, infiltración de lesiones, aparición de lesiones nuevas, neuritis, neuralgias, disestesias y vasculitis necrotizantes. El daño neural se debe al edema, la infiltración del axón por el granuloma la trombosis de los vasa-nervorum y la fibrosis post-inflamatoria.

El tratamiento convencional es continuar con la Poliquimioterapia (PQT) si aún no completó el esquema OMS, agregar precozmente corticosteroides y se han ensayado aumentar la dosis de clofazimina, también inmunosupresores (azatioprina) y ciclosporina A. La pentoxifilina (Ptx) se ha usado con éxito en la Reacción tipo 2 ENL y en el fenómeno de Lucio en Lepras difusas.

Nosotros realizamos el tratamiento asociado de corticosteroides y Ptx en cuadros de severas vasculitis necrotizantes que aparecieron en el curso de reacciones reversales en lepras dimorfas y que no cicatrizaban con el uso convencional y prolongado de corticosteroides. Presentamos tres pacientes en los que utilizamos una dosis de 1200 mg. diarios con una mejoría evidenciable en la cicatrización de las úlceras en las primeras 4 semanas de tratamiento. Paralelamente se observó un mejoramiento de la neuralgia. Los efectos inmunopatológicos de la Ptx justifican su uso en éstos cuadros

OT 11

ENSAIO TERAPÊUTICO: AVALIAÇÃO DA ASSOCIAÇÃO DE OFLOXACINA COM RIFAMPICINA POR 28 DIAS EM PACIENTE DE HANSENÍASE VIRCHOVIANA.

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Introdução: O esquema poliquimioterápico (PQT/OMS) representou notável progresso na luta contra o *M. leprae*. Entretanto, novas drogas continuam sendo testadas, com o objetivo de aumentar a eficácia destes esquemas, e diminuir o tempo de tratamento. As quinolonas são derivadas do ácido nalidíxico, que tiveram atividade antibacteriana aumentada com a introdução de um átomo de flúor no anel quinoleico. Agem inibindo a enzima responsável pelo enovelamento do DNA bacteriano. A quinolona com melhores resultados contra o *M. leprae*, foi a Ofloxacina.

Material e métodos: Paciente do sexo masculino, de 54 anos, que apresentava quadro clínico compatível com Hanseníase Virchowiana: face e pavilhões auriculares infiltrados, madarose, tubérculos disseminados, extremidades edemaciadas e com sensibilidade diminuída. A hipótese de Hanseníase foi confirmada

pela baciloscopia positiva e histopatologia. Em regime hospitalar o paciente foi tratado por 28 dias com 400 mg de ofloxacina, e 600 mg de Rifampicina em dose diária supervisionada. Recebeu alta e passou a ser observado pela clínica, histopatologia e baciloscopia por um período de 2 anos, sem nenhuma medicação específica. Foi posteriormente introduzido no esquema PQT/MB/OMS.

Resultados: A evolução do paciente mostrou, gradativa desinfiltração do tegumento, redução do tamanho e número dos tubérculos, acompanhado de baciloscopia decrescente, após a suspensão do tratamento, enquanto o índice morfológico mostrava ausência de bacilos íntegros.

Comentários: O esquema Ofloxacina e Rifampicina mostrou ação eficaz contra o *M. leprae*, apontando a possibilidade de que a associação entre as duas drogas possa potencializar a poliquimioterapia antihansenica

OT 12

LEPROSY PATIENTS DESERVE A PROPER FOLLOW-UP!

Ben Naafs

Dept. Dermatology Leiden University Medical Centre (LUMC) and IJsselmeerziekenhuizen Emmeloord/Lelystad, The Netherlands; Instituto Lauro de Souza Lima (ILSL) Bauru SP Brazil; the Regional Dermatology Training Centre (RDTC) Moshi, Tanzania; c/o Gracht 15 8485 KIN Munnekeburen, The Netherlands

During a recent GAEL meeting it was proposed to treat all leprosy patients, independent of classification, with six months MB-MDT. It was suggested to hand out blister packs for six months at the time of diagnosis, cautioning the patient to report back when complications occur. From public health point of view it is essential that infectious leprosy patients are made non-infectious. The presently proposed treatment will certainly do so in over 95% of the patients, thus satisfying infectiousologists.

Nerve damage and as consequence deformities lead to the leprosy stigmata. In over 30% of the patients this damage will occur during and even after the proposed new treatment regime. The patient will be disappointed and the reputation of the leprosy control program damaged. However adequate treatment could have been instigated, provided a careful follow-up was available. To neglect such a follow-up and to believe that a patient after only one contact with the health worker will report back in time is at least naive. Simple methods of follow-up which can be handled by the peripheral health worker and which can detect early and treatable damage are available. In this presentation these will be presented.

OT 13

MANAGEMENT OF REACTIONS IN LEPROSY

Ben Naafs

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Nerve damage leading to impairments is still the major problem in the course of a leprosy infection. Were it not for this damage, leprosy would be a rather innocuous skin disease, whereas even today it is one of the most feared diseases, often associated with social repercussions. Since there is no change in the number of detected cases and if any, it is an increase, leprosy will remain one of the main causes of peripheral nerve damage. Nerve damage may occur before anti mycobacterial treatment, during treatment and even in patients released from treatment.

In borderline leprosy (BT, BB and BL) such damage usually develops during a so-called reversal reaction (RR), type I leprosy reaction. When this happens, the peripheral nerve trunks at specific sites may become swollen and tender and may show deterioration of function, which is generally rather gradual, taking weeks or even months to become irreversible. Occasionally, severe nerve damage may occur overnight.

In lepromatous leprosy (BL, LLs and LLp) the damage may take years to develop or may increase suddenly during a reactional episode, called erythema nodosum leprosum (ENL), type II leprosy reaction. Since lepromatous leprosy is a generalised disease other organs may be involved as well, skin, joints, lymphnodes, eyes, testicles, liver and kidney. The patient can be extremely ill and the reaction may become chronic.

Reactions must be diagnosed early and treated appropriately if permanent disability is to be avoided. Ideally the reactions should not occur at all, being prevented by treatment. To achieve this, it is of utmost importance to understand the mechanisms behind reactional states and principles of management. This will be discussed, taking the latest developments in account

OT 14

OFLOXACIN BASED REGIMENS IN LEPROSY – LONG-TERM OBSERVATIONS

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The inclusion of Ofloxacin in regimens in leprosy for research trials (RO and ROM) and recommendation of ROM as a single dose for the treatment of PB Single Skin Lesion Therapy (SSL-PB) formed a landmark in the chemotherapy of leprosy.

Table I – ROM single dose for PB leprosy

Group	Flup in Months	Occurrence of clinical problems * after ROM treatment						
		0	12	24	36	48	60	72
SSL-PB	Total cases	843	635	479	352	208	75	11
	Problem cases	0	6	10	8	3	1	0
2-5 PB	Total cases	347	286	222	131	55	6	0
	Problem cases	0	16	9	6	1	1	0

* These do not include reactions, which formed 4% in SSL – PB and 7% in 2 – 5 PB cases.

The pattern of clinical problems in the two groups indicates lack of any correlation between the problems encountered and the chemotherapy interventions adopted. All clinical problems including reactions are manageable. Relapse rate is less than the reported rates with PB-MDT.

Table II – Reaction rate in patients receiving intermittent ROM therapy for varying durations.

TYPE	ROM – Intermittent Therapy			Standard WHO MDT		
	Number	Reaction	%	Number	Reaction	%
MB	415	99	24	379	90	24
PB	595	74	12	513	27	5

RO: BI decline

It has already been documented that the rate of decline of BI after RO over 8 years is identical to MB MDT (WHO) administered for 24 or 12 months (Ganapati et al, 1997). Continued follow-up of a total sample of 189 patients confirms these observations.

Table III – RO – 28 days: Relapse

Number of patients	189
Number of patient years of follow-up	1020
Number of relapses	8 (4.2%)
Relapses per 100 patient years	0.70

RO group is associated with relatively far higher risk of relapse than expected. The rates however compare favourably with those encountered in Tuberculosis.

OT 15

PANCITOPENIA OBSERVADA DURANTE POLIQUIMIOTERAPIA PARA MHD-T, REVERTIDA COM A SUSPENSÃO DA DAPSONA

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Relata-se a ocorrência de pancitopenia em paciente portadora de hanseníase dimorfo-tuberculóide, em tratamento com poliquimioterapia (PQT) esquema 2 (rifampicina, dapsona e clofazimina). A paciente fazia uso prévio de ácido valproico, hidroclorotiazida e amilorida, enalapril, amitriptilina e diazepam. O

quadro hematológico instalou-se subitamente, no segundo mês de tratamento, quando o hemograma revelou hemoglobina de 6,5g%, 48.000 plaquetas e o leucograma 4.900 leucócitos com desvio escalonado à esquerda com a presença de 10% de blastos. A PQT foi suspensa imediatamente, e não obstante a paciente tenha mantido o uso dos outros medicamentos, o quadro reverteu-se e na terceira semana já estava normalizado. A impressão diagnóstica foi de pancitopenia secundária a drogas, em resolução. Considerando os efeitos hematológicos da dapsona, foi reiniciada a PQT sem a mesma. O seguimento da paciente com hemograma mensal desde novembro de 2001 não tem mostrado novas alterações hematológicas.

OT 16

PERSISTÊNCIA DE BACILOS EM PACIENTES DE HANSENÍASE MULTIBACILARES APÓS 12 DOSES DO ESQUEMA PQT/OMS. RESULTADOS PRELIMINARES

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Introdução: Recentemente o Ministério da Saúde, baseado nas conclusões da reunião de peritos em Lepre da OMS, recomendou que o esquema poliquimioterápico para tratamento da hanseníase, em pacientes multibacilares poderia ter sua duração reduzida para 12 doses.

Material e métodos: Participaram do trabalho, 4 pacientes do sexo masculino, virgens de tratamento, com diagnóstico clínico, e confirmação baciloscópica e histopatológica de hanseníase virchoviana, realizado no ambulatório do Instituto de Estadual de Dermatologia. Todos os pacientes apresentavam índice baciloscópicos maiores que 5, com presença de bacilos íntegros, em todos os casos. Foi instituído em todos o tratamento com o esquema padrão PQT/OMS para Multibacilares (Rifampicina em dose mensal supervisionada, Dapsona e Clofazimina autoadministradas diariamente), com duração de 12 doses, que todos os pacientes concluíram em 12 meses. Ao término do tratamento foram retirados através de biópsia, material para inoculação em camundongos no Instituto Lauro de Souza Lima, Bauru/SP, conforme a técnica de Shepard.

Resultados: Foi constatada a presença de crescimento de bacilos álcool ácido resistentes em apenas um paciente dos 4 que haviam sido inoculados.

Discussão: Os estudos apresentados em que foram baseadas as recomendações para a diminuição da duração do tratamento, fundamentam-se principal-

mente na possibilidade que o novo esquema seja eficaz na grande maioria dos pacientes multibacilares. No entanto, é real a possibilidade de que entre pacientes com carga bacilar elevada, um grupo venha a recidivar. Uma melhor avaliação destes achados deverá ser realizada com o aumento da amostra.

OT 17

RELAPSES AMONG LEPROSY PATIENTS TREATED WITH 2 – YEAR MULTIDRUG THERAPY. VIABILITY OF THE ORGANISMS AND DRUG SUSCEPTIBILITY.

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In this prospective study multibacillary (MB) leprosy patients were treated with 2- year multidrug therapy (MDT) and had been followed up for 8-10 years after released from treatment (RFT). The relapse rate was the most important parameter for assessing the efficacy of the therapeutic regimen. The viability of *M. leprae* organisms and drug susceptibility had been tested whenever clinical relapse was detected.

From 1987 to 1992, 424 MB leprosy cases were included. None of the patients had been treated previously and all had bacterial index (BI) of at least 2+ in any site. Relapse was suspected on the appearance of new lesions of multibacillary leprosy and if the BI at any site was found to have increased by at least 2+ over the previous value. The demonstration of viable *M. leprae* and drug susceptibility were tested by mouse footpad inoculation. Simultaneously the patients who relapsed had been retreated with the standard 2-year MDT for MB leprosy.

Treatment was completed for 337 patients and during surveillance period 6 cases of relapse were detected. The relapse rate was 1.78% and the shortest interval between the end of MDT and the occurrence of relapse was 70 meses. The available results of drug susceptibility testing of the organisms recovered from the relapsed lesions were susceptible to both rifampin and dapson. Clinical improvement was observed in all 6 patients and the mean BI continued to decline after patients had been retreated. No further relapses have been detected during the same period.

OT 18

RELAPSES IN MULTIBACILLARY LEPROSY AFTER 2 YEARS TREATMENT WITH WHO-MDT REGIMEN

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The objectives of this study are to determine the frequency of relapses in MB leprosy patients completing the 2 years WHO-MDT regimen and to determine whether the relapses that occur are due to drug-resistant or persister organisms using the mouse-footpad technique of Sheppard.

500 MB leprosy patients who completed the 2 years WHO-MDT regimen were recruited sequentially and followed up. Duration of surveillance now range from 8 to 15 years. Surveillance includes yearly clinical examinations and skin smears. Criteria for probable relapse are the appearance of new/active lesions and an increase in BI of at least 2+ at any site compared to the lowest BI taken at the same site. Those with probable relapse are biopsied and tested for growth in mouse footpads to confirm relapse. The organisms are then passaged to groups of mice given the 3 drugs composing the WHO-MDT regimen to determine whether the relapse is due to drug-resistant or persister organisms.

So far, 15 patients were found to have a probable relapse occurring 6 to 12 years after the end of their WHO-MDT regimen. No relapses were noted within 5 years after end of treatment. Twelve of the 15 relapsed patients with complete mouse footpad test results were all due to persister relapse. There were no drug-resistant relapses.

The clinical, bacteriological and histopathological characteristics of the patients in the study including the mouse footpad results will be discussed

OT 19

RESULTADOS PRELIMINARES DE COORTE DE PACIENTES MULTIBACILARES TRATADOS COM 12 MÊSES DE POLIQUIMIOTERAPIA MB/OMS.

Gerson Oliveira Penna; Ana Maria Costa Pinheiro; Lucas Nogueira and Daniela Cardoso

Trabalho desenvolvido no Hospital Universitário da Universidade de Brasília UnB

Os autores apresentarão e discutirão os resultados preliminares de uma coorte aberta de pacientes multibacilares tratados com esquema poliquimioterápico preconizado pela Organização Mundial de Saúde por 12 meses.

OT 20

RESULTS OF POST ROM (SINGLE DOSE) FOLLOW-UP OF 332 SINGLE SKIN LESION (SSL) CASES IN THE N, S, T WARDS OF GREATER MUMBAI, INDIA

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ROM has been introduced as an effective short-term Chemotherapy for SSL cases to reduce the period of treatment in leprosy elimination campaigns. ALERT-INDIA in its leprosy control areas of Greater Bombay has treated 332 SSL cases from Jan. 1998 to Dec. 1999. Of these 302 cases have been followed up for 24 months and the remaining 30 cases have been followed up for 18 months. Ten of these cases presented a clinical picture that warranted further treatment. Five of these were confirmed histo-pathologically. These cases were put on regular PB MDT for 6 months, and subsequently showed good clinical improvement. Hence we confirm satisfactory results of single dose ROM therapy in majority of SSL cases and also suggest proper surveillance to detect cases that do not improve clinically.

OT 21

SCENAR-THERAPY FOR LEPROSY PATIENTS WITH CHRONIC NEURITIS

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Scenar (Self-Controlled Energoregulator) devices are portable autonomous electric apparatus operating in the mode of biological feedback circuit with a patient. The operation of the device is based on a physical factor representing an individually modulated electric signal similar to nervous impulse in its form. Advantages of scenar-therapy include non-invasiveness, a wide spectrum of indications, and absence of age limitations. General course of treatment consists of 10-15 procedures on alternate days. If necessary, treatment courses may be repeated after three-four weeks. Treatment of peripheral nerve damages, especially chronic ones remains to be an urgent problem. Methods of therapy available are of little effect. The results of scenar-therapy of 20 patients with leprosy (12 males and 8 females) aged 30-65 years and suffering from chronic peripheral neuritis are presented. Before treatment patients complained of sharp pains in extremities, thickening and painfulness in ulnar and peroneal nerves at palpation, amiotrophies and flexion contractures of fingers. Against the background of scenar-therapy arresting of painful syndrome and increase in muscle strength (by 10% in average) was noted. All the patients noted a significant improvement of their general state, appetite and sleep. Electropuncture testing of biologically active points located in zones under stimulation performed before and during scenar-treatment revealed increase

in nerve conduction suggesting functional improvement of peripheral nerves

OT 22

TRATAMENTO ÚNICO PARA PACIENTES DE HANSENÍASE.

Gerson Oliveira Penna; Ana Maria Costa Pinheiro; Lucas Nogueira and Daniela Cardoso.

Trabalho desenvolvido no Hospital Universitário da Universidade de Brasília UnB

Os autores apresentarão e discutirão o protocolo de investigação aprovado no Comitê de Ética em Pesquisa (CEP) da Universidade de Brasília, que objetiva instituir tratamento Poliquimioterápico - Multibacilar - padronizado pela Organização Mundial da Saúde, para todos os doentes de hanseníase independentemente da forma clínica.

Medicamentos utilizados: Todos os pacientes - Independentemente da forma clínica - receberão Rifampicina 600 mg/mês, Dapsona 100 mg/dia e Clofazimina 300 mg/mês e 50mg/dia.

Tempo de Tratamento: Todos os pacientes - Independentemente da forma clínica - serão tratados por seis meses

Serão discutidos:

- o critério de inclusão, que será baseado unicamente na definição clínica de Caso de Hanseníase;
- a justificativa para a não utilização de nenhuma das classificações de pacientes de hanseníase para fins terapêuticos;
- os parâmetros de acompanhamento;
- o uso da baciloscopia como parâmetro de acompanhamento laboratorial
- a dificuldade para estabelecer *Gold standart* laboratorial

OT 23

TREATMENT OF MB LEPROSY PATIENTS USING CONVENTIONAL AND NEWER DRUGS MINOCYCLINE AND OFLOXACIN

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This study has been carried out to study the effect of regimen comprising of conventional drugs used in MDT along with newer drugs like Minocycline and Ofloxacin. One hundred, untreated, smear positive

BB, BL and LL patients were treated with a regimen comprising of supervised, 600mgs of Rifampicin, 300mg of Clofazimine, 100 mg of Minocycline and 400mg of Ofloxacin once a month in addition to 50 mg of Clofazimine and 100mg of Dapsone daily for 12 months. The treatment was then stopped and patients were followed up on placebo. This study reports the follow-up of these patients up to 5 years after stoppage of therapy. The drugs were well tolerated, there was a good clinical response and there was no case of treatment failure during the treatment period. At the end of one year of treatment 25 of the 70 (patients available for follow-up) were still smear positive. No bacterial growth was observed in the foot pad of mice and no bacillary ATP was detected in the tissue biopsies one year after therapy. The patients continued to progress satisfactorily, and by 2 years only 4 patients were still smear positive. However 4 patients have relapsed in the follow-up of 5 years. The results have been compared with patients treated with WHO MDT for one year. The details findings and their implications in the therapy of leprosy of MB patients will be discussed.

OT 24

ULTRA-HIGH DOSE COBALAMIN FOR TREATMENT OF LEPROSY NEUROPATHY

Márcia R. Jardim; Ximena Illarramendi; Patrícia S. Penna; José A.C. Nery; Nádia Duppre; Euzenir N. Sarno

Neurological damage may persist after completion of multidrug therapy (MDT). Corticosteroids have been

proved successful for the improvement of recent motor deficit but are little effective for sensitive alteration.

Objective: An open controlled clinical trial was done in order to evaluate the effects of ultra-high dose of cobalamin (Cb) for persistence of motor and/or sensory nerve deficit after MDT and steroid treatment.

Method: Nineteen patients (13 males, 6 females) aged 44 ± 16.7 years were divided into 2 groups of treatment: 10 patients (treatment group) received 1000 μ g of intra-muscular Cb, 3 times per week, and 9 patients (controls) received 1 dose of Cb per month. Clinical and nerve conduction (ENMG) evaluations were performed by 2 neurologists before, at 3 months (only clinical) and after the 6 months of treatment.

Results: Nine patients were MB and 10 patients were PB. Grade of disability 0 was present in 60% of the patients, but 27% had GD 2 at the end of MDT. Muscle strength and vibratory sensation were little affected but improvement was observed in twice the number of nerves on thermal, tactile and pain evaluation in the treatment group compared to the controls. In addition, significant worsening of sensation was observed in the control group (pain $p=0.026$; tactile $p=0.006$; thermal $p=0.031$). On ENMG, the evaluation of the amplitude of motor and sensory conduction showed worsening of twice the number of nerves in the control group than in the treatment group and a slight improvement was seen in the latter.

Conclusion: Axonal nerve lesions diagnosed by ENMG have a slower recovery than clinical alterations. In this preliminary study we observed some beneficial effects of the use of ultra-high doses of Cb for the treatment of peripheral neuropathy.

ABSTRACTS OF POSTER PRESENTATIONS



CLINICAL ASPECTS

PCA 1

17-YEAR SURVEILLANCE OF 657 MB CURED CASES RETREATED BY MODIFIED MDT

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Objective: To investigate the role of MDT retreating in decreasing relapse rate of cured cases with DDS monotherapy. **Methods:** 657 cured cases with DDS monotherapy were retreated with modified MDT for one year, had been monitored for 17 years by clinical and bacteriological aspects, and were analyzed statistically.

Results: 620(94.74%) of them completed course, and toxic and side-effects were slightly. There was 1 leprosy relapse patient after 14 years follow up; relapse rate was 0.21% or 0.15/1000 person-years. The relapse rate of the cases retreated was lower compared with non-retreated cases ($P < 0.001$).

Conclusion: the retreating was more effective to reduce relapse rate of the cured with DDS monotherapy. However, the MDT retreating was recommended in high relapse rate and good economic areas due to expenses of retreating. Moreover we should not ignore later relapse by persistence.

[Key words] Leprosy; Retreat

PCA 2

A CASE REPORT OF II LEPROSY REACTION WHICH LEADING TO HARM INTERNAL ORGANS

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The female Leper, 33 years old, The BL Leprosy. She had been cured with MDT Scheme of MB Leprosy. There were II Leprosy reaction with nephritis, arthritis Scleritis and others internal organs being harmed in her body 7 months later. After taking tabellae multiglycosidorum tripterygu uilfordii and tripterygium wilfordiif prednisonum and curing comprehenly complication, we controlled and healed the complication in a short time.

[Key words] The II Leprosy reaction Nephritis Arthritis Scleritis

PCA 3

A CLINICAL AND EPIDEMIOLOGICAL PROFILE OF MULTIBACILLARY LEPROSY PATIENTS WITH A SINGLE SKIN LESION

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Introduction: In multibacillary leprosy, the existence of a single skin lesion, whose precise pathogenesis is still unclear, is a rare occurrence. A single skin lesion in itself is not a symptom of a more benign form of the disease. In light of the uncommon nature of this lesion, the leprosy research community welcomed the decision of WHO that all patients with a positive BI regardless of the clinical form of the disease would be considered multibacillary.

Objective: To determine the frequency rate of MB patients with a single skin lesion as well as trace their clinical and epidemiological profile.

Material and Methods: A retrospective study was carried out in the Leprosy Outpatient Clinic between 1987 - 2001 based on the clinic's databank and the patient records of the 14 MB patients who presented a single skin lesion. The patients were submitted to routine examinations at diagnosis.

Results: During the study, of the 1,707 patients registered in the Clinic, 14 MB patients, mostly residents of Rio de Janeiro (71.4%), (5 females and 9 males) ranging from 11 to 66 years of age, presented a single skin lesion. Patches (57.2%) were the most commonly-occurring skin lesions followed by macula (42.8%). BIs varied from 0.16% to 4%. Thirteen patients showed a negative Mitsuda test, which was positive in only one patient (7mm). The most commonly-found clinical form was borderline-lepromatous (BL) at 64.3% (9 patients).

Conclusion: In this study, the incidence rate of MB patients with a single skin lesion was 0.82%, which corroborates the rarity at which a single skin lesion occurs as has been reported in the literature.

PCA 4

A FIELD TRIAL OF DETECTION AND TREATMENT OF NERVE FUNCTION IMPAIRMENT IN LEPROSY-REPORT FROM NATIONAL POD PILET PROJECT

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As part of the national pilot project on leprosy rehabilitation and prevention of disability (POD), a total of 1407 patients were monitored for possible nerve function impairment (NFI) through standardized clinical nerve function assessment between May 1995 and February 1998. Of these, 191 patients were found to have NFI and were put on a fixed regimen of prednisolone. In this study, 36.7% of NFI occurred before diagnosis of leprosy, 35.6% developed during

MDT and 25.7% after their release from MDT. Overall, 7.5% (105 out of 1407) of all patients, or 55.9% of patients with NFI, suffered from silent neuropathy. Of the affected nerves, 62.6% had silent neuropathy. Sensory impairment responded to prednisolone satisfactorily, giving a recovery rate of 73.8%, 76.5% and 81.0% in ulnar, median and posterior tibial nerve, respectively. Sensibility in patients even with a NFI duration longer than 6 months made significant improvement ($p < 0.05$). Motor function improvement was less satisfactory, especially in ulnar and c. popliteal nerve. The possible reasons are analysed. Our findings with regard to sensibility changes confirm that once it becomes clinically detectable, NFI is no longer at the 'early' stage. More sensitive tests are necessary to detect real 'early' sensory impairment in the field. Our study also indicates that with well-trained field staff and proper equipment for nerve function assessment, early detection and treatment of NFI can be practical and effective.

PCA 5

A SPECIAL CASE - A LEPROSY PATIENT WITH 2 RELAPSES AFTER MULTIDRUG THERAPY

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Place of the subject implementation: Haiphong

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Introduction: After 18 years introducing multidrug therapy (MDT) Haiphong City has helped reduce the leprosy prevalence rate to 0.033/10,000 population. But the city is now facing with a great problem: resistance to MDT.

Objective: Patient: Pham Van Dap, born in 1957, Sex: Male

Methodology: Supervise and record the development of clinical aspects, tests and photos.

When there were signs of relapse, consultation was conducted with Vietnam Dermato-venereology Institute.

Summary: The patient was detected with BL type in 1993 and was selected as a patient for the study under the joint project between Vietnam and WHO with MDT + ofloxacin from 1993 to 1994. In 1998 he was found with the first relapse with special and rare symptoms. Thousands of small infiltrations were found scattered on the face, hands, feet, and body interwoven with reddish papules. The patient felt very itchy. Tests showed that BI rose to 4+. This time he was treated with MDT regimen MB for 24 months. After 24 months of treatment, his condition was stable clinically and in tests. But one year later the disease relapsed second time in December 2001. This time he was treated following a special regimen

combining 3 kinds of medicine ofloxacin, minocine and lamprene for two years.

Result and comment: The disease relapsed twice after eight years. The first relapse showed special and rare clinical symptoms: very itchy. The second relapse occurred more quickly and seriously. At present, after one month's treatment with the special regimen his condition is changing for the better. But whether it will relapse will take some time to answer. The patient is going to be treated for two years. Will there be any side-effects that might badly affect the patients health?

Conclusion: Patient Dap is the first case in Haiphong suffering from two relapses with special and rare symptoms. We should not be subjective with the disease relapse after MDT. It is suggested that WHO and leprosiologists continue to research so that they can work out a more perfect regimen to solve the current problem of medical resistance.

PCA 6

ALTERED SKIN WRINKLING IN LEPROSY PATIENTS AND CONTACTS.

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There is evidence that Leprosy patients and their contacts have autonomic dysfunction, but current electrophysiological methods for autonomic assessment are expensive and require extensive training. We therefore investigated the simple bedside test of skin wrinkling as a potential test for autonomic nerve function in leprosy.

Method: Forty-nine leprosy patients and 13 contacts attending the Leprosy Referral Centre in Rio de Janeiro were evaluated. Following inspection, both hands were immersed in water at 40°C for 30 minutes and examined for wrinkle formation on the fingertips. A grading scale for each finger was used as follows: 0=no wrinkle, 1=discrete wrinkles, 2= one-two wrinkles/valleys and 3= three or more wrinkles. According to this scale, a normal hand would have a value of 15 points.

Results: Skin wrinkling in patients was more affected than in contacts (median values: patients right=7, left=8; contacts right=12, left=11). Sixty nine percent of the patients had moderate to severe alteration (0-19 points) in both hands, while 61.5% of the contacts had normal to slightly affected skin wrinkling (20-30 points). The prevalence of moderate to advanced abnormality was similar in the pa-

tients already treated (70%) and in those under MDT (67%). Advanced impaired skin wrinkling in leprosy patients was 34% and in contacts 23%. Eleven patients had absence of wrinkles in either one or both hands, and 1 contact had bilateral absence of wrinkles.

Conclusion: Skin wrinkling test is easy to perform and is useful in the evaluation of leprosy patients. The abnormal skin wrinkling observed in contacts confirm previous studies that found sub-clinical alterations in peripheral autonomic function of healthy contacts, the significance of which needs to be further investigated.

PCA 7

AN ANALYSIS OF 11 MULTIBACILLARY LEPROSY RELAPSES PRESENTING TO AN OUTPATIENT REFERRAL CENTRE IN HYDERABAD, INDIA.

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Blue Peter Research Centre is an extension of Dhoolpet Leprosy Research Centre (DLRC) in Hyderabad which has been carrying out out-patient based management of leprosy for over 2 decades. The aim of this study was to analyse the multibacillary (MB) relapses presenting to our centres since January 2000 to December 2002. Relapse in MB leprosy was defined as the reappearance of lesions and positive skin smears after completion of a full course of treatment and a reasonably long disease/symptom free intervening period.

11 patients (M6, F5) presented as MB relapses during this period. All of them presented with appearance of new lesions/symptoms after stopping treatment with durations ranging from less than 5 years in 1 patient (3 years); 5 to 10 years in 3 patients and >10 years in 7 patients. The patients were originally classified as BT in 1 patient, BL in 3 and LL in 7.

On relapse they were classified as BL in 1 and LL in 10 patients. A histological support for the diagnosis was available in 9 patients. 1 BT patient relapsed as LL and one BL patient relapsed as BL. The remaining 2 BL patients and all the LL patients relapsed with lepromatous disease. The relapse BI was ≤3+ in 2 patients and > 3+ in 9 patients.

History of past treatment revealed that 6 patients relapsed after DDS monotherapy, 3 patients relapsed after completing a full course of MB MDT, 1 patient of LL relapsed after 27 doses of Dapsone and Rifampicin (prior to availability of Lamprene) and 1 BT patient relapsed as LL after a full course on PB MDT.

PCA 8

AN OBSERVATION ON THERAPEUTIC EFFECTS ON PLANTAR ULCERS OF 11 CURED LEPROSY CASES WITH DISABILITIES

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Objective: To study the causes of plantar ulcers of leprosy, as well as x-ray check, histopathological changes and treatment.

Methods: 11 cured cases with serious plantar ulcers were chosen to make enlarged wound operation.

Results: Out of 11 cases with plantar ulcers which had been treated with antibiotics for 30 days after operation, 12 ulcers in 8 cases became dry and 9 ulcers in 6 cases had little effusion. Followed up in 3 months, 4 ulcers 3 cases healed and scars appeared, 15 ulcers in 9 cases improved and 2 ulcers in 1 case were infected.

Conclusions: Because the nerves and blood vessels of the skin are damaged by *M. leprae*, the skin has no feeling, which results to ulcers finally. The effective therapy includes controlling the appearance of the ulcers, thorough operation, enough antibiotics, self-care and reduction of activities.

PCA 9

ANÁLISE COMPARATIVA DE RESULTADOS HISTOPATOLÓGICOS COM DIAGNÓSTICOS CLÍNICOS EM HANSENÍASE NA URE MARCELLO CANDIA, MARITUBA, PARÁ

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A histopatologia é um dos exames complementares utilizados no diagnóstico de hanseníase (MH). Realizamos uma análise retrospectiva comparando as hipóteses diagnósticas (HD), os resultados histopatológicos (RH) e o diagnóstico final do clínico, através da avaliação dos prontuários da URE Marcello Candia no ano de 2001. Como a histopatologia somente é realizada em caso de dúvida após testes de rotina, o número de prontuários é pequeno e o diagnóstico clínico é realmente duvidoso. De 34 pa-

cientes avaliados, 16 (47%) tiveram a forma clínica do RH compatível com a HD, enquanto 9 (26,5%) foram incompatíveis e 9 (26,5%) foram inconclusivos. Entre os incompatíveis, os resultados HD/RH foram os seguintes: I/T (4); T/D (1); V/I (1) e; D/T (3). Os RH inconclusivos tinham as seguintes HD: I (2); T (1) e D (6). Em 22 de 25 RH com forma clínica definida, o clínico manteve o diagnóstico final compatível com o RH. Nos 9 casos com RH inconclusivo manteve-se a HD inicial. Considerando a classificação operacional, dos 34 casos, 6 (17,64%) sofreram modificações após o RH, sendo que 3 mudaram de PB para MB e 3 de MB para PB. Dos 17 (50%) casos com HD de MB, apenas 5 (29,41%) tiveram RH de MB, 3 (17,64%) tiveram RH de PB e 9 (52,95%) tiveram RH inconclusivo. Os dados acima sugerem que apesar da alta incompatibilidade (26,5%) entre HD e RH na classificação de Madri, a maioria dos casos com classificação operacional em PB 14/17 (82,3%) mantiveram-se como PB, enquanto que 12 (70,58%) dos 17 casos MB diferiram da HD ou não foram conclusivos. Todos os casos relacionados aqui realizaram PQT, com melhora. Conclui-se portanto que a histopatologia pode auxiliar no diagnóstico de MH, principalmente nas formas PB, e que o contato entre o clínico e o patologista é necessário para o melhor esclarecimento dos casos com HD de MB.

PCA 10

ANALYSIS ON NERVE IMPAIRMENT OF THE UPPER LIMB IN 8578 LEPROSY PATIENTS

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In order to make clear the situation of nerve impairment of the upper limb in leprosy cases, we selected 8578 leprosy non-active and active cases who are still living in Hunan province as the study samples. The result showed that about 40.29% of the upper limb in all cases developed nerve impairment. The lateral nerve impairment was 23.15%. It is higher than that of bilateral nerve impairment (17.14%). The nerve impairment among active and relapsed cases was 54.03%. It is higher than that of non-active cases (19.51%). The MB cases developed more nerve impairment (50.15%) which is higher than that of PB cases (21.15%). We also find that 36.55% of the ulna nerve developed nerve impairment, the medium nerve, 16.68% and the radial nerve, 1.64%. The claw hand with the stiff fingers was seen in 73.03% of cases. The nerve impairment has relation with leprosy reaction counted for 41.06%. Most of active and relapsed leprosy cases have the single nerve impairment. The frequency of nerve impairment developed is as following, The first is in ulna nerve, The second, medium nerve and radial nerve,

Two third of nerve impairment is in reversible. The nerve impairment in upper limbs is significantly different due to delay of diagnosis of leprosy, leprosy reaction and different type of clinical leprosy

PCA 11

ANALYSIS OF BLOOD SERUM CRISTALLIZATION IN LEPROSY

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Peculiarities of crystalline structure of blood serum (BS) were studied in leprosy with using a new laboratory method based on wedge-shaped dehydration (V.N.Shabalin, S.N.Shatokhina, 1996). BS drop at 0.02 ml was placed on a slide surface and allowed to dry at t 18-25°C during 6-8 hours. Then samples were studied in stereomicroscope MZ 12 (firm "Leica"). In the process of drying on the open surface of BS drop a thin film ("faciens".*Lat.*) is formed. The main structural elements of the faciens include segments, separates, cracks, concretes. Microstructures of the type of Arnold's tongues, wrinkles, plates, leaf-like structures and others are considered as pathological formations. We studied faciens of BS from 80 patients with lepromatous leprosy (12 patients with active leprosy and 68 with regressed leprosy) aged 35-78 years old. Faciens of BS from healthy donors aged 25-35 years served as controls. It was found out that a pattern of structure of BS in the process of its dehydration was of certain peculiarities in leprosy. Noted changes in main structures of faciens of BS as well as pathological formations depended on the severity of leprosy, presence of complications, concurrent illnesses and age of a patient. The intensity of disturbances noted reflected severity of pathological processes. All this, as well as observed in vitro effects of biological preparations (tuberculin, lepromin) on pattern of BS structure suggested a high informative value of the method of wedge-shaped dehydration for more accurate defining disease activity and differential diagnosis of specific processes.

PCA 12

ANALYSIS OF DROP-FEET OF LEPROSY IN 2235 CASES

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To understand situation of drop-feet caused by leprosy in order to provide scientific basis for formulation of preventive strategies. All alive cured and active lep-

rosy cases in 11 counties in Jiangsu Province were investigated. Data were entered into computer for analysis. Among investigated cases, prevalence rate of drop-feet was 15.7%, the rate in single foot (13.62%) being higher than double feet (2.07%), rate in active or relapsed cases (31.28%) being higher than cured cases (15.07%), and rate in BT and BB leprosy cases (23.56%) being 23.56% and 20.96%. Within duration of less than 5 years, prevalence rate of drop-feet in PB cases (72.41%) was higher than that in MB cases (50.47%); and the rate in cases who had leprosy reactions was 33.75%. In patients with drop-feet the prevalence rates of plantar ulcers (21.21%), bone damage (19.17%) and foot disability (27.43%) were higher than those in patients without plantar ulcers (15%), bone damage (15.09%) and foot disability (20.19%). Among 989 drop-feet, only 30% could be reconstructed with operation. Drop-feet are more common among active or relapsed cases and predominately occurred on single foot. The plantar ulcers and foot disabilities are more frequently occur in drop-feet. Two-thirds of drop-feet have not chance to be reconstructed, and 70% of cases with drop-feet have not confidence to do such reconstructive surgery. Occurrence of drop-feet is associated with delay of diagnosis and treatment, leprosy reactions and leprosy classification.

PCA 13

ANALYSIS OF NEWLY DETECTED LEPROSY CASES FROM 1990-1998 IN CHINA

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Since implemented multi-drug therapy on leprosy recommended by WHO, the leprosy prevalence decreased significantly in China and the world. But the annual leprosy incidence seems not to parallel with the decrease of the leprosy prevalence. The Leprosy incidence decreased slowly in the recent years in China, and sometimes showed the rebounding situation in leprosy incidence. We selected the data on leprosy newly detected cases from 1990-1998 from database of leprosy surveillance system, National Center for STD and Leprosy Control to analyze the situation and the trend of leprosy transmission in China. Hoping to get the information to establish the working priority on leprosy control.

Materials and methods: The data came from database of leprosy surveillance system, National Center for STD and Leprosy Control. The diagnosis, classification and skin smear test of leprosy is based on the Handbook of Leprosy Control in China. The disability grading system is based on the 7th report of WHO Leprosy Expert Committee. The population calculation in provinces is the median of every three years.

Result:**Table 1: General information of newly detected cases from 1990–1998 in China**

Years	No. of new cases	Annual detection rate (1/100000)	Average age at diagnosis(y)	Average delay time(m)	MB Ratio(%)	No. of Relapse cases
1990	3263	0.29	36.8±15.3	40.6±78.6	59.6	428
1991	2810	0.25	36.9±15.6	37.8±74.4	61.5	323
1992	2514	0.22	36.9±15.2	34.7±52.4	63.1	318
1993	2032	0.18	37.3±15.2	31.6±48.3	64.1	247
1994	1845	0.16	37.8±15.6	31.5±42.1	66.6	194
1995	1809	0.16	37.2±15.1	31.3±44.5	65.2	200
1996	1667	0.15	37.3±15.0	31.8±45.6	67.0	178
1997	1547	0.14	37.9±15.7	32.0±47.0	67.9	283
1998	1966	0.16	36.9±15.9	30.8±43.8	63.6	175
Total	19453	0.17	37.2±15.5	34.4±57.9	63.7	2346

Table 2: Methods of detection of leprosy cases in China

Years	General reporting	Disease clinic	Skin contact	Follow up survey	Clue survey	Spot survey	Group survey	Others
1990	1005	1206	245	581	134	16	57	19
1991	864	1087	189	513	62	9	65	21
1992	832	827	199	493	57	2	37	17
1993	624	823	138	331	51	1	57	7
1994	550	738	163	314	29	4	40	7
1995	543	737	114	339	29	3	37	7
1996	506	634	144	295	48	3	27	10
1997	484	622	113	277	29	1	10	11
1998	520	703	210	409	51	48	17	8
Total	5928	7427	1515	3552	490	87	347	107
	(30.5%)	(38.2%)	(7.8%)	(18.3%)	(2.5%)	(0.5%)	(1.8%)	(0.6%)

Table 3: Sources of transmission in leprosy cases

Years	No. of new cases	Sources of transmission of leprosy		
		In family	Out of family	Unknown
1990	3263	912	1283	1068
1991	2810	769	1217	824
1992	2514	758	1061	695
1993	2032	625	830	577
1994	1845	560	780	505
1995	1809	494	789	526
1996	1667	490	708	469
1997	1547	436	659	452
1998	1966	612	788	566
Total	19453	5656(29.1%)	8115(41.7%)	5682(29.2%)

Table 4: Clinical analysis of new leprosy cases from 1990–1998 in China

Years	No. new cases	Child cases(%)	Cases with single lesion (%)	No. of cases with BI >4.0(%)	No. of cases with Nerve damage(%)	cases with disability Grade 2(%)
1990	3263	126(3.86)	341(10.45)	358(11.0)	2902(88.9)	855(27.1)
1991	2810	111(3.95)	322(11.46)	299(10.6)	2459(87.5)	738(26.3)
1992	2514	87(3.46)	279(11.10)	285(11.3)	2201(87.5)	657(26.1)
1993	2032	52(4.04)	231(11.37)	254(12.5)	1744(85.8)	463(22.8)
1994	1845	65(3.52)	191(10.35)	212(11.5)	1621(87.9)	430(23.3)
1995	1809	68(3.76)	185(10.23)	215(11.9)	1546(85.5)	420(23.2)
1996	1667	65(3.89)	189(11.33)	186(11.2)	1416(84.9)	351(21.1)
1997	1547	63(4.07)	179(11.57)	197(12.7)	1304(84.3)	330(21.3)
1998	1966	114(5.80)	244(12.41)	202(10.3)	1678(85.4)	398(20.2)
Total	19453	781(4.0)	2161(11.1)	2208(11.4)	16871(86.7)	4672(24.0)

Table 5: Comparison on new cases of leprosy from 1996–1998 in some province of China

Provinces	Population (millions)	No of new cases diagnosis (y)	Average age at time (m)	Average delay cases (%)	No. of child disability	No. of Grade 2 positivity	(%) No. of BI
Yunnan, Guizhou, Sichuan, Jiangsu, Shandong, Zhenjiang, Xinjiang, Gansu, Qinghai	187.06	2874	35.6	31.5	149(5.2)	623(21.7)	1826(63.6)
	202.27	423	45.1	29.5	5(1.2)	115(27.2)	300(70.9)
	46.17	169	29.0	29.4	33(19.5)	35(20.7)	82(48.5)

Discussion and conclusion

The leprosy prevalence in 1998 decreased by 74% than 1990 in China, and showed a continually declining trend, but the detection rate of leprosy in the recent 5 years decreased not significantly, and fluctuated between 0.14~0.16/100000. Based on theory that if all leprosy cases treated with MDT in time, leprosy transmission could be decreased, and the detection rate of leprosy declined. Our study showed that the detection rate did not decreased significantly. It may be related with many leprosy cases who were not detected in time, and as the leprosy transmission sources existed a long time. Incidence

The results showed that the average age of new leprosy cases at diagnosis from 1990~1998 is 37 years old, the average delay time of new cases at diagnosis is 34.4 months and the child leprosy cases counted for 4% of all cases. It indicated that although the leprosy control has achieved a great success in the past years in China, the leprosy problem could not be neglected in some provinces.

There were 5656 cases developed leprosy due to contacting the active cases within the family which counted for 29.1% of all cases. About 8115 (41.7%) cases developed leprosy due to contacting the active cases out of the family. There were a total of 13771 (70.8%) cases who had the definite sources of leprosy. The result showed that it is of great importance to us in following up the contacts of leprosy.

The 95% of all new cases were detected by the methods of skin clinic, disease reporting, clue survey and follow up contacts. About 13355 leprosy new cases were detected by the passive methods (Skin clinic and disease reporting) which counted for 68.7% of all cases. But 5991 cases (counted for 30.8%) were detected by the active case-finding methods (Clue survey, spot survey, group survey and so on). It suggested that active cases finding with passive methods should be recommended.

Among 19453 cases, about 12228 cases were skin smear positive that counted for 62.9% of all cases. About 2208 cases were BI more than 4.0 which counted for 11.4% of all cases. The skin smear test is also of great importance to diagnosis and treatment of leprosy in the field. Now above the level of county in China, almost every leprosy unit has established the reliable skin smear laboratory. We suggest that the skin smear test should be maintained in the leprosy control program.

There were only 2161 cases with the single lesion which counted for 11.1% of all cases from 1990~1998 in China. We agree with WHO's review that some operational factors in the field could influence the specificity of diagnosis on leprosy such as rewarding on reporting of leprosy and political pressure. We consider that the leprosy cases with the single lesion must be diagnosed with caution and must be avoid to over-diagnosis on leprosy.

The result showed that among the 19453 cases, 86.7% of cases had nerve damage. The cases with the disability grade 2 counted for 24% of all cases. This is much higher than that of 32 leprosy epidemic countries (5.43%~9.63%) in the world from 1985~1997 reported by WHO. We think that there is a problem in leprosy early cases finding due to the traffic difficulty and lack of leprosy service in the mountain areas.

PCA 14

ANALYSIS ON 93 RELAPSED LEPROSY CASES

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Objective: to provide guidance for leprosy control at the grass-roots level through studying the relapse situation of leprosy in Guangxi Autonomous Region during recent years. Methods: the relapse situation was analyzed by Chinese statistical software of leprosy.

Results: Out of 93 relapsed cases detected during 1990 to 2000, 82 cases relapsed after DDS monotherapy (88.17%) and 11 cases after MDT (11.83%). The mean duration from cure to relapse and after MDT to relapse was respectively 15.62 years and 8.27 years. The proportion of new case to relapsed case was 1.09:1. Most cases were detected in dermatology clinic and some others by follow-up visit and self-report.

Conclusions: There is a relapse in different degree after both DDS monotherapy and MDT, which indicate that in a low epidemic situation, to detect relapsed cases in time should be regarded as one of the most important tasks.

[**key words**] leprosy, relapse, MDT

PCA 15

ANALYSIS ON DETECTION OF NEW LEPROSY CASES BEFORE, DURING AND AFTER THE YEAR OF LEPROSY ELIMINATION CAMPAIGNS

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In order to analyze the impact on the situation of case finding after Leprosy Elimination Campaigns, the data of newly detected leprosy cases in the leprosy high endemic area have been collected before, during and after the year of carrying out Leprosy Elimination Campaigns. The result showed that the number of new leprosy cases detected during the year of lep-

rosy elimination campaigns was significantly high. The number of newly detected cases after the year of Leprosy Elimination Campaigns was similar to that of detected before the year of carrying out Leprosy Elimination Campaigns in counties with persisting case finding activities. But the number of newly detected cases after the year of Leprosy Elimination Campaigns significantly decreased in counties without active case finding activities. The average distance from the house of leprosy cases detected during Leprosy Elimination Campaigns to the leprosy control unit at the count town is 62.8 kilometer which is farther more than that of other leprosy cases detected before and after the year of Leprosy Elimination Campaigns. The average disease delay-time of leprosy cases detected after the year of LEC shortened. The results also showed that carrying out Leprosy Elimination Campaigns will have no the significant impact on the trend of cases finding within a short time in local areas. But it may improve some indicators of leprosy patients and so promote the leprosy control in local areas.

PCA 16

ANALYSIS ON NERVE IMPAIRMENT OF THE UPPER LIMB IN 641 LEPROSY PATIENTS

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In order to make clear the situation of nerve impairment of the upper limb in leprosy cases, we selected 1575 leprosy non- active and active cases who are still living in Xinghua city as the study samples. The result showed that about 40.7% of the upper limb in all cases developed nerve impairment. The lateral nerve impairment was 23.1%. It is higher than that of bilateral nerve impairment (17.52%). The nerve impairment among active and relapsed cases was 69.23%. It is higher than that of non-active cases (40.46%). The MB cases developed more nerve impairment (55.94%) which is higher than that of PB cases (38.46%). We also find that 36.63% of the ulna nerve developed nerve impairment, the medium nerve, 16.95% and the radial nerve, 2.35%. The claw hand with the stiff fingers was seen in 73.03% of cases. The nerve impairment has relation with leprosy reaction counted for 43.37%. Most of active and relapsed leprosy cases have the single nerve impairment. The frequency of nerve impairment developed is as following, the first is in ulna nerve, the second, medium nerve and radial nerve, Two third of nerve impairment is irreversible. The nerve impairment in upper limbs is significantly different due to delay of diagnosis of leprosy, leprosy reaction and different type of clinical leprosy.

[**Key words**] leprosy; nerve of upper limbs; impairment

PCA 17

ANATOMICAL AND CLINICAL STUDY OF THE SUPERFICIAL BRANCH OF RADIAL NERVE – A CONTRIBUTION FOR THE DIAGNOSIS OF LEPROSY.

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The purpose of this paper is to contribute to the diagnosis of leprosy and to evaluate the possibility of a misdiagnosis based on superficial branch of radial nerve (SBRN) palpation and its anatomical relationships. A clinical study was conducted based on the results obtained by three leprologists. Each examiner performed SBRN palpation at the radius dorsal tubercle level on a total of 70 upper extremities of 25 Hansen's disease patients and 10 healthy controls. All test subjects were adult males. The data collected regarding the SBRN thickness, consistency and shape were statistically analyzed to evaluate agreement using Kappa statistics and association through chi-square test. Macro and microscopic observations of the anatomical relationships of the thickest branch of the SBRN with surrounding tendons and veins, at the radius dorsal tubercle level, were also performed. A total of 20 formalin (10%) preserved adult male human cadavers upper extremities were studied macroscopically and 22 upper extremities of 10% formalin preserved adult male human cadavers, microscopically. Results indicated that palpation of SBRN is subject to considerable inter-observer variation. Chi-square results show a statistically significant association between SBRN thickness and clinical group, as well as of SBRN thickness and consistency. Anatomical aspects of SBRN demonstrated some findings that can lead to erroneous clinical assessment of its thickness, consistency and surface. Difficulties in evaluating the SBRN by palpation and the anatomical variations observed suggest caution when interpreting results, and that inclusion of this nerve during routine field work neurological evaluations be considered with reservations.

PCA 18

APPROACHES TO IDENTIFICATION OF RISK GROUPS FOR LEPROSY NEURITIS

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Searches for criteria to consider a patient as having risk of development of leprosy neuritis are of urgency. In the work presented we discussed the main scientific developments in this direction and our own

attempts aimed at elucidation of pathogenesis of leprosy neuritis and estimation of prognostic value of the data obtained as well. The most part of investigations unravel the most significant aspects of mechanism of peripheral nerve damage in leprosy (molecular, ultrastructural and cell-cooperative neurotropism of *M. leprae*). But application of the data obtained for prognostic aims is unlikely. In this regard, methods of detection of antineural antibodies (anAb) seem to be more promising. At the same time data obtained by various investigators are rather contradictory. One might suggest that some part of free anAbs in blood serum is not caught because they seem to be bound with immune complexes and directly with antigens of peripheral nerves. According to our observations, intersystem approach to prognosis of development of leprosy neuritis is promising. It is based on simultaneous evaluation of intensity of proliferation of leprosin-stimulated lymphocytes and state of cortisol-producing function of adrenal cortex.

PCA 19

ASSOCIAÇÃO DE HANSENÍASE NEURAL PURA E CONTRATURA DE DUPUYTREN: RELATO DE CASO.

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Introdução: A neurite do nervo ulnar é a forma mais comum de neuropatia hansênica. Clinicamente apresenta-se com dor, espessamento do nervo ulnar, atrofia de musculatura interóssea e região hipotenar e garra do 4º e 5º dedos, enquanto que a "Contratura de Dupuytren" consiste numa fibrose da fáscia palmar com retração de pele e flexão da articulação metacarpofalangeana e/ou interfalangeana proximal, porém sem acometimento neurológico.

Relato de caso: Paciente masculino, 47 anos, foi encaminhado ao nosso serviço por apresentar quadro de dor intensa em trajeto de ulnar direito, com irradiação para 4º e 5º dedos da mão, com garra dos respectivos dedos, atrofia discreta de musculatura interóssea e espessamento do nervo ulnar ao nível do cotovelo, sendo diagnosticado Hanseníase Tuberculóide (TT) Neural Pura e iniciado terapêutica com poliquimioterapia paucibacilar (PB) e Prednisona 60mg/dia. Na reavaliação após 30 dias, o paciente apresentava melhora do quadro algico e do espessamento do nervo ulnar. Nesta ocasião, foi evidenciada uma retração da pele na face palmar da mão direita sobre a região dos tendões flexores do 4º dedo, sendo feito o diagnóstico clínico de "Contratura de

Dupuytren" e o paciente encaminhado para tratamento cirúrgico com liberação da fáscia palmar e decompressão com transposição do nervo ulnar.

Conclusão: Este caso ilustra a importância de um exame físico minucioso para confirmar a ocorrência de duas patologias, que podem ser consideradas como diagnósticos diferenciais em um mesmo paciente, podendo levar a fatores de confusão na confirmação do diagnóstico de formas neurais puras de hanseníase

PCA 20

AVALIAÇÃO DA NEURITE HANSÊNICA ATRAVÉS DA ULTRA-SONOGRAFIA

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O estudo ultra-sonográfico permite uma avaliação estrutural dos nervos periféricos, possibilitando o acompanhamento da neurite hanseníca.

Foram avaliados sistematicamente os nervos radial, mediano, ulnar, fibular comum e tibial bilateral de pacientes em diferentes estágios da doença, utilizando-se o aparelho Logic 700, GE, com transdutor linear com frequência de 9-13 MHz. Os aspectos ecográficos avaliados incluíam: espessura do nervo, padrão fascicular, extensão do acometimento neural, compressão por túneis osteofibrosos e estudo da vascularização intraneural através do Doppler colorido.

Verificou-se que pacientes de hanseníase apresentam maior espessura dos nervos periféricos, os quais, de acordo com o tempo de doença, podiam se apresentar com perda do padrão fascicular normal.

Conjuntamente aos aspectos clínicos e à eletroneuromiografia, o ultra-som adiciona informações sobre os aspectos estruturais dos nervos periféricos e desta forma permite uma análise confirmatória do acometimento neural, do grau e da extensão do comprometimento, além de poder auxiliar no acompanhamento da eficácia terapêutica reacional, através da comparação desses dados, e do uso do Doppler colorido, durante ou após o tratamento.

PCA 21

AVALIAÇÃO DO ACOMETIMENTO UNGUEAL NA HANSENIASE

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Avaliamos meticulosamente as unhas das mãos e dos pés de 60 doentes portadores de hanseníase. Os doentes foram avaliados no ambulatório da UFPB e em clínica privada no decorrer de 2000 e 2001. De um modo geral, a faixa etária mais acometida foi a de 31-60 anos. Foram avaliados um total de 60 doentes com hanseníase, onde observamos que 24 pacientes eram portadores de alterações ungueais. Destes, 20,83% estavam na faixa etária de 11-30 anos, 54,17% tinham de 31-60 anos e 25% tinham mais de 60 anos.

PCA 22

AVALIAÇÃO DO COMPORTAMENTO CLÍNICO DOS HANSENIANOS NO INSTITUTO LAURO DE SOUZA LIMA NO PERÍODO DE 1930 A 1990.

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Foram estudados retrospectivamente 1984 pacientes portadores de hanseníase falecidos no ILSL no período de 1930 a 1990. Os resultados dos dados clínicos e laboratoriais foram expressos em média \pm erro padrão quando paramétricos, em mediana e percentil quando não paramétricos. A comparação foi realizada utilizando-se ANOVA ou teste "t"; Kruskal-Wallis e teste do χ^2 . As curvas de sobrevida actuarial foram determinadas através do método de Kaplan Meyer, e comparadas pelo "log rank test".

Resultados: Houve predomínio do sexo masculino e raça branca, não sendo observada diferença estatisticamente importante ($p > 0,05$) entre as décadas. A idade média dos pacientes no período do diagnóstico da Hanseníase (MH) foi $39,75 \pm 0,36$ anos, sem diferença entre as décadas ($p > 0,05$). A idade média do óbito foi de $52,02 \pm 0,36$ anos; observando-se um aumento significativo das décadas de 40 ($46,36 \pm 0,61$ anos) para 50 ($52,54 \pm 0,95$ anos) ($p < 0,001$), de 50 ($52,54 \pm 0,95$ anos) para 60 ($57,15 \pm 0,74$ anos) ($p < 0,01$) e de 70 ($58,59 \pm 0,75$ anos) para 80 ($64,83 \pm 1,19$ anos) ($p < 0,01$). A mediana de uréia foi 63,5 mg/dl (P25 = 36 mg/dl; P75 = 140 mg/dl) e de creatinina 2,17 mg/dl (P25 = 1,47 mg/dl; P75 = 6,05 mg/dl). As principais causas de óbito foram: doenças infecciosas (48,50%); doenças renais (24,50%); cardiovasculares (17,50%); neoplásicas (4,30%); digestivas (3,20%); respiratórias (0,60%) seguida de outras causas (1,50%). A sobrevida actuarial da hanseníase foi: na década de 30 de 5 anos; na de 40, 7 anos; na de 50, 10 anos; na de 60, 16 anos; e nas décadas de 70 e 80/90 foram 20 anos. Estatisticamente observou-se aumento na sobrevida actuarial nas décadas subjacentes ($P < 0,05$).

Conclusões: O aumento da sobrevida actuarial das respectivas décadas coincidiu com a implantação de

um tratamento eficaz e diagnóstico precoce, enquanto que as complicações renais decresceu significativamente

PCA 23

BACTERIOLOGICAL STATUS OF LEPROSY AFFECTED BEGGARS AND ITS EPIDEMIOLOGICAL SIGNIFICANCE

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A recent publication has indicated that about 20 percent of leprosy affected beggars were smear positive and may be a hidden source of infection to the community. The aim of this study was to estimate the bacteriological status of leprosy affected beggars at our centre in order to assess the epidemiological significance for the spread of infection.

We used 2 approaches - one, we screened all leprosy affected beggars who attend our centre and second, we identified 3 leprosy colonies where such beggars reside and carried out a clinical and bacteriological assessment on site. Slit skin smears were taken from a minimum of three sites (Right earlobe, Left forehead, Left arm) and sometimes from the skin lesions.

A total of 127 beggars were screened (M 70, F 57). The duration of disease ranged from 5 to >40 years. 102 of them had deformity of hands and or feet. 45 patients gave a history of taking Dapsone Monotherapy for durations ranging from 5 years to 10 years. 44 patients had completed MDT. In 38 patients a clear history of past treatment could not be ascertained, but most of them said they had taken treatment at different leprosy centres.

Slit skin smear examination revealed 4 cases that were positive out of the 127 tested (3.1%). The average BI ranged from 0.5 to 5.4 with the individual site BI ranging from 1+ to 6+. A detailed analysis of these 4 patients revealed that they had either taken only monotherapy and had relapsed or had taken treatment irregularly.

This study help allay the fears in the general public to the possibility of "Catching the disease" through casual exposure to leprosy affects beggars in society

PCA 24

BORDERLINE LEPROMATOUS LEPROSY IN A PATIENT TREATED WITH INFlixIMAB (A TUMOR NECROSIS FACTOR INHIBITOR)

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Chimeric monoclonal antibodies directed against tumor necrosis factor alpha (TNF) have been developed for use in rheumatologic conditions. Agents such as infliximab and etanercept interfere with T-lymphocyte functions and have been associated with reactivation of infections controlled by cell-mediated immunity. Active tuberculosis has been reported in persons receiving infliximab recently, raising concern for the need for prophylaxis to treat latent disease.

We report the first case of leprosy in a person receiving infliximab. A 60-year-old man with a five-year history of rheumatoid arthritis developed a skin rash. He had previously been treated with methotrexate, hydroxychloroquine, and steroids without relief. One month following his first infliximab injection, he developed skin lesions that worsened following his second injection. Infliximab was discontinued. Biopsy of the lesions showed BL leprosy with skin smears positive to 3+ with globi. Normal skin was present in the dermis between the affected areas. He has received standard MDT, with good results and no signs of reaction to date. His arthritis remains in control with only nonsteroidal medications.

Screening for latent infections should be considered for patients receiving immunosuppressive drugs. Use of TNF inhibitors has been associated with the activation of latent mycobacterial infections, tuberculosis and now the first case of leprosy

PCA 25

CHALLENGES OF IMPLEMENTING A SKIN TEST TRIAL FOR LEPROSY UNDER PRESENT DAY CIRCUMSTANCES

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The elaborate and multifaceted process of testing two new leprosy skin test antigens (MLSA-LAM and MLCwA) in clinical studies began in 1992. The quest for regulatory approval from the FDA and other authorities has heightened our awareness of the stringent regulations in the U.S. and abroad for research on humans. Familiarization with regulatory requirements, resources, training in human research, document creation and approval processes was integrally critical to manufacturing antigens in a GLP/GMP pilot facility and running a Phase I clinical study at CSU. Each element was addressed and skin test antigens were manufactured in May, 1997. Concurrently, working in concert with our NIAID, NIH Project Officer, our Human Research Committee (HRC) and Phase I Principal Investigator, FDA

approval for the Investigational New Drug (IND) application and Phase I clinical study was approved in December 1998. The Phase I trial was successfully completed in December 1999. Preparations for the Phase II clinical trial were greater in magnitude. Foremost was the identification of the trial site (Anandaban Leprosy Hospital, Kathmandu, Nepal)(see related abstract). In addition, approvals from CSU HRC, Nepal Health Research Council (NHRC) and the Office for Human Research Protection (OHRP) were required before study documents could be submitted. The Phase II protocol and consent forms were extensively reviewed before approval. Comparably, standard operating procedures, study guidelines and case report forms have been created in Nepal, reviewed and approved. Finally, and most importantly, a safety monitoring committee was established to oversee the study as it progresses. Although challenges of implementing a skin test trial have been intense and difficult, with teamwork and perseverance the process is nearing final approval. The Phase II study is expected to begin in March 2002.

PCA 26

CHARACTERISTICS OF PATIENTS WITH HANSEN'S DISEASE SEEN AT A PRIVATE MEDICAL CENTER IN HAWAII, 1998 AND 1999

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Hansen's disease has occurred in Hawaii since the 1830's. Since 1984, all medical care for Hansen's disease has been provided in the private sector. We reviewed the charts of all 37 patients who were seen at The Queen's Medical Center in 1998 and 1999 in whom Hansen's disease was listed as a diagnosis.

The mean age was 59 years, with 35% being younger than 50 years. 78% were male. 30% were Hawaiian, 24% Filipino, 14% Samoan, and 14% Micronesian. In 30%, the record stated that the patient had lived or still lived at Kalaupapa.

Aside from Hansen's disease, the 2 most common primary diagnoses were gastrointestinal disease, and infection. 76% of the visits/admissions were for problems other than Hansen's disease.

The Ridley-Jopling classification was included in only 38% of cases. 14% had LL disease, 8% BL/BB, 5% BL, 5% BB and 5% BT. 35% were known to be receiving antimicrobial therapy for Hansen's disease, and 45% of those receiving therapy were receiving more than one drug for Hansen's disease.

18 patients were stated to have comorbidity. 6 had foot ulcer, and 5 each had hand deformity, foot deformity, and neuropathy.

We will discuss the significance of these findings in relationship to the epidemiology of Hansen's disease in Hawaii.

PCA 27

CLINICAL AND EPIDEMIOLOGICAL EVALUATION OF PATIENTS WITH HANSEN'S AGED BETWEEN 0 TO 14 YEARS.

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Introduction: Hansen's was considered as a hereditary disease in the past. Since it was thought because of higher incidence in infancy. In Brazil 10% of the cases were detected in children. In relation with clinical aspects, the infantile Hansen's has got same characteristics like in adult Hansen's with some peculiarities.

Material and Methods: In this study 219 patients were included from January 1998 to December 2000 at the Out patient department of Dermatology (hygiene) of Santa Casa. On analyzing the patient records 16 patients (7%) were between the 0 to 14 years age. These patients were classified as per the Madrid classification (1953) and lab exams were performed. After confirming the diagnosis multiple drug regime was started where as 2 patients (12.5%) were managed conservatively.

Results: Out of 219 patients registered, 16 patients (14%) were children between 0 to 14 years age group, out of this 15 were males and 1 was a female. 14 patients (87.5%) had paucibacillary type. On evaluation of the relation between the diagnosis and duration of the disease we observed 7 (44%) patients were diagnosed within 6 months of the beginning of the symptoms. The Basciloscope was negative in 15 (94%) patients. In one patient reaction (reverse reaction) was noted. In relation with the treatment 11 patients (69%) treated with PTQ/PB, 1 patient treated (6%) with ROM, 2 patients (12.5%) treated with PTQ/MB.

Conclusion: This study in relation to age with clinical type showed that paucibacillary type is more common than the multibacillary type, but later does exist.

PCA 28

CLINICAL ANALYSIS OF 111 LEPROSY PATIENTS WITH TYPE I LEPROUS REACTION

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To investigate the incidence, clinical features and management of type 1 reaction (RR) in the leprosy patients treated with WHO-MDT regimen.

Methods: To analyze the incidence, relation with classification, clinical features, occurrence and persistence of RR in 111 patients with RR.

Results: Among 2004 leprosy patients treated with MDT, 111 cases are diagnosed to have RR (5.54%) and 73.83% of them are borderline patients (BT, BB and BL). Of 111 patients with RR, there are 4 cases with skin lesions (3.60%), 93 cases with skin lesions and nerve impairment (83.78%) and 14 with nerve impairment (12.61%). 102 patients are diagnosed to have RR before and during MDT (91.89%), including 58 cases occurred in the first year of MDT (52.25%), and 69 cases with RR persisted for 6 months (62.16%). **Conclusion:** Among leprosy patients treated with MDT, the incidence of Type I reaction is 5.54%, most cases are the borderline patients occurred in the first year of MDT. Type I reaction causes nerve impairment and persists for long time. Sufficient doses and course of steroid therapy can prevent and decrease occurrence of deformity.

[**Key words**] Multidrug therapy Type I reaction

PCA 29

CLINICAL AND DIAGNOSTIC ASPECTS OF THE PURE NEURAL VARIETY OF LEPROSY

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Aim of investigation: Contribution to the knowledge of pure neural variety of leprosy, the diagnostic approach.

Methods: A total of 25 patients with peripheral neuropathy suspicious of leprosy, without detectable skin lesion or positive skin bacilloscopy were studied during the period of 1994-01. They were submitted to dermatological and neurological examination, sensory mapping, electrophysiologic tests, Mitsuda reaction and biopsy of the sural nerve. The histological studies were applied with hematoxiline-eosine, Fite-Faraco and imunohistochemical study with polyclonal antibodies ant-BCG antigen.

Results: The age range was from nine to 87 years old, 20 of them were male and five female, in 72% of patients the symptoms developed above the fourth decade. The clinical picture of polineuropathy occurred in 80% of the patients while 20% were mononeuropathy multiplex. The Mitsuda reaction was possible to read in 20 patients, being positive in 15 and negative in five. The histological routine examination, hematoxiline-eosine and Fite-Faraco, was conclusive for leprosy in seven patients. Five of them were borderline or tuberculoid and two were bor-

derleine lepromatous, accomplished 28% of confirmed diagnosis cases.

The imunohistochemical study was introduced in order to increase the diagnosis and help to discharge this hypothesis. The test was positive in nine patients; all of them previously confirmed leprosy, one with inespecific inflammatory process and another arteriopathy (36%). Among the remaining 16 patients, two patients had leprosy confirmed and in 14 it was excluded in the follow-up, pulling the diagnosis to 44%.

Conclusion: The imunohistochemical study is an accurate instrument to be added to the routine histological examination of the peripheral nerve in the suspicious cases of leprosy, but the clinical follow-up also has an important role in this investigation.

PCA 30

CLINICAL EVALUATION OF INFANTILE NODULAR HANSEN'S (INH).

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Introduction: The Infantile Nodular Hansen's (INH) is a variety of Tuberculoid Hansen's. Clinically it can present in various types. The lesions are usually few but yet times multiple. Lesions are commonly noticed in the exposed areas but they heal spontaneously.

Material and Method: Out of 103 patients evaluated at the out patient department of Dermatology (hygiene), 8 patients (8%) had fulfilled all the criteria of clinical and epidemiological features of Infantile Nodular Hansen's (INH). The variables of sex, age, number and location of lesions, mode of contact and type of treatment were correlated. The treatment was given according to the Brazilian national program of Hansen's control. (PQT/PB & ROM).

Results: Out of 103 patients registered, 8 patients (8%) had INH type and out of this only one male patient (12.5%) and 7 patients (87.5%) were females. The average age is 6.5 years. As per the study of number of lesions 4 patients (50%) had only one lesion and one patient (12.5%) had more than 10 lesions. Face is very often affected i.e. in 6 patients (75%). 3 patients had this by the way of domestic contact. In relation with the treatment 3 patients (37.5%) were treated as per the scheme of PQT/PB, 1 (12.5%) with ROM and 4 (50%) with conservative treatment.

Conclusion: All though INH had been stated many times in the literature as a single lesion seen on exposed areas, the interesting point noted in this study

is that we found one case with disseminated lesions. In the major group of patients the mode of contact could not be identified well.

PCA 31

COMPARISON BETWEEN ML OF TISSUE FLUID SMEAR AND THAT OF PATHOLOGIC SECTION BEFORE AND AFTER MDT ON MB LEPROSY PATIENTS

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The article has made a comparison between ML of skin tissue fluid and that of tissue pathologic section on 142 new patients of MB leprosy. Those patients have finalized the process of MDT, undergone continual monitor, and met the treating requirement. This article aims to discuss the change of bacteria of these two inspecting means on different steps of MDT.

The 142 cases have proved to be positive on the bacteriological inspection before MDT. The averages of BI and BIG are 3.55 and 3.27 respectively, much close to each other. But under MDT, those two figures decrease sharply. ML of tissue fluid decreases far greater than that of pathologic section. The difference is obvious ($P < 0.001$). BI and BIG have dropped to 0.0953 and 0.7404 at the end of MDT. ML of tissue fluid has transformed into negative after 42 months, while that of pathologic section into negative after 54 months. The result shows the decreasing rate of link ratio for BI is irregular. BIG decrease regularly. Thus it can be concluded that ML of pathologic section is more exact than that of tissue fluid smear. BIG can represent the bacteriological change of leprosy even more accurately and objectively. It can also make a more reliable inspection to judge the treatment and to prevent the leprosy recrudescence.

PCA 32

COMPROMETIMENTO DA MUCOSA ORAL EM PACIENTES VIRCHOVIANOS TRATADOS COM PQT E ROM

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Na forma virchoviana, desde o seu início há disseminação hematogênica do *M. leprae* que se localiza na pele, mucosas, nervos, ossos e vários órgãos. As mucosas nasal, da boca e da laringe são geralmente comprometidas e isso faz com que as vias aéreas superiores constituam uma via de eliminação dos bacilos muito importante. Pacientes com lesões específicas bem evidentes nas mucosas, em particular na

mucosa oral, são menos frequentes hoje, em que o diagnóstico é feito em uma fase não muito avançada. Contudo, as lesões específicas, embora não aparentes, devem continuar existindo. Qualquer solução de continuidade nesse nível poderia eliminar uma quantidade muito grande de bacilos que contribuiriam para a disseminação da doença. Neste trabalho foi estudada a mucosa oral de dez pacientes virchovianos em tratamento com PQT e com baciloscopia positiva. Em todos eles foi realizada uma biópsia do palato mole que é o local mais frequentemente acometido pela doença e o resultado foi o encontro do infiltrado específico e a presença de bacilos álcool-ácido resistentes nesses pacientes.

PCA 33

CONCURRENT LEPROSY AND HIV INFECTION – SHORT TERM OBSERVATIONS - TWO CASE REPORTS

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The coexistence of mycobacterial diseases including tuberculosis and HIV infection is a well-known fact. However, there is no conclusive evidence to show any significant correlation between HIV and Leprosy. We report two case reports on the progress on the coexistence of HIV infection

Case 1: DS, unmarried, male, 22 years

Promiscuous individual. Past history of genital ulcer disease Diagnosed as BT leprosy (B.I. negative). Treated with ROM - 3 doses intermittently from September to December 1997. Developed Type - I reaction in April 1998, treated with corticosteroids. HIV confirmed by Western Blot in March 1999. LEP-ROMIN negative in September 2000 Silent neuritis in right ulnar nerve, treated with steroids. Leprosy lesions regressed completely in July 2001.

Case 2: BN, married, male, 32 years

Promiscuous and alcoholic individual. Past history of genital ulcer disease. Diagnosed as BL leprosy (B.I. was 2+) in October 2000 and treated with ROM - 12 intermittent doses till September 2001. Reported HIV (ELISA) positive in December 2000. Developed Type - 1 reaction in January 2001 and treated with steroids. Developed Herpes Zoster in March 2001 and hepatitis in April 2001. Repeated reaction in August 2001 with acute neuritis, treated with steroids. In December 2001, he was hospitalized for ulcer care. Patient expired (Suspected due to Pulmonary Kochs) in January 2002. Spouse tested HIV positive. HIV status of 2 children is unknown.

It is observed that in both these cases, though the follow up is short, clinically they have been regressing well. Long-term follow-up is necessary to observe the behaviour of clinical pattern (Case - 1), however it

seems that it may not be feasible due to mortality on account of opportunistic infection as seen in case - 2.

PCA 34

DEVELOPMENT OF A SCALE TO MEASURE THE SEVERITY OF REACTION IN LEPROSY

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Reaction is a common complication of leprosy. It is associated with a variety of signs and symptoms, including skin signs, systemic effects such as fever, and peripheral neuropathy. Reaction differs in its severity, from mild reaction with minimal effects to severe reaction that may lead to irreversible tissue damage. Each of the signs and symptoms are associated with their own clinical test and grading method. There is however, no single, validated assessment drawing together this information. For programme, treatment, and research outcome evaluation, a single quantifiable scale measuring the severity of reaction was desired. For the purposes of the INFIR 2 project, (pilot clinical trials to evaluate alternative drugs as treatment for leprosy reactions), it was decided that a scale was needed to identify patients with severe reaction for recruitment and as a numerical way of monitoring drug response.

Scale development and validation was carried out at Green Pastures Hospital & Rehabilitation Centre. Items for the draft scale and potential gradings were collected through consultation with a team of experts from within Nepal and abroad, and by review of a cohort of patients from the hospital to identify presenting characteristics. The items were rationalised into dermatological, systemic and neurological features and include all available tests and clinical examinations. A four-point response scale was chosen. The scale was developed by classical scale development techniques, validated in the hospital against a clinical assessment made by a team of experienced physicians and will be psychometrically tested. Results of the scale development and validation process will be presented.

PCA 35

DIAGNÓSTICO DA HANSENIASE: O EXAME CLÍNICO ASSOCIADO A BACILOSCOPIA PARA UMA TERAPEUTICA ADEQUADA.

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A hanseníase, é uma patologia infecciosa que afeta principalmente a pele, os nervos periféricos, tem causado medo a humanidade por muitos anos. Porém O *Mycobacterium leprae*, descoberto na Noruega por Armauer Hansen em 1873, foi a primeira bactéria a ser identificada como causadora de uma doença humana. Hoje os pacientes são tratados em ambulatórios, e necessitam de um diagnóstico adequado (exame clínico e baciloscópico). O objetivo do estudo é avaliar a importância do exame clínico associado ao exame baciloscópico (BAAR) para o diagnóstico e classificação da hanseníase. Estudo transversal e retrospectivo, que utilizou dados secundários retirados dos prontuários dos pacientes matriculados no Centro Integrado de Saúde Amaury de Medeiros – CISAM-UPE referência no diagnóstico e tratamento da hanseníase na cidade do Recife-PE, no período de janeiro a dezembro de 2000 e revelaram a importância da realização do exame baciloscópico em pacientes com hanseníase, devido a sua relevância para o diagnóstico e controle da evolução da doença, é como parâmetro indispensável no auxílio da conduta a ser instituída nas reações e recidivas.

PCA 36

DIFICULDADE DIAGNOSTICA NA LESÃO GRANULOMATOSA DA FACE NA CRIANÇA

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Introdução: A hanseníase é uma doença infecto-contagiosa causada pelo *Mycobacterium leprae* com alta prevalência em nosso país. Exterioriza-se de diversas maneiras clínicas comprometendo diversas faixas etárias. Nas crianças existe uma peculiaridade conhecida como hanseníase nodular infantil que se acredita ser bastante freqüente.

Objetivo: Chamar a atenção para as lesões na face em crianças.

Material e Métodos: TVB, sexo feminino, quatro anos, branca, natural e residente no Rio de Janeiro. Referindo lesão na face há 06 meses, foi submetida ao exame dermatoneurológico e exames complementares (Biopsia, mitsuda e baciloscopia) finalizando diagnostico de hanseníase tuberculoides (hanseníase nodular infantil).

Resultados: Exame dermatológico: Lesão papulo-

tuberosa de coloração levemente ocre, menor que 1cm, localizada na asa nasal direita e sulco nasogeniano esboçando bordas policíclicas com discreta depressão central. Biopsia (granuloma tuberculóide). Mitsuda 4 mm. Teste de sensibilidade sem alteração.

Conclusão: Incluir este tipo de lesão clinicamente como diagnóstico diferencial de hanseníase mesmo sem história epidemiológica, devido a variedade de apresentações clínicas da hanseníase nodular infantil que pode se apresentar como nódulo, papula ou macula.

PCA 37

DOENÇA AUTO-AGRESSIVA HANSÊNICA

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A doença auto-regressiva hanseníase, descrita em 1978 pelo Prof. Azulay, corresponde a quadro clínico e imunopatológico de auto-agressão que ocorre na Hanseníase da forma Virchowiana e, menos frequentemente, na forma difusa que tende para o pólo virchowiano devido à grande quantidade de múltiplos anticorpos às custas de uma estimulação de linfócitos B. Os autores apresentam o caso de um paciente, sexo feminino, 68 anos de idade, com diagnóstico de artrite reumatóide em julho/98, usando Diclofenaco de Sódio 20mg, Prednisona 5mg, Disfofato de Cloroquina 250mg, sem melhora clínica. História de ter iniciado com quadro de lesões em placas eitêmato-hipocrônicas disseminadas no corpo, dores articulares e queda do estado geral dois anos antes do diagnóstico. Em Dezembro/98, teve o diagnóstico de hanseníase Virchowiana IB=5,2. A sintomatologia só teve melhora com o início da poliquioterapia. Ao exame dermatoneurológico apresentava perfurante plantar no Hálux direito. Os exames complementares realizados em 12/04/99 mostraram: Fator reumatóide muito aumentado: 2560 UI (<5); Proteína C Reativa: 198mg/dl (<5); VHS 60 min: 18. Os exames realizados em 08/06/2000 mostraram: Células LE: negativo; FAN: positivo; VHS 60 min: 14; Fator Reumatóide: 1280 UI (Ref.: < 25 UI/ml); Proteína C Reativa: 48 mg/L; VDRL: não reativo; ASTO: 80,0; Urina Rotina: normal. O tratamento instituído foi a poliquimioterapia multibacilar e Talidomida 400 mg/dia com melhora completa da sintomatologia.

Motivo da apresentação: Alertar para a existência da doença auto-agressiva hanseníase em país endêmico e muitas vezes confundida com outras doenças auto-imunes

PCA 38

DORMANT LEPRA BACILLI IN THE OCULAR TISSUE IN PRE MDT DAPSONE ERA AND POST MDT ERA.

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The Lepra Bacilli was searched in the iris tissue of the leprosy sufferers who was declared Released From Treatment (RFT). The aim of this study was to evaluate the status of bacillary clearance from the body as well as to correlate/postulate the presence of the bacilli as one of the causes/sources of relapses or the evolution of the ocular complications. Two such studies were undertaken in Eastern India in between 1979 to 1981 and in the year 2000. This iris tissue or the other ocular tissue was collected from the leprosy patients (RFT) during cataract surgery where an iridectomy was performed routinely as a part of the surgery or enucleation was done to remove a painful blind eye.

Dormant Lepra Bacilli was found to be present in the iris tissue in the Dapsone Era (1982) amongst the MB leprosy sufferers with a Negative Skin Smear report for the Acid Fast Lepra Bacilli. Again Dormant Lepra Bacilli had been encountered along the Optic Nerve sheath in "RFT" MB patient in the MDT era (2001). The histopathological picture of the skin tissue of these patients had not revealed any Lepra Bacilli. So the big question lies in the fact of the presence of these bacilli in a dormant state and the bactericidal efficacy of MDT. Is it one of the risk factor for relapse.

PCA 39

ERITEMA NODOSO NECROTIZANTE- RELATO DE CASO.

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Relato do caso: Os autores relatam um caso de hanseníase dimorfo virchowiana em paciente adolescente, masculino, branco, 15 anos, natural do Ceará e procedente de Mauá, com início do quadro há 1 ano. Realizado o diagnóstico e instituída a terapia multibacilar específica, evoluiu com vários episódios reacionais do tipo II (eritema nodoso), controlados parcialmente com talidomida e prednisona, porém apresentando neurites intensas que culminaram com formação de garra fixa de nervo ulnar bilateralmente. Há 30 dias, apresentou novo surto reacional de nódulo

los eritematosos em membros superiores e inferiores, encimados por bolhas hemorrágicas e necrose central, que após tratamento específico evoluiu com cicatrizes atróficas.

Discussão: O eritema nodoso é uma reação de hipersensibilidade tipo III de Coombs, que ocorre em pacientes DV e V, virgens de tratamento, mas em geral durante e após terapêutica (mais comum após os primeiros seis meses de tratamento). Caracteriza-se clinicamente por nódulos eritematosos, dolorosos que eventualmente podem ulcerar e necrosar. Os sintomas constitucionais são importantes. Sugerindo uma relação mais provável com a presença de bacilos fragmentados que surgem após tratamento específico, a reação localiza-se em vasos mais calibrosos da derme profunda e tecido celular subcutâneo, primariamente nos granulomas. Os principais diagnósticos diferenciais são: fenômeno de Lúcio, síndrome do anticorpo antifosfolípide e eritema polimorfo. Apesar do diagnóstico e tratamento precoce, incapacidades graves podem se desenvolver.

Motivo da apresentação: Raridade e exuberância do caso.

PCA 40

ERYTHEMA NODOSUM LEPROSUM (ENL) POSSIBLY TRIGGERED BY LEVOFLOXACIN 3 YEARS AFTER COMPLETION OF MULTIDRUG THERAPY (MDT)

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Background: ENL, commonly found in multibacillary leprosy patients, can occur after exposure to drugs that are active against *Mycobacterium leprae*. It is known that viable, dormant bacilli (persisters) can survive for many years after leprosy therapy.

Case Report: A 57-year-old male treated for BL leprosy with MDT for 2 years, required treatment of ENL and neuritis with thalidomide and/or prednisone for additional 20 months and was then lost to follow-up for 12 months. In November 2001, while self-medicated with daily 20-mg prednisone and free of ENL-related manifestations for 1 year, he developed cryptococcal meningitis that was successfully treated with amphotericin B (2110 mg over 2 months); prednisone was withdrawn. Each daily dose of amphotericin B was administered with 25 mg hydrocortisone as co-medication to prevent infusion-related side effects (a common practice in Brazilian hospitals). In January 12, 2002, the patient developed sinusitis that was treated with a daily 500-mg dose of levofloxacin. In January 28, 16 days after the introduction of hydrocortisone, he developed an episode of ENL.

Discussion: It is possible that ENL was triggered by levofloxacin, which is the active isomer contained in ofloxacin, a fluoroquinolone that is active against *M. leprae*. If this is so, it is an evidence that the patient still had viable bacilli after taking BDT for the recommended 24 months. Withdrawal of steroid is an alternative explanation that is debatable given the low dose schedule used by the patient for over 2 months before the episode of ENL.

PCA 41

ESTUDO CLÍNICO-PATOLÓGICO DE 461 NOVOS CASOS DE HANSENÍASE

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Apesar de nos últimos anos estar ocorrendo um importante declínio da Hanseníase como endemia em todo o mundo, a persistência de níveis elevados de casos novos em áreas geográficas pontuais e a necessidade de se manter os profissionais com experiência no diagnóstico e tratamento da doença mobilizados nos programas de controle, tem estimulado a realização de estudos no âmbito da clínica e epidemiologia. O Brasil permanece sendo o segundo país do mundo com maior número de pacientes e o Estado do Amazonas ainda apresenta taxas de prevalência e de detecção de casos novos consideradas como representativas de alta endemicidade. No presente estudo os autores fazem uma revisão de prontuários de pacientes atendidos na Fundação "Alfredo da Matta" (FUAM), que é Centro de Referência para tratamento da Hanseníase e faz o diagnóstico e tratamento de 70% dos casos da cidade de Manaus, demonstrando os dados demográficos, epidemiológicos e clínicos observados. O perfil clínico-patológico e epidemiológico deste grupo de pacientes é comparado com os descritos na literatura científica mundial.

PCA 42

ESTUDO DA EVOLUÇÃO DAS FORMAS CLÍNICAS DA HANSENÍASE E TENDÊNCIA CRESCENTE PARA A FORMA DIMORFA, NO CENTRO DE REFERÊNCIA DONA LIBÂNIA - FORTALEZA CEARÁ - 1995 - 2001

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Ao analisar a evolução das formas clínicas da Hanseníase e a tendência das formas dimorfas no Centro de Referência Dona Libânia Fort. Ce, no

período de 1995 – 2001, percebe-se no cotidiano desta unidade de saúde uma tendência crescente no diagnóstico na forma tuberculóide, porém, observa-se na clínica que está havendo um aumento do número de casos de hanseníase na forma dimorfa e um comportamento diferente da doença para as formas multibacilares, especificamente a dimorfa com altos índices baciloscópicos. O objetivo deste trabalho é estudar a tendência da forma dimorfa entre todas as formas clínicas da hanseníase, verificar o índice baciloscópio da forma clínica dimorfa no momento do diagnóstico. Os dados parciais foram obtidos através das fichas de notificação e investigação dos pacientes de hanseníase e processadas no SINAN / EPINFO. Será realizado um estudo retrospectivo, descritivo e analítico de uma série histórica de casos de hanseníase nos últimos 7 anos. A casuística é constituída de todos os casos notificados do período (1995 - 2001). Analisando os dados do período de 1995 a 2001, acharam-se os seguintes resultados: a partir do ano de 1995, observa-se um aumento de casos dimorfos de 133 em relação ao total de 614 casos com o aumento de 22% no primeiro ano avaliado (1995). No último ano avaliado (2001) encontramos 433 casos na forma dimorfo entre 840 de todos os casos, alcançando um percentual de 55%. O período analisando 1995 a 2001, inclui marcos importantes na evolução da endemia hanseníase e do enfoque das políticas de controle da hanseníase, melhoria no diagnóstico clínico. Conclui-se portanto, que é de grande importância a realização deste trabalho para um maior conhecimento do comportamento desta endemia no nosso estado.

PCA 43

ESTUDO DA VALIDADE DA CLASSIFICAÇÃO CLÍNICA DE HANSENÍASE RECOMENDADA PELO MINISTÉRIO DA SAÚDE DO BRASIL

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Fundação Alfredo da Matta (FUAM). AV. Codajás, 25. Cachoeirinha. 69065-130. Manaus. Amazonas. Brasil.

A classificação dos pacientes de hanseníase baseada no resultado do exame baciloscópio da linfa é fundamental para a determinação do esquema terapêutico adequado. Pacientes que apresentam baciloscopia positiva serão tratados com o esquema de poliquimioterapia multibacilar e os que apresentam baciloscopia negativa recebem o esquema paucibacilar. No entanto, para os locais que não dispõem da baciloscopia, o Ministério da Saúde do Brasil recomenda que seja feita uma classificação baseada no número de lesões: até cinco lesões de pele e/ou um tronco nervoso acometido, é considerado paucibacilar e mais de cinco lesões de pele e/ou compro-

metimento de mais de um tronco nervoso é considerado hanseníase multibacilar. Neste estudo, os autores comparam a classificação clínica baseada no número de lesões e troncos nervosos acometidos com o resultado da baciloscopia e da pesquisa de bacilos ao exame histológico, em um grupo de 530 pacientes portadores de hanseníase, diagnosticados na FUAM, no período de janeiro de 2000 a março de 2001.

PCA 44

ESTUDO DE CASOS CLÍNICOS: DIFICULDADES ENCONTRADAS NA CONDUÇÃO DO TRATAMENTO DAS REAÇÕES HANSENÍCAS

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Secretaria Municipal de Saúde de Vilhena – RO

Secretaria Municipal de Saúde de Pimenta Bueno-RO

Introdução: A Hanseníase é sabidamente endêmica no estado de Rondônia, constituindo um sério problema de saúde pública apesar de esforços da Coordenação Estadual, priorizando programações específicas desde 1992, objetivando detecção precoce de casos e conseqüentemente a prevenção de incapacidades.

Objetivos: Apresentar e discutir casos de hanseníase, com pontos em comum, sob os aspectos psicossocial e clínico, em dois Municípios do Estado, Pimenta Bueno e Vilhena, identificando falhas na condução dos mesmos e buscando uma reflexão embasada na realidade local, visando assegurar uma assistência adequada aos portadores deste estigmatizante mal.

Materiais e Métodos: Estudo de dois casos clínicos ocorridos em diferentes Municípios. O trabalho tem como fonte, dados coletados dos prontuários dos pacientes e entrevistas.

Apresentação dos Casos- Pacientes jovens, mesma faixa etária e classe social, portadores da doença na forma multibacilar que apresentaram estados reacionais intensos (Eritema Nodoso Necrotizante) aliado à intercorrências clínicas adversas, exigindo terapêutica agressiva sem resposta satisfatória.

Resultados: A experiência foi importante para reflexão de alguns pontos básicos:

-necessidade urgente de Referência Técnica Descentralizada (Pimenta Bueno dista 510 Km e Vilhena 700 Km da capital Porto Velho);

-revisão e complementação do Manual de Normas do Programa de Controle da Hanseníase, prevendo situações adversas não tão raras como mostra a casuística.

Conclusão: Faz-se necessário realizações de reuniões com o intuito de promover discussões técnicas, estudo de casos e troca de informações entre as equipes municipais e/ou estaduais, o que contribuirá

também para revisão das Normas Técnicas do Programa, além de tornar as equipes coesas e seguras

PCA 45

ESTUDO DO COMPROMETIMENTO NEURAL EM HANSENÍASE

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Os problemas das neurites, do dano neural e das incapacidades na hanseníase continuam sendo relevantes no que se refere à sua detecção precoce, ao seu tratamento e às suas repercussões psicossociais para o indivíduo e para a sociedade.

Foi realizado um estudo prospectivo com todos os casos inscritos no programa de controle e eliminação da hanseníase no período de 01 de janeiro de 1998 a 31 de dezembro de 2001 no município de São Carlos, São Paulo, Brasil. Foram monitorados 30 pacientes, sendo 17 multi e 13 paucibacilares, mensalmente ou quinzenalmente, quando necessário, quanto à evolução do comprometimento neural durante a fase de tratamento e posteriormente à sua alta clínica trimestralmente durante 2 a 3 anos. As ações básicas de prevenção de incapacidades foram parte integrante deste trabalho para a totalidade dos pacientes acompanhados.

Os resultados mostraram que:

O Nervo Tibial seguido pelo Nervo Ulnar foram os nervos mais freqüentemente comprometidos;

A maioria apresentou pelo menos um tronco nervoso em estágio de envolvimento neural no momento do diagnóstico;

82,3% evoluíram para perda da sensibilidade protetora plantar dos pés durante e/ou no período pós-alta;

A maioria apresenta, neste momento, Estágio I de comprometimento neural, ou seja, perda sensorial incompleta para um ou mais troncos nervosos;

A detecção precoce do dano neural e o monitoramento sistematizado e periódico da função neural foram fundamentais para evidenciar e tratar os nervos acometidos;

Nenhum paciente evoluiu para perda sensorial e motora completas bem como para deformidades instaladas.

PCA 46

EVALUATION OF LEPROSY PATIENTS PRESENTING LIVER ALTERATIONS DUE TO LEPROSY MDT/WHO TREATMENT

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Introduction: The Fiocruz Leprosy Laboratory (Collaborating Center of the Ministry of Health for the Program of Leprosy Control), among the several activities developed, one of them is to serve as a back-up to patients from other institutions coming to present side effects due to MDT.

Objective: Calling attention to some clinical indications which may wrongly ascribed to MDT.

Material and Methods: There have been evaluated 6 (six) patients with MDT. Treatment, clinically suspected of medicative hepatitis (discomfort, jaundice, abdominal pain and laboratory alterations), during the period of March to May 2001. At the moment of consultation, patients were examined by the general practitioners in charge of the service and laboratory exams (complete hemogram, liver function tests, lipid profile and serology for A, B, C viruses of hepatitis) were performed. Not having been found unfavourable laboratory results in the subsequent consultations, drugs have been introduced again in different moments, been always followed by laboratory and clinical evaluation. All the laboratory exams have been done at the Evandro Chagas Hospital (CPqHEC).

Results: Among six patients having been studied, two of them were male and four female. The ages range from six to seventy years old. Five patients presented normal laboratory results and only one patient presented symptomatology compatible to medicative liver disease and developed into anaemia when dapsone was introduced. Patients who did not present laboratory and clinical alterations after reintroduction of drugs have been oriented towards maintaining their MDT. Original schemes, in relation to the patient who had been unable to continue with the medication (Dapsone), the alternative scheme have been introduced (Clofazimine 100mg/day), based on the orientation of the Ministry of Health.

Conclusion: With the MDT. Introduction is general consensus that this one is quite safe and effective, although it demands a greater consideration on the part of its handling by health professionals.

PCA 47

EVALUATION OF THE FREQUENCY OF THE REACTINAL STATES AMONG PAUCIBACILLARY LEPROSY PATIENTS.

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Introduction: Investigative works about the frequency of leprosy reactional states have been showing varying results among the pauci and multibacil-

lary groups. In Brazil, publications on these date are still rare, mainly in the paucibacillary group.

Objective: The main objective of this study was to analyze the frequency of reactional states in paucibacillary leprosy patients.

Methods: We studied 300 paucibacillary leprosy patients, classified according to Ridley and Jopling, including the pure neuritic clinical form, with a methodical assessment of this group. The reference time was the start of specific paucibacillary treatment (WHO) and we didactically classified the reactions in three clinical types, reversal reaction without neuritis (R1), reversal reaction with neuritis (R2) and isolated neuritis (R3).

Results: The results demonstrated that the reactional states happen in 14,6% of patients and the recurrence was 4,5% of paucibacillary patients. It was verified that 70,4% of patients developed reversal reaction before the start of specific treatment, 25% during the treatment and 4,6% after the treatment. Reversal reaction without neuritis was observed in 56,8% of patients. "Borderline"-Tuberculoid" clinical form has the most incidence of reversal reactions (84,1%).

Conclusion: We have presented herein data that reinforce previous studies, showing that reaction episodes in paucibacillary patients occur less frequently than reaction episodes.

PCA 48

EVOLUÇÃO DA HANSENÍASE NA FORMA INDETERMINADA PARA A FORMA TUBERCULÓIDE APÓS O TRATAMENTO – RELATO DE 2 CASOS.

Ana Regina Alencar Santos, Clarisse Zaitz, Juliana Rogério Prado, Clarice Marie Kobata

Foram observados 2 casos de pacientes que se apresentaram inicialmente com máculas hipocrômicas na pele e alteração de sensibilidade local, tendo sido diagnosticados e tratados como Hanseníase na forma paucibacilar, com esquema poliquimioterápico (rifampicina e dapsona) por 6 meses. Evoluíram num curto período de tempo com viragem da reação intradérmica de Mitsuda, sendo revelado no exame anatomo-patológico a formação de um granuloma, caracterizando a forma tuberculóide da doença.

Caso 1: paciente C. S., 55 anos, masculino, branco, natural de Arcalva – SP, procurou nosso ambulatório há 2 anos com queixa de lesões bolhosas e perda da sensibilidade no 2º quirodáctilo da mão direita, apresentando previamente síndrome do túnel do carpo nesta mão, tratada com cirurgia há 1 ano. Feita hipótese de Hanseníase forma neural, realizado eletromiografia sem alterações, baciloscopia e mitsuda negativos, e orientado tratamento em posto de saúde com poliquimioterapia paucibacilar (rifampicina e dap-

sona). Evoluiu com surgimento de lesões em braços e pé direito, com perda de sensibilidade, onde foi realizado biópsia, revelando Hanseníase tuberculóide.

Caso 2: paciente S. D. A., 23 anos, masculino, branco, natural de São Paulo, procurou nosso ambulatório com lesão em perna direita caracterizada por mácula hipocrômica, área de alopecia e perda de sensibilidade térmica, dolorosa e tátil no local. Realizado biópsia revelando processo inflamatório crônico cutâneo, Mitsuda e baciloscopia negativos, prova da pilocarpina alterada, enquadrando-se o caso numa Hanseníase indeterminada e iniciando o esquema poliquimioterápico paucibacilar por 6 meses. Evoluiu no pós-tratamento com infiltração da lesão pré-existente e aparecimento de lesão nodular em lábio inferior. Realizado biópsia que evidenciou processo granulomatoso.

PCA 49

EVOLUTION TIME PRIOR TO DIAGNOSIS AND DISABILITIES AT THE INITIAL EXAM IN MULTIBACILLARY LEPROSY PATIENTS.

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In an effort to determine the influence of the evolution period prior to diagnosis in the presence of disabilities detected at the initial examination of multibacillary leprosy patients, one hundred patients (18% BB, 47% BL and 35% LL) were asked in anamnesis to ascertain the evolution period of the disease before the diagnosis was made. The patients were evaluated in respect to physical disabilities at the time of the diagnosis through the disability grade before treatment (DGBT), using voluntary muscle test (VMT) and nylon-monofilament sensitivity test (Semmes-Weinstein test).

The diagnosis was made up to 6 months of evolution of the disease in 29% of the patients, while more than 2/3 of them (71%) had diagnosis in a time period of over 6 months of evolution. In relation to the disabilities presented at diagnosis, 44% presented DGBT = 0; 33% presented DGBT = 1; 22% presented DGBT = 2; and 1% presented DGBT = 3. When the period of time of disease evolution before diagnosis was correlated with DGBT, we obtained a significant correlation ($p = 0.019428$). Patients with bigger evolution periods before diagnosis presented bigger disability grades before treatment, while patients whose diagnosis was made up to 6 months of disease evolution presented less disabilities related to leprosy. These data show the importance of early diagnosis in the prevention of disabilities related to leprosy.

PCA 50

EXPLORACIÓN NEUROLÓGICA COMPLETA EN PACIENTES CLÍNICA Y BACTERIOLÓGICAMENTE INACTIVOS DESDE HACE MÁS DE 10 AÑOS

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Aunque para el diagnóstico de la enfermedad no sea necesario una exploración neurológica completa, intentamos recoger los resultados de esta exploración realizada a 81 pacientes inactivos controlados por el Sanatorio san Francisco de Borja (Fontilles). Se evalúa tanto la sensibilidad superficial (térmica, dolorosa y táctil) como la sensibilidad profunda en miembros superiores e inferiores. Se valora la fuerza muscular de los Sistemas neuromusculares más comúnmente afectados. Se exploran los reflejos osteotendinosos y cutáneos y se estudian las alteraciones tróficas secundarias a la enfermedad.

Con el estudio se demuestra que, a pesar de ser posterior a la afectación de la sensibilidad superficial, también la profunda se ve afectada tras años de evolución de la enfermedad.

PCA 51

EYE IN MDT- LONGITUDINAL FOLLOW-UP 1982-2002

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Regular Eye Examinations were done from start of treatment till last date of attendance. 1033 were followed for a minimum period of 5 years to 20 years.

Follow-up period and cases:

5 - 10 years 308

11- 15 years 449

>15 years 276

They consisted of Tuberculoid 83, Borderline 384, Borderline Lepromatous and Lepromatous 566. The treatment was according to WHO regimen. In Tuberculoid and Borderline patients 441 had no eye complication while 26 patients had Lagophthalmos only. In BL-LL patients 507 had no eye complication while 59 had eye complications.

In those with short duration of disease eye complications subsided within a year and did not recur again. In those with long duration of disease eye complications lasted for years and even in those who did not have eye complications initially developed them

later after years of MDT. Blindness occurred in 4 patients who had severe pre-existing eye complications. Steroid Cataract was common. Cataract and IOL surgery outcome was good.

Early detection of the disease and MDT prevent eye complications. All BL-LL patients need routine Slit Lamp examination for early detection of Iritis. Early detection of Reversal Reaction will prevent Lagophthalmos. Treatment of ENL with Thalidomide will reduce Steroid Cataract. Benefits of ophthalmic surgery including IOL should not be denied to the patients.

PCA 52

FACIAL LESIONS IN LEPROSY – AN ANALYSIS

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Face lesions in leprosy have a potential and a propensity to develop Type I Reaction and disability. Several studies published in literature supports this theory. In our experience, particularly patients with face lesions report with anxiety related to persistence of the lesions and attribute to the incurability of the disease.

In this study a total of 89 patients with face lesions were analysed from the available records of registered patients in our urban clinics located in Bombay over the past 5 years. 46 were adults and 43 were children. 22 were male adults and 24 were female adults. 19 were male children and 24 were female children.

The face lesions were analysed with reference to (i) distribution of lesions, (ii) clinical presentations and (iii) treatment of clinical problems. All these patients were either treated with standard WHO MDT or with intermittent therapy consisting of Rifampicin, Ofloxacin and Minocycline (1/3/6/12 doses)

It was observed from the analysis that 14 patients had lesions around the eye, 59 had lesions on the cheek, 10 had lesions on the cheek and forehead while 6 had the lesion on the nose. Among these 8 patients were found to have Type I Reaction, 6 reported with watering of the eyes and 1 with Type II Reaction. Incidentally none were found to have lagophthalmos, though 6 patients had watering of the eyes indicating early nerve function impairment. All patients with Type I Reactions were managed with a standard course of steroids for 3 months. 2 patients who did not respond to steroids were put on a course of Clofazamine in anti-inflammatory schedule for six months. In view of persisting erythema in 8 patients, despite the standard steroid course, they had to be put on topical sunscreen consisting of Titanium dioxide 1%, Calamine 6 % along with strict advice to avoid sunlight. The response was good and satisfactory.

PCA 53**FENÔMENO DE LÚCIO NA GESTAÇÃO**

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A gravidez associa-se a uma maior frequência dos estados reacionais relacionados à hanseníase. Um destes, o fenômeno de Lúcio, é observado entre os portadores da variedade difusa de Lúcio e Alvarado, sendo raro em nosso meio. Ilustrando esses fatos, relatamos um caso de fenômeno de Lúcio na gestação marcante por sua raridade, exuberância e evolução dramática.

Sem diagnóstico prévio de hanseníase; veio ao nosso serviço por apresentar áreas de necrose cutânea seca com contornos poligonais e estelares na face, tronco, membros superiores e em toda extensão dos membros inferiores; lesões eritemato-violáceas infiltradas com bordas irregulares na face, além de madarose e rarefação ciliar. Não havia evidências de comprometimento sistêmico nem fetal. O exame histopatológico foi compatível com fenômeno de Lúcio. Instituímos o tratamento específico para hanseníase, imunossupressão com doses altas de corticóides e antibioticoterapia de amplo espectro. Debridamentos cirúrgicos. No 39º dia de internação, após o óbito fetal seguido por abortamento espontâneo, a paciente desenvolveu insuficiência respiratória, evoluindo com óbito.

PCA 54**FENÔMENO DE LÚCIO: RELATO DE 2 CASOS.**

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Introdução: Os autores relatam 2 casos de fenômeno de Lúcio em pacientes com hanseníase virchoviana.

Relato dos casos: Caso 1: JMF, branco, masculino, 52 anos, apresentou quadro súbito em membros inferiores e superiores de máculas livedóides e purpúricas que evoluíram para lesões ulcero-necróticas, ascendentes e dolorosas, evoluindo com septicemia. Apresentava infiltração difusa da face e madarose ciliar.

Negava afecção e tratamentos prévios para qualquer patologia. O exame histopatológico das lesões revelou proliferação endotelial focal dos vasos dérmicos, vasculite rica em bacilos (BAAR) e oclusão vascular por trombos. Caso 2: JAS, 78 anos, branco, natural do Piauí. Procurou o Posto de Saúde do Serviço Universitário com quadro de aparecimento repentino de áreas de necrose cutânea ascendentes, dolorosas em membros inferiores, superiores e lóbulos de orelhas. Ao exame dermatológico, apresentava infiltração da região frontal, com destruição do septo nasal. Negava doenças e tratamentos prévios. O exame histológico da face evidenciou hanseníase virchoviana e o quadro dos membros inferiores e superiores foi compatível com o de fenômeno de Lúcio.

Discussão: o fenômeno de Lúcio, também denominado de eritema necrotizante, foi descrito pela primeira vez por Lúcio e Alvarado como uma reação necrosante, ocorrendo em pacientes com hanseníase virchoviana e não nodular. Em 1948, Latapi e Zamora, reconheceram-na como sendo o estado reacional da forma difusa, ocorrendo em doentes com infecção avançada, sem tratamento específico adequado ou precedendo o início deste. Nos dois casos descritos, o fato da doença de base até então não ter sido detectada e tratada, favoreceu o diagnóstico, pois o fenômeno geralmente acomete indivíduos nesta situação.

Motivo da apresentação: Raridade e exuberância dos casos.

PCA 55**FIRST DOCUMENTATION OF HISTOID FROM YEMEN**

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Histoid type of Lepromatous leprosy was first reported and described by Dr.Wade in 1963, Dr.Ramanujam, Dr.Ramu in 1969, Dr.Rodrigues in 1969 and Dr.Chaudhary in 1971. It is a variant of L.L. Clinically characterized by cutaneous and subcutaneous nodules with a distinctive histopathology or plaque like lesions. The typical cutaneous lesions are reddish, shiny, round, well-defined, firm and non-tender nodules, arising from normal skin, resemblance to neurofibromatosis. Histoid leprosy occurs in patients, whose disease is relapsing on behalf of the discontinued treatment prematurely, or due to the causative organism, *M.leprae*, has become drug resistant. In this subject we are reporting the first case of Histoid leprosy from Yemen after intake of MDT for 5 months, and discontinuing for 10 years.

PCA 56

FREQUENCY OF ANEMIC PROFILES IN PATIENTS WITH LEPROMATOUS LEPROSY UNDER DAPSONE TREATMENT

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The anemia can be defined as the presence of hemoglobin rates lower 13 grams/dl in the man and 12,0 grams in the woman. It's great variety for the appearance of an anemic picture, however in our study, two factors has larger relevance. The leprosy is a disease of chronic evolution and the dapsone, a drug oxidizer, used in your treatment. The anemia of chronic disease may also present as a microcytic anemia.

In a retrospective rising of 148 lepromatous leprosy patients assisted at this Institute in the year of 2001 and submitted to hematology's exams, we observed the presence of lower hemoglobin rates above to the limits described in 37,1% of these patients, and this rate was 11,1% in a group control of 144 patients. There was not difference significant statistics in relation to the patients' sex.

Table 1-Medium values and d. pattern of the patients' variables and control group.

Variable	Leprosy patients		control group		p
	Average	d. pattern	Average	d. pattern	
Age	50,61	15,419	50,67	15,547	ns
Hemoglobin	13,04	2,097	14,09	1,568	P<0,001
Hematocrit	39,56	6,375	42,81	4,357	P<0,001
VCM	88,21	5,014	89,38	1,409	P<0,01
HCM	29,05	1,0950	29,29	1,172	P<0,01
CHCM	32,98	1,317	32,86	1,156	Ns

There was not difference significant statistics as in the anemia presence when compared in relation to the sex. We found significant statistical difference ($p < 0.001$) when we compared the patients' group with the group control in the presence of hemoglobin rates lower the minimum levels.

PCA 57

HANSEN'S DISEASE IN CHILDHOOD: A STUDY OF PHYSICAL DISABILITY

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In the State of Amazonas, Hansen's disease still represents a very important public health problem. The prevalence, comparing the coefficient of 127,6/10.000 inhabitants in 1988 and 10,3/10.000 inhabitants in 2000, has reduced significantly, however it has still not reached the elimination aim. Detection of new cases, has shown it to be hyper-endemic, with a coefficient of 4,4/10.000 inhabitants in 2000. Amongst the new cases detected, 82,1% presented disability Level 0, only 6,5% presented level II and

III, considered medium by national standards. In children younger than 15, the detection coefficient may be considered hyper-endemic, with a coefficient of 1,2/10.000 inhabitants. Hansen's disease in childhood reflects up to a certain point the aspects of this disease in the adult. The project's general objective is to evaluate Physical disability in children younger than 15, diagnosed with Hansen's disease. 216 patients were evaluated, diagnosed and treated at the "Fundação Alfredo da Matta" between January 1998 and January 2001, of these 57,4% were male. The age group most affected was between 11 and 15 years (60,6%). Paucibacillary forms represented 59,7% of the cases. 90,4% presented disability level 0, 4,8% I and 4,8% II and III. Of the 134 patients that were given discharge during the study, 63,4% were not evaluated for disability at discharge. Of those cases evaluated, 89,8% presented disability level 0, 6,1% level I and 4,1% level II and III. The disability level at diagnosis compared to that at discharge, show a worsening of 4,08%. However, this value is probably sub estimated, due to the high percentage of cases not evaluated at discharge.

PCA 58

HANSEN'S DISEASE RELAPSE IN THE CONTROL PROGRAMME OF AMAZONAS STATE

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Hansen's disease represents an important public health problem in the State of Amazonas with a detection co-efficiency of 4,4 /10.000 inhabitants and Prevalence of 10,3/10.000 inhabitants, having reduced significantly. One of the contributing factors for this reduction in prevalence was the introduction of multi-drug therapy in 1982, with patients receiving discharge as cured in shorter periods. Relapse after MDT may occur, according to the World Health Organisation in very low percentages, according to WHO, in 0,7% for multi-bacillar cases and 1,07% for paucibacillar. Our study's objective was to determine the percentage of relapse in Hansen's disease in patients registered in the Amazonas State Control Programme. A descriptive study was carried out with evaluation of notified cases of relapse from Manaus and the interior, between 1982 and 2001. Of the total number of patients given discharge as cured, 226 cases of relapse were notified, representing 0,95%. Relapse was more frequent in MB forms. The mean period between discharge and relapse was 7 years in MB cases and 4 for PB. In relapse, the slit skin smear index in MB presented a mean of 3,25. The disability level worsened between discharge and relapse in 32,6% of the cases.

PCA 59**HANSENÍASE ASSOCIADA À FEOHIFOMICOSE**

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MMF, 48 anos, masculino, branco, eletrotécnico, natural e procedente de Fortaleza – CE. Paciente em tratamento para MHBV há 22 meses, com queixa de “caroços no pé” há 7 meses, referindo ter feito drenagem do mesmo em serviço de Cirurgia, apresentando laudo histopatológico inconclusivo. Ao exame dermatológico: lesões inativas de MH e lesões nodulares, eritematosas, em número de três (03), medindo 5 cm no maior diâmetro, pouco dolorosas, eliminando secreção vermelha, localizadas em pé esquerdo. Exames microbiológicos: pesquisa e cultura para BK e germes piogênicos – negativas; micológico direto – hifas demáceas septadas com aspecto toluróide; cultura para fungos – *Exophiala jeikei*. Histopatológico: compatível com micologia. Tratamento: Cetoconazol e exérese cirúrgica. Motivo da apresentação: raridade da associação.

PCA 60**HANSENÍASE COM PSORÍASE**

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JC, 72 anos, masculino, leucodérmico, casado, lavrador, natural de Botucatu - SP, residente em Itapuí – SP.

HMA: Há três anos notou manchas vermelhas em dorso e abdome “adormecidas”. Há um ano, somaram-se ao quadro placas eritematodescamativas em membros inferiores e antebraços que pioravam quando o paciente sente-se nervoso e melhoram quando se expõe ao sol.

AP: Tratamento em centro de saúde por dez anos, a partir de 1956.

Parou de fumar há mais ou menos cinquenta anos.

Hipertensão arterial em tratamento irregular.

AF: Nega outros casos semelhantes na família.

Exame Dermatológico: Máculas hipocrômicas residuais em tronco, ombros e abdome ao lado de máculas hipocrômicas com eritema e infiltração marginal e placas eritematopardacentas mal delimitadas.

Placas eritematodescamativas com descamação lamelar e sinal do orvalho sangrante em membros inferiores e em menor número nos antebraços. Nas coxas, observa-se placas eritematopigmentares planas, entremeadas com áreas de pele normal.

Amiotrofia hipotenar e de primeiro interósseo dorsal na mão direita, retratação móvel de quarto quirodáctilo e fixa de quinto quirodáctilo direitos.

Exames Realizados: Hemograma: hemácias 4,97 mi, Hb: 52% (morfologia normal), leucócitos 6700 (diferencial sem alterações), plaquetas 265.000, glicemia de jejum 103mg%, Mitsuda= negativo, Baciloscopia: IB: 1,5; IM: 0.

Histopatológico: placas eritematopardacentas – infiltrado multifatorial, de pequena extensão, constituído de células epitelióides pouco diferenciadas e linfócitos. Baciloscopia 3+, (presença de bacilos típicos); placa eritematodescamativa de membro inferior – hiperplasia epitelial característica com hiperqueratose, paraqueratose e pequenos acúmulo de neutrófilos fragmentados em capa córnea. Focos de exocitose neutrofílica com espogiose. Baciloscopia: bacilos em macrófagos não diferenciados e em ramos nervosos.

Tratamento e Evolução: indicado PQT para multi-bacilar por vinte quatro meses 9fará tal tratamento em posto de saúde de região); prescrito liquor carbonis detergens (LCD) 10% em gel para lesões dos membros inferiores.

PCA 61**HANSENÍASE DIMORFA E AIDS – APRESENTAÇÃO DE 4 CASOS**

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Instituição: Divisão de Hansenologia e Dermatologia Sanitária da Secretaria da Saúde do Estado de São Paulo

Introdução: A influência da AIDS na evolução clínica e na resposta ao tratamento da hanseníase não está esclarecida.

Relato dos casos: Os quatro indivíduos manifestaram hanseníase dimorfa durante o tratamento da AIDS. Três do sexo feminino e 1 do masculino. As idades variaram de 27 a 44 anos. No momento do diagnóstico da hanseníase, dois indivíduos apresentaram baciloscopia positiva e reação de Mitsuda en-

tre 7 e 10 mm. Todos apresentaram no exame histológico células epitelióides com baciloscopia positiva. A reação tipo 1 (resposta imune celular) ocorreu em um indivíduo no momento do diagnóstico da hanseníase e em outro durante a evolução do tratamento da hanseníase.

Motivo da apresentação: Demonstrar as características clínicas, histológicas e a evolução do tratamento da hanseníase em casos desta co-infecção.

PCA 62

HANSENÍASE DIMORFA E VIRCHOWIANA EM MENORES DE 15 ANOS – APRESENTAÇÃO DE 8 CASOS

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Divisão de Hansenologia e Dermatologia Sanitária da Secretaria da Saúde do Estado de São Paulo

Introdução: A hanseníase em menores de 15 anos é pouco freqüente e muito pouco estudada. As formas bacilíferas (V e D) e as reações que podem ocorrer nestas formas podem gerar incapacidades que acarretarão muitas dificuldades na vida destes menores.

Relato dos casos: Os menores foram diagnosticados nos últimos 5 anos como hanseníase dimorfa ou virchowiana com baciloscopia positiva. A idade variou de 9 a 14 anos, 3 eram do sexo feminino e 5 masculino. Quatro apresentaram reação tipo 1 e 3 tipo 2. Todos apresentavam incapacidades sendo três com deformidades.

Motivo da apresentação: Realçar a importância do diagnóstico precoce em menores de 15 anos.

PCA 63

HANSENÍASE DIMORFA REACIONAL E LESÃO NEURAL

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Introdução: Os episódios agudos extracutâneos com acometimento neural periférico são freqüente no grupo Dimorfo, após as manifestações cutâneas, embora é citado por vários autores, a presença precípua dos bacilos nos nervos periféricos, nas formas disseminadas do grupo dimorfo.

Relato do caso: Paciente masculino, pardo, 39 anos, casado, pedreiro, desempregado, residente no Rio há 15 anos. Há 4 meses apresentou "dormência" no 1º e 2º pododáctilos e dorso do pé direito. Em seguida, refere intensa dor no joelho direito durante 15 dias,

que melhorou com antiinflamatórios, mas que evoluiu com dificuldade de mobilização do pé direito. Após um mês destes sintomas, surgiram "manchas avermelhadas" no tronco, que se "espalharam" pelo corpo, com queixa de "formigamento" nestas lesões. Apresentava placas eritemato-infiltradas, urticariformes, algumas com pigmentação violácea, localizadas no tronco, braços, coxas e pernas, poupando a face. Hiperestesia bilateral do nervo fibular (mais à dir.) e parestesia. Déficit motor com abolição da dorso-flexão do pé direito (pé caído). Pesquisa de BAAR foi positiva 2+ com raras globias e a biópsia foi compatível com HDVr e a coloração para bacilo positiva 4+(Fite).

Motivo da apresentação: HDV reacional com neurite do fibular direito e paresia muscular flexora do pé direito. Sintomas e sinais neurológico, que antecederam as manifestações cutâneas.

Comentário: A presença da grande quantidade de histiócito com citoplasma abundante e vacuolizado neste caso, é proporcional a uma multiplicação bacilar, tanto à nível de pele e nervo, mostrando uma degradação progressiva da imunidade celular, evoluindo para o polo V. Job, C.K. (1996). Nerve in reversal reaction. *Indian J. Lepr.* 68(1):43-7.

PCA 64

HANSENÍASE EM PACIENTE AIDÉTICO COM ANTECEDENTES DE CRIPTOCOCOSE CUTÂNEA E NEUROLÓGICA

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Relato do caso: Os autores relatam um caso de paciente masculino, branco, 45 anos, aidético, tendo como manifestação inicial criptococose cutânea, evoluindo para a forma cerebral, com resolução total do quadro após internação. Um mês após alta, notou diminuição da sensibilidade em membro inferior direito, seguido do aparecimento de placa eritemato-descamativa, infiltrada de 20 cm de diâmetro, bordas ulceradas e acompanhado de neurite e topografia do nervo ciático poplíteo externo. O exame histológico foi compatível com o de hanseníase dimorfo- tuberculóide.

Discussão: Nos pacientes com AIDS, nunca foi encontrado um aumento maior da prevalência de hanseníase. Embora um paciente aidético possa ter evidências laboratoriais típicas de uma imunossupressão, a resposta imunológica ao *M. leprae* é

essencialmente desconhecida. Considera-se que o *M. leprae* não causa a doença em pacientes com infecção prévia ao HIV, posto que a hanseníase necessita de uma imunidade celular funcionante para causar a doença clínica. Estudos epidemiológicos futuros serão necessários para compreendermos esta co-infecção.

Motivo da apresentação: Raridade e exuberância do caso.

PCA 65

HANSENÍASE EM SACO ESCROTAL – RELATO DE UM CASO

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A hanseníase é doença crônica contagiosa, causada pelo *M. leprae*, bacilo de alta infectividade, com baixa patogenicidade e virulência. Constitui-se num grande problema de saúde pública em países subdesenvolvidos, pelas graves sequelas consequentes ao não tratamento da moléstia. Os autores relatam um caso de hanseníase tuberculóide em saco escrotal. AFR, 36 anos, há um ano com placa eritemato-infiltrada, de bordas elevadas, medindo 7cm no seu maior eixo, localizada em saco escrotal, relatando o paciente, dormência local. Realizada investigação diagnóstica que mostrou baciloscopia negativa e histopatológico compatível com MHT. Iniciado PQT/PB em agosto/2000, com acompanhamento ambulatorial, obtendo-se boa resposta terapêutica. Motivo da apresentação: raridade de localização e exuberância da lesão.

PCA 66

Cláudio de Lélis Filgueiras de Souza; Avani Soares Almeida Magalhães; Elisa Oliveira Gonçalves Antunes; Mariza Bárbara Rissuto; Wendel Antônio Fagundes

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Pça. Dr. Fausto Monteiro, 300 Centro Alfenas-MG
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Os autores apresentam a história da família do paciente A.G.S., 27 anos do sexo masculino, apresentando quadro de hanseníase virchowiana, sua esposa M.A.S., 25 anos e seus três filhos B.G.S., 3 anos, S.G.S., 5 anos e E.G.S., 6 anos de idade vindos da região norte de Minas Gerais, cidade de São Sebastião do Maranhão, onde segundo os dados da Secretaria de Estado da Saúde não houve casos registrados de hanseníase no ano de 2001.

Motivo da Apresentação: Reforçar a importância do exame dos contratos como forma de diagnóstico precoce.

PCA 67

HANSENÍASE HISTÓIDE: RELATO DE 2 CASOS

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Relato dos casos: Os autores relatam 2 casos de pacientes com hanseníase históide.

Caso 1: IMR, 65 anos, branca, feminina, natural e procedente de Santo André, apresentava há 4 meses, pápulas e nódulos eritemato-brilhantes em membros inferiores, nádegas e dorso, assintomáticas de 0,5 a 1,0 centímetro de diâmetro. Não havia espessamento de nervos ou infiltração da face. Negava qualquer tratamento anterior para hanseníase. O exame histológico evidenciou proliferação de histiócitos fusiformes de forma estoriforme, com inúmeros bacilos. Instituído tratamento específico para multibacilar, houve boa evolução com regressão das lesões em número e tamanho.

Caso 2: MJS, 52 anos, branca, natural e procedente de São Bernardo do Campo. Há 2 meses passou a apresentar pápulas e nódulos normocrômicos, superfície brilhante, "dermatofibroma like", assintomáticos, em membros inferiores e abdome. O exame histológico evidenciou hanseníase históide. Relata ainda que há 2 anos, apresentou placas eritematosas em face, tórax, membros e foram diagnosticados como hanseníase virchowiana, mas a paciente não realizou tratamento instituído.

Discussão: Hanseníase históide foi inicialmente descrita por Wade como uma variante da forma virchowiana em 1960, embora outros autores a considerem como uma entidade distinta. Pode ocorrer em pacientes que já tinham sido submetidos a tratamento anterior com sulfona, ou virgens de tratamento. Lesões históides também foram descritas em pacientes com hanseníase dimorfa e indeterminada. Caracteriza-se por pápulas, placas e nódulos bem delimitados, brilhantes. Segundo alguns autores, as características histológicas do nódulo históide poderiam ser agrupadas em um espectro englobando 3 categorias baseadas na presença de células fusiformes e histiócitos vacuolizados.

Motivo da apresentação: Raridade e exuberância dos casos.

PCA 68**HANSENÍASE HISTÓIDE**

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Secretaria de Saúde de Guarulhos

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Paciente havia feito cirurgia de varizes dos MMII com aparecimento de lesão elevada na cicatriz cirúrgica. O estudo anatomopatológico desta lesão mostrou laudo de dermatofibroma. Foi submetida à infiltração com corticóide sem melhora. Posteriormente surgiram lesões semelhantes em MMSS quando foi encaminhada ao Centro de Saúde e realizada nova biópsia com o resultado de hanseníase Virchowiana. Solicitado coloração de Ziel Nielsen da primeira lâmina (lesão inicial) que mostrou globias.

PCA 69**HANSENÍASE HISTÓIDE**

Francisca Estrela Dantas Maroja; Flávia Estrela Maroja; Maria Das Graças Videres De Almeida; Mohamed Azzouz; Carla Wanderley Gayoso; Carlos Alberto Fernandes Ramos; Germana Brígida Queiroga Estrela

Universidade Federal Da Paraíba

Hospital Universitário Lauro Wanderley

Os autores apresentam o caso de J.P.S., 27 anos, faiodérmico, natural e procedente de Mamanguape-PB que ao exame apresentava lesões nodulares endurecidas, algumas eritematosas, outras de coloração normal da pele, algumas ulceradas de fundos lisos, isoladas e localizadas no tronco, membros inferiores e superiores com início há 04 anos. Apresentava ainda pavilhões auriculares infiltrados, nervos ulnar e fibular espessados e não dolorosos. Diagnóstico: Hanseníase Históide confirmada pelo anátomo-patológico. Foi instituído tratamento com poliquimioterapia com boa evolução e melhora das lesões.

Motivo da Apresentação: exuberância das lesões

PCA 70**HANSENÍASE INFANTIL NA PARAÍBA**

Francisca Estrela Dantas Maroja; Tereza Cristina Moura Rodrigues; Dulce Emília Ataíde Estrela; Flávia Estrela Maroja; Germana Brígida Queiroga Estrela; Francimary De Souza Buriti

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Pam De Jaguaribe

Centro De Estudos Dra. Francisca Estrela Dantas Maroja

Os autores analisaram os dados epidemiológicos da evolução da hanseníase infantil na Paraíba no período de 1976 a 2001, com idade de 0 a 14 anos, avaliando o tratamento instituído, o acompanhamento clínico, a cura ou abandono da terapêutica, avaliação da incapacidade física, reações que possam ter ocorrido durante a evolução e seguimento dos casos.

PCA 71**HANSENÍASE MULTIBACILAR EM BEBÊ DE 13 MESES – EVOLUÇÃO APÓS 7 ANOS DO DIAGNÓSTICO**

Alexandre Castelo Branco¹, Luiz Cosme Cotta Malaquias², Francisco Carlos Félix Lana³, Regina Lúcia Barbosa Cypriano¹, Francisco Carlos Pereira¹, Mara Firmato Esteves¹, Simone Teixeira⁴, Andressa Masiero Santos⁴, Maria Cristina Souza Felipe da Silva⁵, Jorge Eduardo Tavares de Lima¹, Sebastião Fontes Santiago¹

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Expõe-se o quadro clínico inicial de hanseníase multibacilar em um bebê de treze meses, apresentado por ocasião do IX Congresso da Associação Brasileira de Hansenologia e IV Congresso do Colégio de Hansenologia dos Países Endêmicos, em Foz do Iguaçu, e o quadro apresentado cinco anos após ter concluído tratamento PQT-MB de 24 doses.

PCA 72**HANSENÍASE NA INFÂNCIA**

Antônio Renê D. de Sousa; Rose Porto O. Guilhon; Francisco José D. Branco; Maria Luci Landin T. Ferreira

Centro de Dermatologia Dona Libânia – SESA – CE
Av. Pedro I, 1033 – Centro – Fortaleza – CE

De um total de 878 casos novos detectados pelo serviço no ano de 2001, 78 (8,8 %) pertenciam à faixa etária de menores de 18 anos. Destescasos, 3 (0,3 %) tinham 5 anos ou menos; 19 (2,1 %) tinham 10 anos ou menos; e 64 (7,2 %) tinham 15 anos ou menos. Quanto ao sexo, 47 (57,3 %) eram masculinos.

nos; e 35 (42,7 %) eram femininos. No que se refere às formas clínicas, 2 (2,4 %) eram indeterminadas (I); 37 (45 %) eram tuberculóides (T); 34 (41 %) eram dimorfas (D); 8 (9,8 %) eram virchowianas (V); e 1 (1,2 %) foi não-especificado. De acordo com a classificação operacional, 89 (47,6 %) eram paucibacilares e 43 (52,4 %) eram multibacilares., sendo 22 (26,8 %) portadores de baciloscopia positiva, 58 (70,7 %) portadores de baciloscopia negativa e 2 (2,4 %) com baciloscopia não especificada. Quanto ao grau de incapacidade física, 67 (81,7 %) tinham grau zero; 8 (9,8 %) tinham grau I e 7 (8,5 %) tinham grau II no início do tratamento.

PCA 73

HANSENÍASE NA INFÂNCIA NO MUNICÍPIO DE CURIONÓPOLIS - SUDESTE DO ESTADO DO PARÁ - RELATO DE CASO

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Hanseníase na infância, especialmente casos polarizados demonstram a magnitude do problema e refletem a intensidade de exposição ao *Mycobacterium leprae*, em determinada região. Apesar de não ser freqüente, requer intervenção criteriosa e gera questionamentos sobre a operacionalização das atividades para o controle desta nosologia milenar. Os autores relatam um caso de hanseníase dimorfa clássica em menor de três anos de idade, contato de hanseníase virchowiana (o pai), inclusive com suspeita de resistência primária e hanseníase dimorfa (o irmão). A menor, com baixo peso para a idade, não exibiu nenhuma cicatriz de BCG ao diagnóstico, embora fosse contato. O resultado do exame histológico revelou: "Infiltrado inflamatório difuso, linfocitocitário, respeitando o limite dermo-epidérmico." A coloração especial (Fite-Faraco) revelou raros bacilos álcool-ácido resistentes (BAAR).

Palavras-chave: Hanseníase, Epidemiologia, Pediatria

PCA 74

HANSENÍASE NEURAL PURA EM CRIANÇA DE 12 ANOS

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Centro de Saúde Tranqüilidade

Secretaria de Saúde de Guarulhos

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Paciente de 12 anos de idade foi encaminhado pelo neurologista em decorrência de amiotrofia de interosseos da mão esquerda com reabsorção óssea da falange distal do 5º quirodáctilo. O paciente era goleiro e sofria traumatismos freqüentes. Mitsuda de 6 mm, baciloscopia negativa, biópsia de nervo: processo inflamatório granulomatoso, eletroneuromiografia apresentando processo neurológico periférico acometendo nervo mediano. E ao nível do punho e intensamente no nervo ulnar E ao nível do cotovelo.

PCA 75

HANSENÍASE NO BRASIL: ESTUDOS DE ENFERMAGEM E TENDÊNCIAS DAS PUBLICAÇÕES NA ÚLTIMA DÉCADA

Alessandra Maria Alves De Sousa

Trata-se de um estudo retrospectivo, exploratório descritivo, onde objetivamos fazer o levantamento das publicações da Associação Brasileira de Enfermagem (ABEn) em livros de resumos de congressos, dissertações, teses e artigos da Revista Brasileira de Enfermagem, sobre a temática Hanseníase. Estas publicações no total de quarenta e seis, foram distribuídas em dois grupos situando os trabalhos e autores. Os dados foram agrupados por tipos de publicações, procedência e ano, apresentados em gráficos, quadros e tabelas. Os resultados destacam estudos descritivos concentrados, principalmente, no Estado de São Paulo, com ênfase para estudos qualitativos sobre assistência, pontuando aspectos relacionados à humanização do "cuidar" ao doente de Hanseníase.

PCA 76

HANSENÍASE NODULAR DA INFÂNCIA: EVOLUÇÃO EM 20 ANOS.

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Introdução: São escassos os relatos de Hanseníase Nodular da Infância (HNI). OPROMOLLA (2000: 52), ressalta a ocorrência em crianças de 1 a 4 anos, com lesões que regredem espontaneamente, deixando cicatriz atrófica. O Mitsuda é positivo e geralmente não deixam seqüela.

Relato do Caso: EGF, masc., 11 anos, procedente de Capital (SP), em 1982 foi à consulta com "carocinho na barriga há muito tempo". Pai e mãe com diagnóstico de MHV. Ao exame,lesão sarcoídica única na região supra umbilical. A histopatologia revelou estruturas tuberculóides. O Mitsuda foi fortemente pos-

itivo. Com diagnóstico de HNI, sem indicação de tratamento, foi acompanhada em ambulatório por 5 anos, tendo alta definitiva com 2 lesões cicatríciais nas regiões supra umbilical e na face medial do braço E. Após 20 anos, ainda apresentava 2 lesões atróficas.

Motivo Apresentação: registro iconográfico de HNI, com evolução de 20anos.

PCA 77

HANSENÍASE: O NÚMERO DE LESÕES CUTÂNEAS E OS EXAMES BACILOSCÓPICOS

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A integração das ações de controle da hanseníase nas ações básicas de saúde, fundamentou a atualização das normas da legislação sobre o controle da doença. A classificação operacional visando a alocação na poliquimioterapia seja a recomendada pela OMS, baseada no número de lesões cutâneas. São paucibacilares (PB) os casos com até 5 lesões de pele e multibacilares (MB) os com mais de 5 lesões de pele. Com o objetivo de avaliar este método clínico de classificação, correlacionou-se os resultados das baciloscopias cutâneas com o número de lesões cutâneas. A fonte de informações foi o banco de dados com informações epidemiológicas, clínicas e laboratoriais dos pacientes. Foi selecionado o dado referente a baciloscopia de 837 casos no período de 1986 a 1999. Comparou-se o item número de lesões tomando como método padrão referência o resultado das baciloscopias cutâneas. A partir desta comparação foram calculadas a sensibilidade e a especificidade relativas bem como os valores preditivos positivo e negativo do critério lesão cutânea e avaliada a concordância entre o número de lesões e a baciloscopia através do cálculo do índice Kappa (k). Entre os 837 casos avaliados, 652 apresentavam baciloscopias positivas e 185 negativas; destes 30 (16,0%) apresentavam mais do que 5 lesões cutâneas. Entre os 652 baciloscópicamente positivos, 68 (11,4%) apresentavam menos de 5 lesões cutâneas. Em relação a sensibilidade e especificidade do método clínico encontramos o valor preditivo negativo foi de 30,5% enquanto que o valor preditivo positivo foi de 95%. O método clínico baseado no número de lesões apresenta limitações que não invalidam a sua operacionalidade, porém há necessidade de novos critérios que possibilitem uma melhor acurácia na alocação dos pacientes nos esquemas poliquimioterápicos.

PCA 78

HANSENÍASE: RECIDIVAS PÓS POLIQUIMIOTERAPIA COM DURAÇÃO FIXA

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A Poliquimioterapia com duração fixa para hansenianos é utilizada em nosso serviço, desde 1986. A alta terapêutica é fundamentada nos critérios número de doses supervisionadas e tempo de tratamento. Apresentamos características clínico-epidemiológicas de hansenianos que recidivaram após terem sido submetidos a PQT/OMS. O estudo abrange um total de 1.584 pacientes tratados no período de 1986 à 2000 que receberam alta obedecendo os critérios de regularidade ao tratamento. Os casos diagnosticados como paucibacilares (PB) foram tratados com Rifampicina (RFM) 600mg, uma vez ao mês supervisionadas associadas a Dapsona (DDS) 100mg diárias auto-administradas com duração de 06 doses em até 09 meses. Os diagnosticados como multibacilares (MB) receberam RFM 600mg e Clofazimina (CFZ) 300mg, uma vez ao mês supervisionadas e DDS 100mg e CFZ 50mg, diárias auto-administradas com duração de 24 doses em até 36 meses. Um total de 03 casos (0,18%) foram diagnosticados clinicamente como recidiva, sendo 2 submetidos ao esquema preconizado para os PB e 1 do esquema para os MB. Os pacientes foram submetidos a exames laboratoriais cujos resultados confirmaram o diagnóstico clínico. A presença de reação hansênica pós alta foi observada em todos os casos. O tempo decorrido entre a alta e a recidiva variou de 3 à 8 anos. O estudo demonstrou que apenas um pequeno percentual de casos recidivou e o longo tempo decorrido entre a alta e o diagnóstico de recidiva. Todos os pacientes foram reintroduzidos nos esquemas poliquimioterápicos indicados e estão sendo acompanhados criteriosamente e nos que já completaram o novo ciclo de tratamento a evolução foi satisfatória, afastando a possibilidade de quimiorresistência, sugerindo terem as recidivas ocorrido por persistência bacilar.

PCA 79

HANSENÍASE TUBERCULÓIDE SIMULANDO NECROBIOSE LIPOÍDICA

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Introdução: Necrobiose lipóidica é uma dermatose caracterizada pela presença de placas amareladas e centro atrófico, localizadas preferencialmente nos membros inferiores. Está associada ao diabetes melitus, sendo que 2/3 dos doentes apresentam diabetes e 0,3% dos diabéticos apresentam esta dermatose.

Relato de caso: Os autores relatam um caso de uma

doente feminina, 27 anos, natural e procedente de São Paulo que apresentava ao exame dermatológico placas eritemato-amareladas, de bordas bem definidas e superfície levemente papulosa em ambas as pernas. A paciente negava antecedente pessoal ou familiar de diabetes melitus. Ao exame complementar as placas apresentam áreas de anestesia e hipoestesia térmica, estando preservada a sensibilidade tátil e a dor. Realizado teste de pilocarpina-iodo que resultou incompleto. A paciente foi então, submetida a uma biópsia por punch, que evidenciou infiltrado inflamatório linfocitocitário perivascular na derme papilar e reticular média, ectasia vascular com extravasamento de hemácias, além de presença de bacilos álcool ácido resistentes íntegros.

Discussão: A Moléstia de Hansen pode ter diversas apresentações clínicas, contudo, simulando necrobiose lipoídica é uma apresentação clínica rara. É descrito o fato da necrobiose lipoídica apresentar anestesia cutânea, não somente térmica, como também tátil. Isto poderia inicialmente confundir o diagnóstico e dificultar a diferenciação com a forma tuberculóide da Hanseníase, contudo, o achado de bacilos álcool-ácido resistentes íntegros no material submetido a exame histopatológico não deixa dúvidas quanto ao diagnóstico.

Conclusão: Hanseníase é doença de alta prevalência na nossa comunidade, podendo se apresentar clinicamente de diversas formas. Portanto, o diagnóstico de Hanseníase, deve ser lembrado sempre que a clínica for compatível. O teste de sensibilidade térmica é simples e de fácil aplicação, podendo descartar ou aumentar as suspeitas quanto ao diagnóstico da Moléstia de Hansen. Sempre que houver suspeita clínica e hipoestesia ou anestesia térmica da lesão, uma biópsia deve ser obtida, além dos testes de pilocarpina ou histamina, visando o diagnóstico de Hanseníase.

PCA 80

HANSENÍASE VIRCHOVIANA - REATIVANDO COMO HANSENÍASE DIMORFA REACIONAL

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AFS, 45 anos, masculino, branco, procedente de Bauru – SP.

HMA: Atendido neste Instituto em 10/77, com lesões cutâneas características de hanseníase virchowiana (infiltração difusa, sobre a qual se notavam placas, pápulas e tubérculos, alguns de um tom ferruginoso),

sobrancelhas estavam preservadas, baciloscopia eram de 5+ com até 18% de bacilos íntegros, histologia com aspecto típico de hanseníase virchowiana, reação de Mitsuda negativa. Iniciou tratamento com rifampicina e sulfona durante 6 meses, após este período, continuou tratamento monoterápico com sulfona. Teve vários surtos de eritema nodoso hanseniano, neurites e artrites. Foi medicado com talidomida e/ou corticosteróides para controle das manifestações reacionais em vários momentos.

Última baciloscopia positiva foi em 10/84, 1+, mas até 10/88 apresentava manifestações reacionais (artrite, neurite).

Fez uso de sulfona regularmente por quatorze anos, depois de forma irregular (2 – 3 vezes/ semana) e há seis anos não usa sulfona. Em 1989, era considerado branqueado (sem lesões cutâneas ativas, baciloscopia negativa). Neste ano, foi submetido à imunoterapia (vacina do Convit).

Há um mês e meio (setembro de 2001), notou manchas avermelhadas praticamente assintomáticas no tronco. Ao exame apresentava lesões cicatriciais hipertróficas em regiões escapulares (cicatriz da vacina), lesões cicatriciais e anetodérmicas em face posterior de braços, antebraços, pernas e joelhos. Placas eritematosas, algumas bem delimitadas outras nem tanto, número moderado em tronco, membros e lesões papulares eritematopigmentares esparsas em tronco e membros. Na face há placa eritematosa não bem delimitada na fronte e há também eritema malar. Nas coxas há laivos ferruginosos. Índice baciloscópico (IB: 1,6). A histopatologia da lesão eritematosa, em placa bem delimitada, mostra focos inflamatórios de pequena moderada extensão em todos os níveis do derma, constituídos por histiócitos modificados, com núcleos vesiculosos e citoplasma finamente vacuolado entremeados por difuso infiltrado linfocitário, delaminação do perinervo e penetração do endonervo por células inflamatórias. Baciloscopia 5+ (presença de bacilos típicos).

AP: etilista, teve vários episódios de gastrite alcoólica e síndrome de abstinência. Há cinco anos não bebe (sic); diabetes mellitus diagnosticado há 5 anos; pneumonia há 1 ano.

PCA 81

HANSENÍASE VIRCHOWIANA – MANIFESTAÇÃO CLÍNICA ATÍPICA

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A Hanseníase é uma doença infecto-contagiosa, curável, de evolução crônica causada pelo *Mycobacterium leprae*, endêmica em várias regiões do mundo e se caracteriza principalmente por manifestações dermatológicas e neurológicas atingindo nervos periféricos podendo levar a deformidades e mutilações. Uma das formas clínicas de hanseníase é a forma virchowiana que apresenta como característica numerosas lesões eritemato-violáceas, infiltradas, brilhantes, coalescentes e mal definidas. Pode ocorrer infiltração difusa com formação de tubérculos e nódulos ocasionando a perda definitiva de pêlos. É uma doença sistêmica com manifestações viscerais importantes, os distúrbios sensitivos cutâneos e o acometimento de troncos nervosos estão presentes, mas não são tão precoces e marcantes como nas lesões tuberculóides e dimorfas. Os autores apresentam o caso de um paciente, 29 anos, com uma lesão eritemato-infiltrada com o centro necrótico, perifollicular localizada em face médio-anterior de coxa esquerda há alguns meses que evolui com lesões satélites com o mesmo aspecto e também lesões similares em membro inferior direito e membro superior direito. Queixava-se de prurido nas lesões. Havia feito uso de medicamentos tópicos sem melhora clínica. Negava alteração de sensibilidade, dormência, perda de força muscular ou ainda perda de pêlos ou sinais de infiltração. O exame histopatológico mostrou a epiderme com acantose irregular e hiperqueratose, a derme com denso infiltrado inflamatório linfo-plasmo-histiocitário rico em células espumosas (células de Virchow) de distribuição perivascular, perineural e perianexial. A pesquisa de BAAR (WADE) foi positiva com grande número de bactérias intracelulares formando globias. O diagnóstico histopatológico foi de Hanseníase Virchowiana. No retorno o paciente já apresentava em mão E uma lesão nodular sugestiva de hansenoma. O índice baciloscópio foi de 4.2. O tratamento instituído foi a poliquimioterapia multibacilar.

Motivo da apresentação: Manifestação clínica atípica de uma doença endêmica.

PCA 82

HANSENÍASE VIRCHOWIANA HISTÓIDE

Ana Cláudia Lyon de Moura, Dayse Vidal D'Ávila, Maria Alice Ribeiro Ozório, Moisés Salgado Pedrosa, Paula Pimentel Carvalho, Roberta Leste Motta, Rozana Castorina da Silva, Sandra Lyon

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A Hanseníase é uma doença infecto-parasitária, curável, de evolução crônica causada pelo *Mycobacterium leprae*, endêmica em várias regiões do mundo e se caracteriza principalmente por manifestações dermatológicas e neurológicas que podem acarretar deformidades e mutilações nos portadores da doença. A doença pode se manifestar através de quatro (indeterminada, tuberculóide, diform e virchowiana). A forma virchowiana apresenta ainda diversas variedades de apresentação clínica, dentre elas a variedade históide que se caracteriza por lesões nodulares múltiplas, consistentes, pardacentas semelhantes a quelóides. A hanseníase virchowiana históide é considerada por alguns autores como característica de casos sulfono-resistentes, com reativação da doença, mas existem relatos de casos em pacientes virgens de tratamento. Os autores apresentam caso de paciente, sexo masculino, 39 anos, com história de ter tido o diagnóstico de hanseníase virchowiana em 1992 e ter sido adequadamente tratado por 24 meses com poliquimioterapia multibacilar (janeiro de 1992 a março de 1994) sem nenhuma reação hanseniana durante o tratamento e com alta por cura. Conforme relatório médico paciente iniciou o tratamento com índice baciloscópico (IB:5) e recebeu alta com IB: 3,75. Apareceu com lesões nodulares, consistentes, cor da pele, difusas em toda a superfície corporal, com seis meses de evolução, sete anos após o tratamento inicial. Realizado novamente IB: 6. Ao exame histopatológico, a epiderme evidenciou área de atrofia com retificação das cristas interpapilares, a derme mostrou denso infiltrado inflamatório mononuclear rico em histiócitos espumosos (células de Virchow), formando nódulo subepidérmico e manguitos perivascular/perineurais. A pesquisa de BAAR (coloração especial de WADE) foi positiva, com numerosos bacilos intracelulares íntegros e fragmentados formando globais. O diagnóstico clínico e anátomo-patológico foi de Hanseníase Virchowiana Históide. O tratamento proposto foi a repetição da poliquimioterapia multibacilar.

Motivo da apresentação: Raridade da patologia e evolução pouco comum em pacientes tratados adequadamente com poliquimioterapia multibacilar.

PCA 83

HANSENÍASE X COLAGENOSE

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Centro de Dermatologia Dona Libânia – SESA- CE

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BBCP, 31 anos, feminino, secretária, natural e procedente de Fortaleza/Ce. Há 16 anos apresentou quadro de artrite em tornozelos, febre, perda de peso, alopecia, e FAN positivo. Nesta época recebeu o diagnós-

tico de Lupus eritematoso sistêmico (LES), iniciando o uso de prednisona. Em outubro de 1996, passou a apresentar hipoestesia em região plantar direita, com progressão lenta. Em agosto de 1998 surgiram placas eritematosas na região torácica anterior, associadas a parestesias e dores nos membros inferiores, sendo feito o diagnóstico clínico de hanseníase, com posterior confirmação histopatológica de MHV, com índice baciloscópico de 5,0. Iniciou esquema poliquimioterapia para multibacilar da OMS, tendo apresentado quadro reacional tipo I, com neurite e edema dos membros superiores e inferiores, seguido de eritrodermia, o que levou à suspensão da Dapsona e da Carbamazepina que a paciente fazia uso. Após melhora do quadro de farmacodermia, foi reintroduzido o esquema PQT/MB, sem intercorrências. Motivo da apresentação: Hanseníase simulando colagenose.

PCA 84

HEPATITE CRÔNICA GRANULOMATOSA HANSÊNICA X HEPATITE MEDICAMENTOSA: DIFICULDADE DIAGNÓSTICA

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RMS, 51 anos, casado, motorista, natural de Jales e procedente de São José do Rio Preto. Paciente com diagnóstico de Hanseníase Virchowiana há 7 meses com baciloscopia 2+, em tratamento com PQT-MB, evoluiu após sexta dose com adinamia, icterícia, emagrecimento de 21 kg associado a elevação das enzimas hepáticas (TGO= 86 U/L; TGP= 93 U/L) e anemia (Ht= 25,2 %; Hb= 7,9 g/100ml). Com hipótese diagnóstica de Hepatite Medicamentosa foi optado pela suspensão da Dapsona e da Rifampicina e manutenção da Clofazimina 50 mg/dia. Encaminhado para a Gastroenterologia, que solicitou ultrassom, TC de abdômen, endoscopia digestiva alta, sorologias para hepatite B e C, alfa fetoproteína e ceruloplasmina; todos normais. Encaminhado a Hematologia com hipótese diagnóstica de anemia hemolítica medicamentosa. Foi solicitado Coombs direto e indireto, eletroforese de hemoglobina e reticulócitos; todos normais. Após dois meses em uso de monoterapia com Clofazimina (50mg/dia), não apresentou mudança do quadro clínico e dos níveis das enzimas hepáticas. Introduzido esquema alternativo com Minociclina 100mg/dia, Ofloxacina 400mg/dia e suspensão a Clofazimina por um mês, sem melhora

clínica e laboratorial. Tendo em vista esse quadro, foi suspensa toda terapêutica, realizada biópsia hepática percutânea, sendo compatível com hepatite crônica granulomatosa de etiologia Hansênica, BAAR positivo. Evoluiu com normalização das enzimas hepáticas sendo reintroduzida terapia alternativa com Minociclina 100mg/dia, Ofloxacina 400mg/dia, Clofazimina 50mg/dia com monitorização da função hepática semanalmente. MOTIVO DA APRESENTAÇÃO: Dificuldade do diagnóstico diferencial entre hepatite crônica Hansênica e hepatite medicamentosa em paciente com Hanseníase Virchowiana em tratamento com PQT.

PCA 85

HEPATITIS B AND C INFECTION AMONG LEPROSY PATIENTS ATTENDING THE SANATORIUM OF FONTILLES (SPAIN)

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A possible association between infection by hepatitis viruses B (HBV) and C (HCV) and leprosy has been proposed. Hepatitis B (HBV) and hepatitis C (HCV) viruses are transmitted by blood (transfusions, parenteral injections) possibly sexual contacts and probably other unknown routes. They can cause chronic liver disease. Populations with increased risk of these viral infections, especially patients with hemophilia and on hemodialysis have been identified. Patients with leprosy possibly also form a high risk group because of skin lesions, blood transfusions and confinement in institutions during prolonged periods of time. Some consider that the 2 polar forms of leprosy (tuberculoid and lepromatous) provide a model of interaction between cellular immunity and the hepatitis viruses.

In this study, the distribution of HBV and HCV virus markers were evaluated in 214 leprosy patients mostly long term institutionalised in the Sanatorium of Fontilles and compared with matched controls, using the same protocols required for screening of blood donors. Initially, two third generation microparticle enzyme immunoassays and positive results were confirmed by PCR methods.

The HBsAg and HCV positivity rates were 6% and 35% respectively, significantly higher than in the corresponding control groups (2% and 3.5%). The influence of possible risk factors (blood transfusion, confinement in leprosaria during prolonged periods of time, open skin lesions etc.) on this group of patients is discussed.

PCA 86

HEREDITARY NEUROPATHY MISDIAGNOSED AS LEPROSY

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Hereditary neuropathies (HN) comprise a group of syndromes which may present early in life with various symptoms, including decreased or absent sensation in extremities. Persons affected suffer repeated trauma to hands and feet, resulting in neuropathic sequelae including ulcerations, fractures, osteomyelitis, and disabling deformities. Despite a lack of rash, these disorders may be confused with leprosy, particularly the paucibacillary or neuritic forms. Several family cohorts have been evaluated at NHDP for suspected leprosy but finally diagnosed with HN.

Two siblings in one family from Mississippi were admitted in the 1960's with "bacillary negative" leprosy and treated without improvement in neuropathy. More recently we evaluated a family whose index case is a 14 year old boy from Mexico with severe neuropathic deformities. Extensive evaluation showed no evidence of leprosy, but a severe end stage peripheral neuropathy involving all extremities, with minimal central disease. Nerve biopsy revealed almost complete loss of myelinated fibers and endoneurial fibrosis. Nerve conduction studies revealed severe demyelinating disease. The patient and two other siblings appear by history to have HN, with two other siblings unaffected (as are four other half-siblings). The patient's mother was studied and appeared unaffected.

Neuropathies other than leprosy can be confusing, especially in a young patient lacking skin rash.

PCA 87

HEREDITARY SENSITIVE AUTONOMIC NEUROPATHY TYPE I (HSAN-I) AS A DIFFERENTIAL DIAGNOSIS FROM LEPROSY

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Aims: Clinical features' comparison between HSAN I and Leprosy.

Methods: Clinical, neurological and psychological assessment of four patients with HSAN I, initially diagnosed and treated as Leprosy carriers and regularly accompanied for over 23 years. The patients were two sisters, whose parents were first degree cousins, and two brothers. Their ages ranged from 42 to 50 years. Tactile (Semmes-Weinstein's monofilaments),

painful, thermal and vibratory sensibilities have been mapped.

Results: Disease initiation began in the 2nd decade of life. Inferior limbs have been more precocious and seriously affected than the superior ones, with symmetrical sensitive deficits. Anhidrosis, leading to skin fissures, and cold extremities denoted autonomic neuronal damage. Plantar pressure ulcers and osteomyelitis had developed, resulting in amputations and osteolysis. The patients didn't present any motor impairment such as amiotrophy; neither the central nervous system nor other non-neural tissues have been affected. The interoceptive sensibility has been preserved. One of the sisters and one of the brothers have presented asymmetric sensory hearing loss, smaller intellectual level and a higher number of disabilities.

Conclusion: The clinical resemblance to Leprosy, including sensitive deficits and complications such as amputations, may underestimate HSAN I's prevalence; many carriers may still be managed as lepromatous patients. We can exclude the diagnosis of leprosy from HSAN I by the absence of amiotrophy and claw hands and claw feet.

PCA 88

HETEROGENOUS HISTOPATHOLOGICAL PRESENTATION OF TWO MORPHOLOGICALLY DIFFERENT SKIN LESIONS IN BORDERLINE LEPROSY

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Borderline leprosy is immunologically unstable and tends to downgrade towards lepromatous end of the spectrum especially if left untreated or upgrade towards the tuberculoid end of the spectrum with or without treatment. The skin histopathology plays a major role to appreciate the shift in the classification of leprosy and the histopathology varies in morphologically different skin lesions. Twenty untreated borderline leprosy patients with two morphologically different lesions were chosen. After clinical assessment they were classified according to Ridley-Jopling classification. They were subjected to bacteriological and histopathological examination. Lepromin test was done in all cases. Nine patients (45%) showed different histopathological features in the two lesions and four patients (20%) showed histologically similar features but with marked difference in the intensity of granuloma. Seven patients (35%) showed identical histopathological features. This study confirms that morphologically different skin lesions may show different histopathological features. The interpretation and the significance of the observations will be discussed.

PCA 89

HISTOLOGICAL STUDY OF HYPOAESTHESIC SKIN AREA IN PRIMARY NEURITIC LEPROSY

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The characteristic clinical skin lesion are absent in primary neuritic leprosy (PNL). Nevertheless, poor delimited hypoaesthetic areas are often found on clinical examination. Few data are available concerning the histological changes in this altered skin.

In this preliminary study we attempt to define the modifications in biopsies taken from apparently normal skin of 33 clinically diagnosed PNL patients showing sensory deficit.

Histological changes due to leprosy were seen in 21,2% of the patients, consisting in borderline tuberculoid form (4 cases) and the indetermined form (3 cases). 36,3% of the patients showed mild non-specific mononuclear cell infiltrates around blood vessels within papillary and reticular dermis and 42,4% showed no significant lesion.

Our results suggest that not all patients with PNL are similar, but the histological examination of skin can disclose early leprosy cases and anticipate the specific therapy. Further, in some cases, the nerve biopsy could be postponed.

We intend to extend this work by using immunohistochemical methods to show the presence of *M. leprae* antigens in non-conclusive cases to further improve the diagnosis of leprosy.

PCA 90

HISTOLOGY OF NERVE BIOPSIES IN LEPROSY PATIENTS PRESENTING NEUROLOGIC RELAPSE LONG TERM AFTER COMPLETION OF TREATMENT

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Introduction: Although the peripheral nerves are well recognized to be the seat in leprosy, decisions regarding diagnosis and therapy are largely based on skin manifestations. Our study is intended to evaluate the histologic findings of nerve biopsies from patients considered clinically as relapse.

Materials and Methods: From January 1990 to December 1998, nerve biopsies (cutaneous branch of the radial nerve or the sural nerve) were taken from

82 patients diagnosed clinically as neurological relapse two years or more after completion of Multidrug Therapy (Rifampicin, Clofazimine and DDS).

We have compiled the original classification of these patients and the histologic findings.

Results: The results are summarized in the following table:

Histologic findings	Originally positive: Lacyllary, n:17 pts	Originally negative: Lacyllary, n: 21 pts	Originally unknown Classification, n: 24 pts	TOTAL n: 62 pts
Lymphohistiocytic infiltrate	9/17 24%	6/21 28%	11/24 46%	32 %
Multifocal Leprosy neuritis	0/17 0%	0/21 0%	3/24 12%	1%
Tuberculoid granuloma	0/17 0%	0/21 0%	0/24 0%	10 %
Vacuolated macro- phages infiltrate	1/17 3%	7/21 33%	1/24 4%	11 %
Fibrotic nerve	19/17 51 %	8/21 39 %	11/24 46 %	46 %

Discussion: Bacteriological relapse may be evoked in only 1 % of all the patients.

The vacuolated macrophages infiltrate and the fibrotic change may indicate that the healing and scarring processes may cause clinical nerve function alteration.

The tuberculoid granuloma raises the problem of differential diagnosis between relapse and late reaction.

The diffuse lymphohistiocytic infiltrate without detectable bacilli may indicate the mechanism of nerve damage outside the classical episodes of reaction and may be an explanation of the concept of "silently arising clinical neuritis" (without episodes of reaction).

Defining relapse for MDT re-treatment purpose has to be reconsidered.

PCA 91

HISTOLOGY OF SKIN BIOPSIES IN LEPROSY PATIENTS PRESENTING NEW LESIONS LONG TERM AFTER COMPLETION OF TREATMENT

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Introduction: New skin lesions are considered as sign of relapse in leprosy. Histologic finding is also taken as the basis to diagnose relapse. Our study is intended to assess the histology of new lesions.

Materials and Methods: From January 1990 to December 2000, skin biopsies were taken from 238 patients presenting "new" lesions one year or more after completion of MDT(Rifampicin, Clofazimine,DDS). We have compiled the histologic findings and the original classification of these patients.

Results: The results are summarized in the following table:

Histology of findings	Pre-treatment Paucibacillary #/100	Pre-treatment Leprosomatous #/60	Pre-treatment Unknown #/50	Total #/210			
Perivascular lymphohistiocytic infiltrate	33/100	33%	37/50	47%	34%		
Indeterminate pattern	43/100	43%	17/50	21%	10/50	11%	3.2%
Leprosomatous pattern	2/100	2%	33/50	66%	4/50	8%	8%
Vacuolated cells infiltrate	4/100	4%	32/50	64%	1/50	2%	6%
Tuberculoid granuloma	24/100	24%	13/50	26%	7/50	14%	16%

Discussion: 1-Bacteriological relapse may be envisaged in 8% of the cases.

2-The tuberculoid granuloma found in 18% of all the patients raises the problem of relapse or late reaction

3- The histological features of perivascular infiltrate, indeterminate pattern and vacuolated macrophages infiltrate raise the possibility of persisting inflammatory reaction in leprosy maintained by dead bacilli.

4-The concept of "new" lesions on clinical assessment and the histological examination have their own limitations in allowing taking decision for re-treating patients.

PCA 92

HISTOPATHOLOGICAL STUDY OF NERVE BIOPSIES IN PATIENTS SUSPECTED CLINICALLY PRESENTING PURE NEURITIC LEPROSY.

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Introduction: Primary neuritic leprosy is defined as leprosy neuritis with no visible skin lesions and skin smears negative for AFB. Our study is intended to see the histological changes in the nerve of patients suspected clinically presenting as pure neuritic leprosy.

Materials and Methods: During the study period, January 1993 to December 2000, two hundred and twenty patients, suspected clinically to present pure neuritic leprosy, were sent from ALERT to AHRI for nerve biopsy and histological examination.

The biopsied nerves were the cutaneous branch of the radial nerve or the sural nerve. Fascicular biopsies were taken and processed routinely for histological examination. Systematic tissue Ziehl-Neelson staining was done for all the biopsies.

The demographic data and type of observed lesions of all the patients were compiled.

Results: There were 134 males (61%) and 86 females (39%). Fifty six percent of the patients were between the ages of 20 years and 50 years.

The histological finding was as follow: lymphohistiocytic infiltrate with high BI was found in 40 patients (18%); tuberculoid granuloma in 11 cases (5%); fibrotic change and lymphohistiocytic infiltrate in 102 patients (47%); foamy macrophages infiltrate in 7 cases (3%); normal in 60 patients (27%).

Conclusion: 1-The normal biopsies may indicate that the clinical manifestations were caused by other conditions or that the small nerve biopsies may not be representative of the nerves lesion.

2-The high male to female ratio and the age distribution of the patients correlate to data of previous studies on pure neuritic leprosy.

3-The classification of pure leprosy neuritis for practical purpose seems to be better accommodated into paucibacillary and multibacillary leprosy neuritis, than tuberculoid and lepromatous leprosy since only in 5% of the cases typical tuberculoid granulomatous reaction was found and typical lepromatous type lesion as in skin lesion was not found.

4-For treatment purpose the problem of classification is raised: long term treatment for the multibacillary lesions and short regimen for the paucibacillary?.

5-It seems that at the time when patients seek for medical care advanced nerve lesions have already occurred and the presence of large foamy macrophages without detectable bacilli may indicate that some multibacillary patients can possibly clear the bacilli but the inflammatory reaction triggered by the dead bacilli will continue to damage the nerve structures.

6-The appropriateness of only antibacillary treatment in pure neuritic leprosy is also debatable.

PCA 93

HISTOPATHOLOGICAL STUDY OF SKIN BIOPSIES FROM LEPROSY PATIENTS PRESENTING "NEW" SKIN LESIONS LONG TERM AFTER COMPLETION OF MULTIDRUG THERAPY

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Introduction: Leprosy is essentially a disease of the skin and peripheral nerves. Skin lesions are the basis for the classification and for the treatment purpose of leprosy.

Criteria for relapse regarding skin manifestations have been more or less clearly defined and histological examination is also one diagnostic method of relapse.

Our study is intended to assess the contributions of histological examinations in the work-up of patients presenting "new" lesions one year or later after completion of WHO MDT. We think also that our study will contribute towards better understanding of the pathogenesis of *M. leprae* infection disease.

Materials and Methods: Our retrospective study covers the period from January 1990 to December 2000. We have compiled the initial classification and histological findings of skin biopsies of all patients sent from ALERT to AHRI as presenting new skin lesions one year or more after completion of WHO MDT. Regarding the initial classification patients were grouped into paucibacillary and lepromatous.

Results: During the study period skin biopsies were taken from 238 such patients. For these 238 patients the pre-treatment classification was as follow: 100 patients were classified as paucibacillary, 80 as lepromatous and the initial classification was not found for 58 patients.

The histological findings were as follow:

Histologic findings	Pre-treatment Paucibacillary, #100	Pre-treatment Lepromatous, #80	Pre-treatment Unknown, #58	Total #238
Perivascular lymphoid histocyte infiltrate	31/100 31%	25/80 31%	27/58 47%	83%
Indeterminate pattern	43/100 43%	17/80 21%	10/58 17%	71%
Lepromatous pattern	2/100 2%	13/80 16%	4/58 7%	8%
Vacuolated cells infiltrate	4/100 4%	12/80 15%	1/58 2%	8%
Tuberculoid granuloma	23/100 23%	13/80 16%	7/58 12%	48%

Discussion:

1-Histologically detected possible bacteriological relapse (re-infection or bacilli starting to multiply again) may be envisaged in 8% of all patients.

2-The tuberculoid granulomatous reaction found in the patients with a pre-treatment classification of paucibacillary and as well in the initially lepromatous patients raises the difficult differential diagnosis between relapse and reaction.

3- The histological features of perivascular infiltrate, indeterminate pattern and vacuolated macrophages infiltrate raise the possibility of continuous inflammatory reaction in leprosy.

4-The concept of "new" lesions on clinical assessment and the histological examination have their own limitations in allowing taking decision for re-treating patients.

5-In general the concept of relapse in leprosy considered as re-infection or bacilli starting to multiply has to be taken with caution.

PCA 94

HIV E HANSENÍASE: ASPECTOS CLÍNICOS E TERAPÊUTICOS DE 05 CASOS ACOMPANHADOS NO HC DA UFMG

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A co-infecção HIV/hanseníase tem motivado muitos trabalhos e várias hipóteses têm sido levantadas em relação a possíveis repercussões na epidemiologia da hanseníase e na evolução clínica dos casos. A letalidade era elevada nos primeiros anos da epidemia do HIV, dificultando o seguimento dos pacientes. As novas modalidades de tratamento anti-retroviral combinado tem melhorado a sobrevida dos pacientes, e permitido seguimento mais longo dos casos de co-infecção.

Apresenta-se casuística de 05 casos acompanhados nos serviços de Dermatologia do HC-UFMG e CRT – DIP Orestes Diniz. Ressalta-se o diagnóstico de hanseníase borderline- tuberculóide em reação como primeira manifestação da hanseníase em 03 casos, nos quais o quadro eclodiu poucos meses após o início da terapia anti-retroviral combinada. Nestes, observou-se a concomitância da recuperação na contagem de CD4 com a reação. Discute-se se a mudança na condição imunológica dos casos seria fator favorecedor do aparecimento da reação reversa e se esses quadros reacionais seriam parte da nosologia que compõe a Síndrome de Recuperação Imunológica descrita desde a introdução do tratamento anti-retroviral combinado.

A resposta clínica à poliquimioterapia e aos corticosteróides aparentemente tem sido semelhante àquela observada nos pacientes imunologicamente competentes.

PCA 95

HYPERGLYCAEMIA IN LEPROSY AN OBSERVATION FROM 1993 TO 2001

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Changes in human behavior and life style over the last century have been resulted in a dramatic increase in the incidence of Hyperglycaemic status (or) Diabetic World wide. The associated conditions are Diabetes and metabolic syndrome. The global figure of 151 million people with Hyperglycaemic status currently estimated in the year 2000, most cases might

be of Metabolic syndrome and it is multi-factorial. Especially in Asia 84.5 million Hyperglycaemic patients are distributed.

The important debate today is on the reasons for Hyperglycaemic status in leprosy. The present observations are made from the Central Leprosy Teaching & Research Institute's, in-patients admitted in wards. Out of 7145 patients Multi Bacillary (MB) and Pauci Bacillary (PB) admitted during the year march 1993 to December 2001, 2358 patients were referred to Biochemistry Laboratory for various Bio chemical investigations. Among 1670 patients with and without anti-diabetic drugs were investigated for Blood glucose level, either during fasting or after food. (including Post Prandial samples) Blood glucose levels in short ranges will be tabulated in percentage, age, sex wise distribution and presented for discussion.

PCA 96

INFILTRADO LINFOCÍTICO SIMULANDO RECIDIVA EM HANSENÍASE – RELATO DE CASO

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O Infiltrado Linfocítico caracteriza-se por uma ou mais placas ou nódulos eritematosos, na face, pescoço, tronco superior, ou braços, sendo mais incidente nos adultos. Alguns consideram variante do Lúpus Eritematoso, ou menos comumente, Erupção Lumínica, Hiperplasia Linfóide Cutânea ou Linfoma Linfocítico. As opções de tratamento são: corticóide tópico, antimalárico e talidomida. Paciente, fem, 51 anos, parda, RJ, solteira, do lar. Início em 1994 com 4 lesões eritemato-infiltradas, tricoftóides, no pescoço, cotovelo direito, punho esquerdo e dorso. A baciloscopia foi negativa e o grau de incapacidade zero. Biopsia cutânea evidenciou MHT. Iniciado tratamento com PQT PB, tendo evoluído com diversos episódios reacionais tipo reação reversa (RR), tratados com corticóide. Em 09/1997 foi rebiopsiada a lesão, sendo compatível com MHI, e então diagnosticado recidiva e reiniciado PQT PB sem DDS (suspeita de alergia a sulfa). Novamente cumpriu as 6 doses com vários episódios de RR. Em 04/ 1999 nova biopsia cutânea mostrou infiltrado linfocítico. Desde então, associou-se talidomida à prednisona, sem impedir o surgimento de novas lesões. Em 01/ 2001 foi internada no HUPE para esclarecimento do quadro, onde nova biopsia indicou Infiltrado Linfocítico de Jessner. Após exames de rotina, iniciou cloroquina 250mg/dia; entretanto após 5 meses, foi suspensa devido a edema de mácula. Em 12/2001, a cloroquina foi substituída pelo uso diário de DDS, sem melhora até o momento. O diagnóstico de recidiva paucibacilar merece muita atenção, uma vez que não existem critérios laboratoriais confirmatórios

e diferenciação segura de reação na biópsia. Este caso evidencia uma situação onde a Histopatologia foi fundamental para afastar recidiva e diagnosticar Infiltrado Linfocítico.

PCA 97

INITIAL NEUROLOGICAL EXAMINATION IN MULTIBACILLARY LEPROSY: CORRELATION WITH DISABILITIES AT DIAGNOSIS AND OVERT NEURITIS

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One hundred and three patients with multibacillary forms of leprosy (18.4% BB, 47.6% BL, and 34% LL) were studied, aiming to correlate the presence of thickened and/or painful peripheral nerves with physical disabilities at the initial examination, considering the disability grade before treatment (DGBT), as well as to correlate with the development of overt neuritis episodes, during and after multibacillary multidrug therapy. The detection of affected peripheral nerves at diagnosis correlated significantly ($p < 0.005$) with the occurrence of physical disabilities (DGBT > 0). Also, it correlated significantly with the development of overt neuritis in the follow-up (average of 64.6 months from diagnosis, during and after multidrug therapy). We can stress the necessity of careful palpation of peripheral nerve trunks in multibacillary patients at the initial examination, in order to call attention to physical disabilities already present, and specially to prevent further or worsening of disabilities by careful follow-up of patients at risk of developing overt neuritis.

PCA 98

KNOWLEDGE, ATTITUDE AND PRACTICE QUESTIONNAIRE SURVEY THROUGH FOCUS GROUP DISCUSSION ON LEPROSY, COX'S BAZAR, BANGLADESH

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Objective: The main objective was to assess the knowledge and changing attitude and practice towards leprosy patient through focus group discussion, to identify opportunities for intervention and their relative impact due to focus group discussion.

Study design: It is an intervention study at Pre-FGD and Post-FGD questionnaire survey. Study subject were randomly selected from rural population and pre and post participants were matched.

Methods: Focus group discussion (FGD) conducted by trained Leprosy Control Assistant (LCA) and a group of Health Educator from National Leprosy Coordinating Committee. During the FGD data collection done by asking questionnaire to the participants and socio-demographic characteristics also collected during the discussion.

Result: A total of 607 participants in both pre and post focus group discussion, in which 374 (61.6%) male and 233 (38.4%) were female. Pre-FGD participants were 281 and age range from 10 to 80 years mean age 31.81 years and standard deviation 15.6. In Post-FGD group participants were 326, age ranged from 12 to 85 years, mean age 32.85 and standard deviation 15.53.

There are improving of knowledge and practice average 30%, on leprosy disease due to present health education methods, which is highly significant, p value <0.001 . But the attitude not much changes as knowledge, risk difference seen average 5% and p value = 0.25. In conclusion knowledge of the community is changing very fast but attitude does not change much.

PCA 99

LEPRA EN LA INFANCIA

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- Definicion
- Características de la lepra em la infância
- Variedades clíncias em la infância (com 6 fotografias)
- Histopatologia de los tipos polares (com 2 fotografias)
- Diagnóstico
- Tratamento
- Referencias.

PCA 100

LEPROSY AND AIDS: REPORT OF TWO CASES IN THE BEGINNING OF HAART AND INFLAMMATORY REACTIONS

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Introduction: Several authors have reported inflammatory reactions in patients infected with HIV-1, who were under the first two months of highly active antiretroviral therapy (HAART). This condition may represent progression of previously quiescent infections to symptomatic diseases and is associated with pronounced reductions in plasma HIV-1 viral load and increase CD4 T lymphocyte counts. Clinical presentation is often different from untreated HIV-1 infection probably because of restored immunity. Clinical information: two patients with AIDS and about few weeks of HAART presented ulcerated skin lesion, positive Mitsuda reaction, epithelioid granuloma in the biopsy. CD4 less then 500 cells/mm³. One of them were AFB-positive on the smear and on the paraffin-embedded biopsy section (4+), showing a drastic decrease of bacillary load before specific antibiotic therapy and after reversal reaction. The other patient had his diagnosis confirmed with PCR and presented persistent reversal reaction. Comments: Leprosy has long been known to present paradoxical reactions shortly after beginning antimycobacterial therapy. Both patients presented lesion worsening before specific treatment and increased number of CD4 cell counts as a result of the HAART. In addition, they improved with corticotherapy and antimycobacterial therapy.

PCA 101

LEPROSY NEURITIS: DEVELOPMENT OF PHYSICAL DISABILITIES IN MULTIBACILLARY LEPROSY PATIENTS THAT INITIATE MDT WITHOUT THEM

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We studied 45 multibacillary leprosy patients (22.2% BB; 46.7% BL; and 31.1% LL) that initiated multidrug therapy (MDT) without disabilities (disability grade and index before treatment equal to zero), aiming to study the influence of overt neuritis in the development of physical disabilities. They were followed-up during MDT and after treatment, for an average period of 64,6 months from the start of the treatment. The overt neuritis episodes (pain, spontaneous or at palpation, in peripheral nerves) were noted, during and after MDT. Physical disabilities were evaluated at the end of treatment (24 doses) and at the end of the follow-up period through disability grade and index. Nineteen patients presented overt neuritis episodes during follow-up (15 patients while

receiving MDT). There was a significant correlation between the occurrence of overt neuritis during MDT and the presence of disabilities at the end of treatment, by disability grade ($p = 0,013246$) and by disability index ($p = 0,010989$). We found a also significant correlation between the development of overt neuritis during follow-up period and the establishment of physical disabilities at the end of the accompaniment period, evaluated through final disability grade ($p = 0,022933$) and through final disability index ($p = 0,026420$). These data show the importance of neuritis in the induction of disabilities in multibacillary leprosy, suggesting that we must pay attention to its early diagnosis, aiming prompt treatment and adequate physiotherapy.

PCA 102

LESÕES ORAIS NA HANSENÍASE

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As lesões orais na hanseníase são pouco freqüentes, entretanto acredita-se que a sua ocorrência possa ser uma possível fonte de infecção com a presença de bacilos viáveis. No presente trabalho foram estudados 26 pacientes sendo 18 homens e 8 mulheres com idade entre 16 e 71 anos com diagnóstico de hanseníase, virgens de tratamento ou até a segunda dose de tratamento. Os pacientes foram provenientes dos ambulatórios de hanseníase do HUCFF/UFRJ e da FIOCRUZ e submetidos a exame clínico da cavidade oral, biópsia da lesão, caso houvesse, e da mucosa jugal à esquerda onde foi realizado Wade e HE.

Resultados: 11 pacientes foram classificados como MHV, 14 MHB e 1 paciente MHT. O exame clínico da mucosa oral desses pacientes mostrou:

enantema de pilares anteriores - 5/ enantema de úvula - 3/enantema de palato- 2/enantema de mucosa jugal - 3/ exulceração da mucosa jugal -1/exulceração de palato duro - 1/ infiltração do palato - 2/ nódulos no palato - 1. 12 pacientes não apresentavam lesões orais e 4 pacientes tiveram dois tipos de lesões simultaneamente.

No exame histopatológico da mucosa jugal ao HE, 16 pacientes não apresentavam alterações, 10 apresentavam infiltrado inflamatório inespecífico e 3 apenas congestão e ectasia vascular. No Wade todos foram considerados negativos. Já na histopatologia da lesão, todos os pacientes apresentavam anormalidades no HE que variavam de infiltrado inflamatório

inespecífico (3); congestão e ectasia vascular (3) e infiltrado inflamatório com células xantomizadas (2). Na coloração de Wade, 5 pacientes apresentavam positividade, a maioria com lesão no palato.

PCA 103

LESÕES ULCERADAS NA HANSENÍASE

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Introdução: A hanseníase é uma doença infecto contagiosa de alta infectividade e baixa patogenicidade mantendo-se em temica no nosso país. Apresenta expressão clínica variada dependendo da resposta imune.

Material e Métodos: Foram avaliados pacientes que apresentavam clinicamente lesões ulceradas em varias fases evolutivas da doença: antes, durante e após o tratamento específico com também quadro clínico sugestivo de reação (Tipo 1 ou Tipo 2).

Resultados: A involução dos quadros ulcerativos muitas vezes foi devido não só da medicação para estado reacional como também da introdução da poliquinioterapia.

Conclusão: As lesões ulceradas representam uma dificuldade diagnostica quanto não interpretadas no contexto do quadro clínico global do paciente, significando muitas vezes conduta terapêutica inadequada.

PCA 104

LEVANTAMENTO DAS DERMATOSES DE INTERESSE SANITÁRIO MAIS FREQUENTES EM REGIÕES CARENTES DO ESTADO DE MINAS GERAIS - ÊNFASE EM HANSENÍASE

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Em 1991 a Organização Mundial de Saúde - OMS propôs a eliminação da Hanseníase como problema de saúde pública do mundo até o ano 2000, com a intenção que até essa data, todos os países endêmicos

alcançassem uma taxa de prevalência de 1/10000 habitantes. A meta proposta, apesar dos esforços, não foi atingida no Estado de Minas Gerais, e o principal fator associado foi a permanência de casos não diagnosticados (permanência oculta), responsável pela manutenção de fontes de contágio na população. Este problema pode estar relacionado a baixa cobertura e a falta de informação da população. Dentre as várias regiões do Estado de Minas Gerais, destacam-se a região do Vale do Jequitinhonha e do Vale do Mucuri pela carência do setor de saúde e conseqüente ineficiente assistência médica a população. Foi devido a essa carência e o contato prévio com as prefeituras de várias cidades dessas regiões que o trabalho de levantamento da prevalência das dermatoses de interesse sanitário com ênfase na Hanseníase pode ser viabilizado. Foram realizados 2 multirões com equipe multiprofissional e interinstitucional composta por 44 pessoas das mais diversas áreas (dermatologistas, oftalmologistas, dentistas, psicólogos, enfermeiros, bioquímicos, veterinários, auxiliares de enfermagem, assistente social, dentre outros). A equipe realizou atendimento durante 3 dias em cada uma das regiões em julho e dezembro de 2001 com avaliação da população com lesões de pele, unhas e couro cabeludo, cadastradas por agentes de saúde. Para cada paciente foi preenchida uma ficha com dados pessoais e sócio econômicos pertinentes ao inquérito epidemiológico. Durante o curto tempo de atendimento no Vale do Jequitinhonha, 4 novos casos diagnosticados em 1330 atendimentos, sendo todos eles no município de Itaobim cuja prevalência da doença era zero até então. Os dados obtidos com relação a hanseníase foram tão positivos que motivaram a continuidade desse trabalho pela equipe com uma periodicidade semestral com expansão para outras regiões já neste ano.

PCA 105

LINFOMA NÃO-HODGKIN SIMULANDO HANSENÍASE VIRCHOWIANA – RELATO DE CASO

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Apresentamos caso de Linfoma não-Hodgkin em que chamamos atenção para o diagnóstico diferencial com formas multibacilares de hanseníase, dificultando principalmente o diagnóstico de campo. Além de achados clínicos passíveis de confusão, a histologia mostrava infiltrado inflamatório perineural.

Relato do Caso: Trata-se de paciente feminina, 28 anos, natural e residente no interior de MG, atendida

pela primeira vez no serviço em setembro de 2000 com relato de ter se mantido hígida até fevereiro, quando iniciou com lesões hipererômicas no abdome e dorso, assintomáticas, que, após biópsia feita na mesma cidade, foram diagnosticadas como MHI, sendo tratada com PQT II por 6 meses, quando evoluiu com anemia importante, atribuída à hemólise por dapsona, e com “quadro reacional” descrito como edema poliarticular, piora das lesões de pele e surgimento de nódulos cervicais, para o qual iniciou-se prednisona 50 mg/dia. Ao chegar ao ambulatório, apresentava-se com estado geral comprometido, placas ictiosicas e várias lesões esclerodermiformes disseminadas; a face se mostrava infiltrada, de modo marcante os pavilhões auriculares, não se notando madarose. Não apresentava neurite ou espessamento neural, nem alteração de sensibilidade. Apresentava, ainda, linfadenomegalia muito importante em várias cadeias, com linfonodos endurecidos, confluentes, aderidos, esplenomegalia. Adenomegalia hilar importante ao Rx de tórax. Fizemos, assim, biópsia de 5 locais da pele e obtivemos o diagnóstico de linfoma não-Hodgkin. Pesquisa de BAAR em lesões, lóbulos de orelha e cotovelos negativa. Constatada leucemização em mielograma, foi submetida à quimioterapia com regressão importante das lesões e melhora clínica.

PCA 106

LONG STANDING SINGLE LESION ON THE FACE CONSISTENT WITH LEPROSY AND RESPONSIVE TO MULTIDRUG THERAPY

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Leprosy is a chronic disease, infecting 1.5 millions persons in undeveloped countries. Brazil has about 78 000 patients under multidrug therapy classified according to clinical characteristics and epidemiological data.

However, atypical or incipient presentations occur that do not fulfill the classic criteria for the diagnosis of leprosy and can be of difficult management even for well trained medical teams.

In this retrospective study we present the clinical and histopathological data from six female patients with long standing (2 to 7 years) single lesion located on the face, without clinical and laboratorial conclusive diagnosis. All patients responded to paucibacillary multidrug therapy (MDT/PB or ROM protocols), with clinical subsidence of lesions. Sarcoidosis, Lupus

erythematous-like lesion, Borderline tuberculoid leprosy, Jessner's lymphocytic infiltration and Annular Elastotic Granuloma were the proposed histological differential diagnosis, after excluding infectious diseases.

In conclusion, we suggest that the diagnosis of leprosy should always be questioned in long standing solitary nodule or plaque on the face, mainly in endemic countries like Brazil. In addition, a specific leprosy chemotherapy should be initiated as a therapeutic and diagnostic procedure.

PCA 107

MANIFESTACIONES ORALES DE LA LEPRO

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La Lepra conlleva una serie de efectos secundarios indeseables, que condicionan la tolerancia y la calidad de vida del paciente. Así, dentro de la esfera orofacial, la boca puede ser asiento de lesiones, que pese a su accesibilidad, pueden por ignorancia pasar desapercibidas y dificultar el adecuado tratamiento de un proceso, que hasta ese momento, había producido pocas lesiones corporales.

Las lesiones en la cavidad oral suelen aparecer en forma lepromatosas y más raramente en dimorfas y tuberculoideas. Las lesiones específicas de los lepromatosos a nivel oral son fundamentalmente alteraciones dentales, periodontales, de la mucosa oral y lengua. El diagnóstico precoz de estas lesiones puede disminuir considerablemente el daño oral que esta grave enfermedad puede llegar a causar.

Presentamos el estudio de estas lesiones en un grupo de 76 pacientes con enfermedad de Hansen de la Colonia Sanatorio San Francisco de Borja de Fontilles (Alicante) España.

PCA 108

MANIFESTAÇÕES GENITAIS EM PACIENTE COM HANSENÍASE MULTIBACILAR SOB POLIQUIMIOTERAPIA

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Os autores relatam características clínico-patológicas de paciente masculino de 37 anos, com hanseníase multibacilar, dimorfa- virchowiana, segundo a classificação de Ridley- Jopling. Apresenta discreto espessamento difuso na pele; rarefação discreta e caudal dos supercílios. Lesões pápulo-nodulares amarelo-acastanhadas, isolados ou confluentes nas orelhas e no corpo peniano, onde a consistência era mais endurecida; e, em menor tamanho e maior número, no abdome. A palpação dos testículos e epidídimo revelou aumento de volume doloroso e bilateral [orquiepididimite], sem sinais de eritema nodoso hansenico, na pele. Anidrose nas extremidades; espessamento neural assimétrico pouco doloroso à palpação. O exame histopatológico dos nódulos os identifica como hansenomas constituídos pelas clássicas células vacuolizadas de Virchow contendo globias bacilares e bacilos isolados. Após 15 meses de multidrogaterapia (rifampicina, dapsona e pirazinamida) o exame histopatológico dos nódulos, inclusive penianos, revelou tecido fibroso com intenso infiltrado de histiócitos com citoplasma vacuolizado, com numerosos bacilos álcool ácido resistentes granulados, por vezes em globias no citoplasma de macrófagos. Discussão: Foi notável que o exame clínico da genitália, diversamente do resto do tegumento, apresentava múltiplas lesões nodulares grandes, amarelo acastanhadas, bem delimitadas, endurecidas no prepúcio. As manifestações genitais hansenicas são observadas numa frequência que varia entre 6 e 12% dos casos de hanseníase em pacientes masculinos, sendo mais prevalentes nos multibacilares {dimorfo-virchowianos e virchowianos}. O doente de hanseníase multibacilar dimorfa-virchowiana, ora em discussão, foi surpreendente pela relativa pobreza de manifestações clínicas cutâneas hansenicas extragenitais e a exuberância das mesmas na genitália, caracterizadas pelos múltiplos hansenomas descritos e orquiepididimite bilateral. Okada e cols, 1978, observou, por microscopia eletrônica, bacilos de Hansen em queratinócitos da epiderme íntegra. Provavelmente, os bacilos que conseguiram atingir as células na zona da membrana basal, através dos desmossomas se espalharam; e, podem ser eliminados na camada córnea, mesmo com a pele íntegra. Portanto, é plausível, que os hansenomas ou pele especificamente espessada dos genitais, principalmente após atrito, possam transmitir bacilos de Hansen. Há que se pensar na hanseníase como doença sexualmente transmissível (DST); situação já reconhecido na literatura específica e clássica; e, atualmente relegado a plano secundário provavelmente pela emergência de outras DSTs.

PCA 109

MEDIDA DA ATIVIDADE DA ADENOSINA DEAMINASE NAS DIFERENTES FORMAS CLÍNICAS DA HANSENÍASE

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Objetivo: Padronização da técnica de medida da enzima Adenosina Deaminase (ADA), para servir como um bioindicador nas diferentes formas clínicas de Hanseníase.

Métodos e Resultados: A atividade da ADA, em U/L, foi determinada através de método espectrofotométrico, para caracterização da cinética enzimática e de sua atividade em pacientes com hanseníase. A concentração de 1,55mM do substrato (adenosina), mostrou-se mais eficaz em expressar a velocidade máxima da enzima. Os pacientes foram divididos em três grupos: grupo controle (não portadores) e grupos de portadores com e sem espessamento de nervos, sendo estes subdivididos conforme sua classificação (MHI; MHT; MHD e MHV)

Conclusão: Nossos resultados indicam que a atividade da ADA está baixa em todas as formas clínicas, exceto a forma dimorfa, quando comparada ao controle e pode ser um bom indicador da resposta imune em pacientes com diferentes formas clínicas da Hanseníase.

Idade	Controle		Sem espessamento neural				Com espessamento neural		
	n	f	MHI 1	MHT 5	MHD 6	MHV 3	MHT 3	MHD 5	MHV 2
U/L	11,6 ± 1,2	2,9 ± 1,6	3,3 ± 1,1	6,2 ± 2,5	2,1 ± 1,2	2,9 ± 1,2	4,8 ± 2,3	3,1 ± 0,3	

PCA 110

MULTIFORM ERYTHEMA: RETROSPECTIVE ANALYSIS

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Introduction: Multiform Erythema (ME) – like lesions are manifestation of a reactional episode in lepromatous patients and can delay its recognition as a leprosy reaction. Its early diagnosis is crucial to present disabilities due to the peripheral neuropathy that complicate these acute inflammatory episodes.

Objective: Evaluate the distribution of Multiform Erythema as part of reaction episodes of leprosy.

Materials and Methods: This study has included a retrospective analysis of 56 patients with reactional patient condition of a multiform erythema type in patients with leprosy submitted to multibacillar multidrugtherapy (MDT) according to the scheme of the WHO. All those patients who presented this reactional patient condition, whether during the period when they received the PCT or during the observation period after therapeutic discharge, were selected for this study. Sex, age, bacilloscope indices (BI), incapacity degree (ID) as well as the classifications of patients with reference to clinical form, moment the first episode occurred, number of episodes and occurrence of episodes, whether associated or not to other patient conditions.

Results: We have observed a predominance of the reactional patient condition of the multiform erythema type in the male sex (87,5%) and in the age group between 20 and 39 years old (55,4%). There has been a tendency of a multiform erythema occurring in association with higher BI indices as well as a decrease of BI after treatment. There has been an improvement in ID, should we compare the initial ID with the final ID (51,8%) degree at the beginning of treatment and 63,4% degree zero at the end of treatment. 76% of the patients presented only one episode of multiform erythema, 40% presented their first episode after medication discharge and 17,9% presented it before having begun therapy (at the moment of diagnosis). 41% of the patients presented multiform erythema in association with nodal erythema, 1,8% presented association with reverse reaction, and 26,8% of patients presented isolated multiform erythema.

Conclusion: M.E. episodes were not frequently found in multibacillary patients. However, those episodes are very important for identification of leprosy patients and in several occasions, they are the main reason for patients to seek medical care.

PCA 111

Mycobacterium leprae-HIV CO-INFECTION: RELEVANT CLINICAL ASPECTS AND PROGRESSION

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Introduction: To date, published research regarding *M. leprae*-HIV co-infection has been scarce. Leprosy is endemic in Brazil and HIV infection rates, while, generally speaking, have been kept somewhat under control, require constant vigilance. Even so, co-infection has remained a largely ignored subject.

Objective: To evaluate the evolution of leprosy in co-infected HIV patients. Material and Methods: This is a retrospective descriptive case study of 30 patients with *M. leprae*-HIV co-infection that were

treated in 1991 to 2000 at the Leprosy Outpatient Clinic, Oswaldo Cruz Foundation, Rio de Janeiro, R.J., Brazil. Statistical analyses were performed via EPIINFO 2000 (CDC). The Qui-square Test and Fisher Exact Test were also carried out.

Results: There was no indication in this study that HIV was a risk factor for the development of the multibacillary forms (60% of the cases under treatment in the clinic were paucibacillary). Reactional episodes occurred in 70% of patients (57.1% had reversal reaction). It can, therefore, be postulated that the capacity for reactivation of the cell-mediated immune response remained strong regardless of existing CD4+ levels. All 30 patients responded satisfactorily to multidrug therapy despite their being co-infected and having an altered immune state (AIDS/HIV). Moreover, no relapses were seen to occur.

Conclusions: None of the patients demonstrated an increased susceptibility to *M. leprae* or progression toward a multibacillary or disseminated form of leprosy. In addition, there was likewise no indication of impairment in the immune response to *M. leprae* in spite of the AIDS co-infection.

PCA 112

NERVE CONDUCTION STUDIES OF MULTIBACILLARY-LEPROSY PATIENTS: ANALYSIS OF 35 PATIENTS AT THE BEGINNING OF MULTIDRUG THERAPY

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Objective: To observe the frequency of evidences of nerve damage in multibacillary (MB) leprosy patients at the beginning of multidrug therapy (MDT).

Background: We did not found at the literature any study that determine how are frequency of peripheral neuropathy at the beginning of MDT in MB patients and when the axonal or demyelinated lesions appear during these treatment.

Design/method: We examined 35 patients classified as having the MB form of leprosy. These patients were submitted to clinical and neurological examination followed by nerve conduction studies at the beginning of multidrug therapy. We divided these patients into groups: Group 1 A – Patients with signs and symptoms of peripheral nerve lesion; Group 1 B – Patients without complain of paresthesias or pain, but with signs of peripheral nerve lesion; and Group 2 – Patients without peripheral nerve complaints and without signs. Nerve conduction studies were done according to standard techniques.

Results: Out of the 35 multibacillary leprosy patients, 11 (31%) were female and 24 (69%) male. The mean age was 39,5 years. The neurological examination revealed sensory alterations in 22 (66%) cases; motor alterations in 7 (20%) of; and nerve thickness in 19 (54%) patients. Nerve conduction studies (NCS) were normal in only 50% of group 2 patients. Out of the 28 remaining patients only in 1 (3.5%) from group 1A there were findings consistent with purely demyelination with conduction block, without reaction. Most of the patients (62,8%) has purely axonal alterations in NCS and 2 (5,7%) patients have axonal and demyelinating findings in NCS.

Conclusions: Leprosy neuropathy in multibacillary patients is typically of the axonal type, and the small fibers are primarily involved, even in most of the patients with no neurological alterations at the beginning of the MDT. Nevertheless, in rare cases we can verify superimposed demyelinating features with conduction block, an alteration frequently observed in demyelinating neuropathies

PCA 113

NEUROCRIPTOCOCOSE EM PACIENTES COM HANSENÍASE VIRCHOWIANA

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A hanseníase é uma doença infecto-contagiosa causada pela *Mycobacterium leprae* que acomete pele e, sobretudo, nervos periféricos, levando a neurites muitas vezes severas. Essas neurites são tratadas durante sua vigência e nos surtos reacionais através da corticoterapia, que pode se prolongar por meses. As reações adversas do uso sistêmico dos corticosteróides tornam-se inevitáveis. Os autores apresentam o caso de um paciente do sexo masculino, 45 anos, encaminhado da cidade de Prata, MG, para tratamento de neurites persistentes, pós tratamento de Hanseníase multibacilar em uso de 80 mg de Prednisona há 2 anos. O paciente relatava que há 1 ano e 6 meses vinha apresentando quadros repetitivos de "abscessos" em cotovelos, drenando secreção espontaneamente, recebeu antibióticos várias vezes, com períodos de melhora e de exacerbação do quadro. Durante a internação, o paciente apresentou cefaléia persistente. O exame neurológico e a tomografia computadorizada de crânio foram normais. O exame micológico direto e a cultura de fungos do líquido cefalorraquiano identificaram a presença de

Cryptococcus neoformans. Foi iniciado Anfotericina B, mas o paciente evoluiu para o óbito no 7º dia após o início do tratamento.

Motivo da apresentação: alertar para as possíveis complicações com a corticoterapia prolongada em pacientes hansenianos.

PCA 114

NEUROPATIA PERIFÉRICA SENSORIAL CONGÊNITA SIMULANDO HANSENÍASE VIRCHOVIANA

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Criança de 10 anos do sexo masculino que desde os 5 anos de idade vem apresentando diminuição da acuidade visual com opacificação das córneas, automutilações nas extremidades dos membros com formação de úlceras plantares, destruição da pirâmide nasal, distúrbios de comportamento, anemia crônica e infecções secundárias nas lesões úlcero-tróficas nos membros. Não há relato de casos semelhantes na família.

O autor apresenta este caso clínico raro com todas as suas manifestações clínico-laboratoriais simulando caso de Hanseníase Virchowiana e comenta a dificuldade de abordagem terapêutica neste caso

PCA 115

NUTRIÇÃO E HANSENÍASE

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Introdução: Uma alimentação inadequada está relacionada a doenças carenciais⁽¹⁾ e em um aspecto mais amplo, a imunidade de um indivíduo é diretamente influenciada pelo seu estado nutricional^(2,3,4). Pesquisadores mostraram que a desnutrição protéica está relacionada com alterações na imunidade mediada por células, função fagocítica, atividade sistema complemento, ação das imunoglobulinas secretórias e produção citocinas e citam como nutrientes envolvidos com sistema imune o zinco, selênio, ferro, cobre, Vit. A, Vit. C, Vit. E, Vit. B6 e ácido fólico⁽²⁾. Estudos mostram, ainda, que a desnutrição protéica afeta mais IMC do que imunidade humoral. Torna-se, portanto, evidente a relação entre Hanseníase e Nutrição.

Objetivos: Este trabalho tem como objetivo relacionar Hanseníase e Nutrição. **Metodologia:** Foi feita revisão da literatura entre os anos 1960 a 2000, nos bancos de dados MEDLINE e LILACS.

Resultados: Rees (1981) mostra que a desnutrição protéica diminui a resposta mediada por células e aumenta o risco para MH e que em experimentos com ratos (com déficit calórico/protéico) verificava-se a maior disseminação da doença. Existem relatos que na segunda Guerra, em Leprosário na Malásia (com 2500 doentes) submetidos a uma dieta com menos de 700 Kcal/dia houve maior mortalidade (73%) contudo, desapareceram estados reacionais neste período⁽⁵⁾. Rao e cols (1986) demonstram que a desnutrição não está relacionada com a doença e sim com a pobreza e privação de comida. Pesquisadores como Rao e Saha (1986; 1987 e 1988), Chattopadhyaya e cols (1992); Mennem e cols (1993), Vidal et al (1993) e Foster et al (1988) demonstraram que pacientes de MH tem níveis séricos alterados para alguns micronutrientes. Em experimentos com ratos, verificou-se que a gordura da dieta relacionada com multiplicação do *M. leprae*⁽⁶⁾. Além dos aspectos alimentares levantados, cabe ainda ressaltar a importância dos efeitos adversos da PQT para estes pacientes⁽⁷⁾, o que pode levar a um estado de desnutrição, se não controlados.

PCA 116

OCORRÊNCIA DE ERITEMA NODOSO HANSENÍCO

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A evolução crônica da hanseníase em pacientes portadores da forma multibacilar pode ser interrompida por surtos reacionais denominados tipo 2 ou de Eritema Nodoso Hanseníco (ENH), principalmente após o início do tratamento. Com o intuito de se observar a ocorrência destes surtos, avaliou-se 40 pacientes multibacilares em tratamento no Ambulatório de Hanseníase da Disciplina de Dermatologia da Faculdade de Medicina de Botucatu- UNESP, no período de 3 anos, sendo 18 da forma dimorfa (D) e 22 da forma virchowiana (V). Observou-se que 18 (45%) pacientes apresentaram surtos de ENH, sendo 3 (7,5%) D e 15 (37,5%) V. Os surtos ocorreram em número de vezes variável de 1 a 8 por paciente, sendo que 8 (44,4%) pacientes apresentaram apenas um surto; 1 (5,5%), 2 surtos e 9 (50%) pacientes mais de 2 surtos; 22 (55%) dos pacientes não apresentaram surtos reacionais. Estes surtos ocorreram entre a 1ª. e a 23ª. dose da PQT, sendo a maior frequência entre a 1ª. e a 12ª. dose, em 8 (22%) pacientes. Observou-se, ainda que 12 (30%) pacientes apresentaram surtos após a alta, com variação de ocorrência de 1 a 52 meses, até o momento, sendo que 5 (12,5%) apresentaram apenas uma vez; 2 (5%) duas vezes e 5 (12,5%) apresentaram mais de dois surtos. Em 2 (5%) dos pacientes o ENH manifestou-se antes mesmo do início do tratamento. Interessante

notar que os pacientes que apresentaram surtos após a alta foram praticamente os mesmos que apresentaram durante o tratamento e, ainda, que em 6 (15%) destes, que não haviam apresentado durante o tratamento, o fizeram a partir do 6.^o mês após o mesmo, sendo em 3 deles, cerca de 40 meses após a alta. Os autores chamam a atenção para a alta frequência de surtos de ENH e que muitos pacientes continuam a apresentá-los após a alta, ou seja, após o término do tratamento, por longos períodos, além do fato dos mesmos poderem ocorrer, também, após longos períodos após a alta em pacientes que não os apresentaram durante o tratamento.

Houve ou não correlação do número de surtos com o IB, tanto durante o tratamento como após.

PCA 117

OCORRÊNCIA DE HEPATITES B E C EM PACIENTES COM PATOLOGIAS PASSÍVEIS DE TERAPÊUTICA COM IMUNOSSUPRESSORES

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Dentre as diversas etiologias da hepatite crônica, temos a infecção pelo vírus da hepatite C (HCV), na qual a cronicidade da infecção é a regra, como sugerido por estudos de hepatite pós-transfusional. A condição de portador assintomático para formas graves da doença pode ser modificada pela terapia com imunossupressores como, da mesma forma que pela infecção pelo HIV. Esse fato motivou o presente estudo em pacientes com doenças dermatológicas passíveis dessa terapêutica mas que, no entanto, poderiam, eventualmente, serem tratados com medicamentos alternativos, entre as quais a psoríase, a micose fungóide e a hanseníase virchowiana reacional. Como a hepatite C parece ser transmitida de uma forma semelhante à da hepatite B, realizou-se a sorologia para ambas em 54 pacientes portadores dessas doenças dermatológicas. A mesma foi positiva em 4 (7,41%) pacientes. Destes, apenas 1 (1,85%) apresentava o vírus para hepatite C, sendo que os outros 3 (5,56%) apresentavam apenas o contato com o vírus da hepatite B ou eram falso positivos, o que não acarretaria problemas com o uso desse tipo de medicação. Embora em pequeno percentual (7,41%), os autores defendem a realização do teste sorológico para hepatite em geral, pois nos casos positivos, poder-se-ia optar por medicações alternativas, analisando-se, evidentemente, o fator risco-benefício, não incorrendo em possível prejuízo ao paciente. Além disso, diante de situações de impossibilidade da realização dos testes, sugerem a avaliação das condições epidemiológicas associadas ao risco da doença, antes da introdução dessas medicações.

PCA 118

OCULAR LESIONS AMONGST THE MB LEPROSY SUFFERERS UP TO TWENTY FIVE YEARS OF AGE GROUP WITH THE DURATION OF THE DISEASE UNDER FIVE YEARS

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One hundred MB leprosy sufferers up to twenty five years of age group with the duration of the disease under five years were examined randomly between July 2001 to January 2002 in Eastern India in search of the ocular lesions most probably related to the disease process. Two third of them were under active treatment and the rest had completed the scheduled MDT regime. 20 of them were from the leprosarium, 25 of them were the residents of the after care leprosy colonies and the other 55 leprosy sufferers were in the society. 70% of the patients were male and 30% female. Only 2% of them had minor physical deformity arising out of leprosy. 11 % of this group of patients had ocular complications most probably related to leprosy. The ocular leprosy included Lagophthalmos in 3 %, Peresis of Orbicularis Oculi in 1%, Complicated Cataract amongst 3%, and Recurrent Uveitis in 3 % and Episcleritis in 1%. Otherwise non specific ocular lesions like Pterygium, Chronic Conjunctivitis, Pinguicula, Chronic Dacryocystitis, Refractive errors and Bitots Spots were encountered in 12 % of the patients of the group. Here lagophthalmos was not associated with any exposure keratitis and responded well with a course of systemic steroid for six weeks. Uveitis responded effectively with local ocular medication along with a course of systemic steroid. The Cataract had a good visual outcome following Extra Capsular Cataract Extraction with Intra Ocular Lens Implantation.

Ocular Leprosy in MB patients of younger age group is not an uncommon phenomenon in this era of MDT but it is well controlled by appropriate therapy keeping aside the dread full complications of incurable blindness.

PCA 119

ONE MONTH PREVALENCE OF MENTAL DISTRESS AMONG PEOPLE AFFECTED BY LEPROSY AT ALERT, ETHIOPIA, 2002

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Leprosy is a disease that results in handicap as a result of nerve damage. The society has negative feel-

ing towards the affected people. The disability and the negative feeling of the society affect patients' emotional state and behaviour. Many patients attend clinic frequently without specific medical reason and the hypothesis was that they might be doing so because of psychological problems.

Objective: To estimate the prevalence of mental distress in people affected by leprosy and to suggest ways to deal with this problem.

Subjects: 471 persons affected by leprosy attending the different clinics at ALERT were systematically sampled and interviewed using The Self Reporting Questionnaire (SRQ).

Instrument: SRQ is an instrument developed by WHO to detect mental health problem in primary health care attendees in low-income countries. Twenty questions that contain emotional and somatic symptoms were used to identify emotional problems.

Result: Those who had at least 11 positive scores out of twenty symptoms from SRQ were regarded as having mental distress. The prevalence of mental distress in the study subjects was 51%. Those patients with handicap reported symptoms of mental distress more often than those without handicap. Over 18 % had suicidal ideation over the past one month.

Conclusion: These findings are much higher than findings of similar studies done in Ethiopia and elsewhere, both in clinical and community settings. People affected by leprosy seem to have more mental distress than the general population and people attending clinics for other diseases. The findings emphasize the great need for addressing the psychosocial aspect of the problem with the medical treatment to help these people. Training in leprosy work should also include this as an important component in the management of leprosy. Since SRQ is meant to detect the presence of symptoms of general mental ill health, another study needs to be done to diagnose specific mental disorders in this population.

PCA 120

OUR EXPERIENCE OF ANTILEPROSY PREVENTIVE TREATMENT

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In Astrakhan endemic zone leprosy incidence among relatives of leprosy patients, long living together with index cases and having no preventive treatment, was 8-10% in pre-sulphonic era. Since the 50th of the 20th century preventive antileprosy treatment was introduced in Russia. Preventive treatment was administered to persons aged 2-60 years old and having a close household contact with index leprosy case as

well as with relapsed case of leprosy with high BI. As preventive treatment DDS was used at doses, usually administered to leprosy patients. Duration of preventive treatment was 6-12 months. In the period of 1958-1998 preventive treatment was given to 531 persons, among them 13 (2.4%) developed leprosy (7 females and 6 males). It should be noted that 12 out of the 13 cases accounted for the 60th-70th years. All the diseased had close household contacts with lepromatous leprosy patients. Index cases were as follows: mother - 4 cases, father, son, and brother-by 2 cases each, husband - 3 cases. By Ridley-Jopling classification patients were distributed as follows: LL- 3-, BL -1, TT-7, I- 2, i.e. paucibacillary forms of leprosy prevailed. During preventive treatment no complications were observed. Intolerance of sulphones was rare. In control group (contacts having no preventive treatment) leprosy was developed in 8%. The data obtained suggested rather high effect of preventive treatment. While in the 50th in Astrakhan zone populated about 1 million 50-60 cases were registered annually, now, thanks to a set of antileprosy measures, including preventive treatment of leprosy contacts, prevalence of leprosy infection sharply decreased and primary incidence of leprosy has become sporadic

PCA 121

OVERT NEURITIS INFLUENCING THE INDUCTION AND/OR WORSENING OF PHYSICAL DISABILITIES IN MULTIBACILLARY LEPROSY PATIENTS

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With the goal of studying the role of the overt neuritis (pain, spontaneous or by palpation, in peripheral nerves) in the development and / or worsening of physical disabilities in multibacillary leprosy patients, 103 patients (18.4% BB; 47.6% BL; and 34% LL) were followed-up for an average period of 64.6 months, from the start of multidrug therapy (MDT), 24 doses. They were evaluated in relation to physical disabilities through disability grade and through disability index, before treatment, at the end of the treatment, and at the end of the follow-up period.

Forty six patients (44.7%) had overt neuritis episodes during follow-up (34% during MDT). The overt neuritis episodes were associated mainly with erythema nodosum leprosum reactions (55.3%), when compared to reversal reactions (33.3%), although this was not statistically significant. There was a significant correlation between the occurrence of overt neuritis and the development of disabilities, evaluated through

disability grade at the end of treatment ($p = 0.000274$), as well as at the end of whole follow-up period ($p = 0.006886$). Similarly, disabilities measured through the disability index at the end of the treatment ($p = 0.002165$) and through the final disability index ($p = 0.006274$) were significantly correlated with the occurrence of overt neuritis. These data suggest that health professionals must pay attention to the early diagnosis of overt neuritis, giving prompt and adequate therapy, to prevent the development of physical disabilities in multibacillary leprosy patients.

PCA 122

PALPAÇÃO DE RAMO NERVOSO CUTÂNEO COMO UMA ESTRATÉGIA PARA A REDUÇÃO DA PREVALÊNCIA OCULTA DA HANSENÍASE

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Expõe-se o quadro clínico inicial encontrado em contato de hanseníase descoberto a partir da palpação de ramo nervoso cutâneo. Enfatizam a utilização também da palpação de ramos nervoso cutâneos associado com a utilização do exame com monofilamentos como uma estratégia para a detecção precoce e redução da prevalência oculta da hanseníase.

PCA 123

PAUCIBACILLARY HANSEN'S: COMMON CLINICAL TYPES

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Introduction: Hansen's is an infectious disease with an inconsistent incubation period. The peripheral nerves are affected frequently and cause physical deformities. The incidence of the disease by mycobacterium leprae can be determined by two factors i.e. by the resistance of the patient and by the quantity of the bacilli.

Materials and Methods: 938 patients had been evaluated in the out patient department and out of that 103 were diagnosed as paucibacillary. All the patients were submitted for the following clinical examinations Neurodermatological, Bacilloscope, Lepromin test, Histopathological examination of skin. All of them received the Hansen's treatment for the first time in their life. A study was done on the basis of age, sex, clinical classification, type and number of lesions.

Results: Out of 103 patients evaluated, 70 patients (68%) were females and 33 patients (32%) were males; the age incidence was from 1 year to 75 years. As per the clinical presentation 76 patients (74%) were tuberculoid type, 17 patients (16.5%) were indeterminate type, 8 patients (8%) were infantile nodular, 2 patients (2%) were absolute neural type. As per the types of lesions 62 patients (60%) were macular, 30 patients (29%) were plaques, 8 (8%) were nodular and 2 (2%) were with out any dermatological lesions but presented with neurological deficit. In relation with number of lesions 61 patients (59%) had single lesion and 18 patients (17%) had two lesions.

Conclusion: In spite of the sound clinical knowledge of paucibacillary Hansen's type, the similar features are seen in the other types of clinical manifestations of the cutaneous plaques, infantile nodular Hansen's and absolute neural type. A keen attention should be given to the paucibacillary form, which has typical characteristics with other existing variable clinical entities.

PCA 124

PEROXIDASE AND SUPEROXIDE DISMUTASE LEVELS IN THE LYMPHOCYTES OF LEPROSY PATIENTS

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Leprosy become more complicated due to acute inflammatory episodes called "Reactions" during the natural course of the diseases while treatment and even after treatment. It is known that CMI is defective in infection with *M. leprae*. This abnormality has been correlated with defect in both numbers and proliferation of T-lymphocytes. The change that occurs in the physiology of Lymphocytes might be one of the reasons for the depressed functions, especially in the effector limb. We have studied a number of enzymes like LDH, Arginase, ADA, Aldolase besides rate of translation by labeled amino acids. In the present study we have studied SOD and Peroxidase levels in leprosy patients throughout the spectrum. We have analysed the above enzyme levels in both RBC

as well as purified lymphocytes using standard procedures. These enzymes showed varying trends in both RBCs and Lymphocytes. Results will be presented and discussed.

PCA 125

POSSIBLE FACTORS AND THEIR COUNTER-MEASURES OF LEPROSY MISDIAGNOSIS AND MISSED DIAGNOSIS

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Abstract: The disability resulted from leprosy make the public develop apprehensiveness and discrimination on leprosy. Therefore it is very important to diagnoses early and accurately. Never establish diagnosis unless there are enough evidences. If it happen, the distress will drop the patients and their relatives mentally and physically. Once patients are misdiagnosed or missed diagnosed, irreversible disability and social public problem will be produced. Possible factors include 1) low precautions of leprosy presence. 2) absence of leprosy knowledge and do not master main points of diagnosis. 3) imperfect, careless or not enough synthetic analysis for examination. 4) leprosy with other skin diseases or peripheral nerve diseases. 5) variation of leprotic symptoms and signs. 6) incorrect preliminary diagnosis results in return visit as usual, especially for senior. 7) taboo leprosy and hide the truth. We discuss their countermeasures.

PCA 126

POST RELEASE REACTIONS AND SKIN SMEAR RESULTS

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The occurrence of reaction manifestations following release from treatment in leprosy patients remains as one of the most worrisome matters and of difficult solution. With the objective of better understanding the problem, we correlated the skin smears results with the presence of reactions in cases submitted to multidrug therapy destined to multibacillary leprosy patients (WHO/MDT). 164 cases were evaluated that presented reactions following release, where 124 cases had received 24 doses and 40 cases had received 12 doses of WHO/MDT. In the evaluation of the results, we used the system of Word processing, data bank and statistics for epidemiology in microcomputers EPI INFO 6.01. From the total of cases, 51.2% (84/164) presented positive skin smears at the

moment of reaction. When we separately evaluated in relation to the number of doses, we observed that, following 24 doses, 53.2% (66/124) and after 12 doses, 45.0% (18/40) developed post release reactions with negative skin smears. The statistical tests showed no significant statistical difference between positive and negative skin smears and the occurrence of reactions in leprosy patients following release from WHO/MDT for multibacillary, signaling the need for treatment with anti-inflammatory drugs and strengthening the participation of the immune system in the etiology of reaction episodes.

PCA 127

PREVALENCE OF OCULAR COMPLICATIONS IN NEWLY DIAGNOSED AND RELAPSED LEPROMATOUS PATIENTS

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Results on the ocular complications of 301 lepromatous patients, newly diagnosed (238) and relapsed (63), male (213) (71%) and female (88) (29%), polar lepromatous (LL) (41) (14%) and borderline (BL) (260) (86%) with age ranging from 7 to 78 years with 41.5 (14) mean (SD) and duration of disease from 1 year to 32 years with 6.2 (7.8) mean (SD), belonging to a geographically defined leprosy control area program in South India who had base-line anterior-segment ophthalmic examination is presented.

Ocular complications, categorized as leprosy related complications (lagophthalmos, ectropion, entropion, trichiasis, corneal opacities, corneal sensory impairment, corneal ulcer, episcleritis, scleritis, iridocyclitis and iris atrophy) (LRC) and general complications (naso-lacrimal duct block, pterygium and cataract) (GC), were found in 213 (71%) patients. 88 (29%) patients had no ocular complications, 30 (10%) had only GC, 111 (37%) had only LRC and 72 (24%) had both. More elderly patients had ocular complications ($P=0.000$) as did LL patients (85%) compared with BL (68%) ($P=0.03$). Limb deformity ($P=0.000$) and smear positivity at any one site at enrollment ($P=0.02$) and visual loss ($P=0.002$) were associated with ocular complications. Ocular complications were not significantly different in relapsed patients compared with newly diagnosed lepromatous patients. Similar associations were found when LRC were analyzed separately. More cataract was present in those who had LRC (30%) than those who did not (12%) ($P=0.000$). GC were associated with increasing age ($P=0.000$), were more in LL patients (49%) than BL (32%) ($P=0.03$) and were associated with increased limb deformity ($P=0.006$). Corneal opacity with vision loss was more in patients with GC ($P=0.01$).

PCA 128

PRIOR THE START AND AFTER TREATMENT WITH MULTIDRUG THERAPY IN LEPROSY: A HISTOLOGICAL AND IMMUNOHISTOCHEMISTRY STUDY

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The fixed-duration multidrug therapy (MDT) has been of a great value in the control of leprosy. Its effectiveness is basically shown through clinical and bacterioscopic parameters. The goal of this study was tissue analysis by histological and immunohistochemistry techniques for populations of lymphocytes T helper, lymphocytes T suppressor, macrophages and *Mycobacterium leprae* antigens on the patients undergone MDT.

Twenty-eight patients with leprosy were studied. They were classified according Madri classification. Seven out of them were tuberculoid leprosy (T) and they were classified as paucibacillary group to be treated. Twenty-one were classified as multibacillary group, twelve of the borderline leprosy (B) and nine of the lepromatous leprosy (L). All patients were treated with MDT.

Skin biopsies were made after the end of the treatment at same site that it had been made before the beginning of the therapy and histological and immunohistochemistry analysis with anti-OPD4, anti-CD8, anti-CD68 and anti-BCG antibodies were made.

The decrease of the inflammatory cells in the infiltrate was noticed of leprosy after the treatment. The CD4+ cells were more expressive in T leprosy than in B and L leprosy before treatment. After treatment this difference was not noticed.

The distribution of CD8+ cells and CD68+ cells was similar in different forms of leprosy, before as well as after treatment.

The demonstration of the mycobacterial antigens in the tissues through the BCG+ cells was more sensitive than the demonstration of acid-fast bacilli in the tissue through the Fite-Faraco stain.

PCA 129

REAÇÃO DE REVERSÃO REVELANDO DOENÇA DE HANSEN

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UFPB/ Hospital Universitário Lauro Wanderley.

R.M.S. 32 anos, masculino, branco, casado, natural e procedente de João Pessoa- Pb, apresentava há 1 ano lesões no corpo tipo urticariana, que melhorava com corticoide sistêmico e com aparecimento das lesões após a suspensão da medicação. Ao exame apresentava nervos espessados e lesões em placa eritematosas e infiltrada em tórax e abdome. Confirmado o diagnóstico através da biopsia, Baciloscopia negativa, iniciamos tratamento com o esquema paucibacilar e corticoterapia. Trata-se de manifestação aguda da Doença de Hansen. Cerca de 20% da doença é diagnosticada a partir da reação.

PCA 130

REAÇÃO HANSÊNICA TIPO I EXUBERANTE SIMULANDO FENÔMENO DE LÚCIO

Ana Célia de A. Mesquita; Heitor de Sá Gonçalves; Ana Fátima P. Teixeira; Francisco José Dias Branco; Maria Araci P. Aires Centro de Dermatologia Dona Libânia - SESA - CE Av. Pedro I. 1033 - Centro - Fortaleza - CE

AMS, masculino, 71 anos, agricultor, procedente de Quixadá - CE. Paciente portador de hanseníase virchoviana, diagnosticada pela associação de clínica com a baciloscopia (IB = 2,5), além de histopatologia compatível. Na consulta inicial apresentava extensa placa eritemato-infiltrada, com ausência de sensibilidade térmica e dolorosa na face medial do braço esquerdo, e inúmeras lesões semelhantes, am menores dimensões, disseminadas pelo tegumento, predominando em tronco e membros superiores. Iniciou esquema poliquimioterápico para multibacilares da OMS, e cerca de 15 dias após, apresentou exuberante quadro de reação tipo I, com aumento da infiltração de numerosas lesões. Foi medicado com prednisona, na dose de 0,8 mg/kg/dia, evoluindo com resposta terapêutica bastante satisfatória. Motivo da apresentação: exuberância de reação tip I em hanseníase, simulando fenômeno de lúcio, e a pronta resposta terapêutica á doses moderadas de corticoterapia.

PCA 131

REAÇÃO TIPO I GRAVE, COM LESÕES INCOMUNS EM CRIANÇA DE 7 ANOS COM HANSENÍASE DIMORFA - RELATO DE CASO

Grossi, M.A.F.; Freire, H.B.M.; Teixeira, M.L.G.; Villarroel, M.F.; Pires, R.P.; Lyon, S.

Centro Geral De Pediatria (Cgp) and Hospital Eduardo De Menezes (Hem) Fundação Hospitalar Do Estado De Minas Gerais. Alameda Ezequiel Dias Nº 345 Cep: 30130 110 Belo Horizonte, Mg - Brasil

Relato de Caso: D.N.L.C., 07 anos, sexo masculino, faioderma, natural e procedente de Teófilo Otoni,

Minas Gerais, internado no C.G.P em 10/01, com história de há 03 anos ter apresentado mácula hipocrômica no tórax, com posterior aumento do número das lesões. Diagnóstico de Hanseníase Dimorfa em 09/01, com Grau Zero de Incapacidade, no Centro de Saúde de sua cidade, aonde iniciou PQT/MB. Passou a apresentar exacerbação das lesões que ficaram eritemato-infiltradas e edematosas, com posterior necrose e ulceração em face, orelhas, tronco e membros. Enviado para o Centro de Referência do HEM em Belo Horizonte quando foi feito o diagnóstico de Reação Tipo I Necrótica com infecção secundária e encaminhado para o CGP, aonde manteve a PQT/MB, iniciou Prednisona, Oxacilina e Cloranfenicol, limpeza e proteção da pele com Ácidos Graxos Essenciais e Curativos Interativos com Hidrocoloide nas lesões ulceradas. A criança evoluiu com melhora progressiva das lesões cutâneas e piora sensitiva e motora em Ulnares e Tibiais, comprovada pelo monitoramento da função neural: força muscular, estesiometria e eletroneuromiografia, sendo indicada Neurolise de Ulnares, Medianos, Fibulares e Tibiais. Após cirurgia e melhora inicial a criança vem sendo acompanhada pelo serviço de origem e pelo CGP.

Motivo da Apresentação: Caso pouco usual e grave da Reação Tipo I em criança de 7 anos.

REAÇÕES ADVERSAS À PQT, NUM PERÍODO DE DEZ ANOS.

Dalila Filomena Mohalem, Maria do Rosário Vidigal, Mônica Nóbrega Cunha

Centro de Saúde Tranquilidade

Secretaria de Saúde de Guarulhos

Av. Emílio Ribas, nº 1845 – Guarulhos – SP.

Uma Avaliação Da Incidência De Reações Adversas À Poliquimioterapia Ocorridas Num Período De Dez Anos (1992 A 2002), No Centro De Saúde Tranquilidade; Entre Elas: Anemia Hemolítica, Hepatite, Insuficiência Renal, Síndrome Pseudo Gripal, Vômitos Incoercíveis E Púrpura Trompocitopênica.

PCA 132

REAÇÕES ADVERSAS À PQT, NUM PERÍODO DE DEZ ANOS

Dalila Filomena Mohalem, Maria do Rosário Vidigal, Mônica Nóbrega Cunha

Centro de Saúde Tranquilidade

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ficiência Renal, Síndrome Pseudo Gripal, Vômitos Incoercíveis e Púrpura Trompocitopênica.

PCA 133

REACTIONAL STATES IN CO-INFECTED LEP-ROSY X HIV POSITIVE PATIENTS

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Introduction: Although endemic in Brazil, leprosy disease is uncommon in HIV+ individuals. HIV+ patients present the same stable forms and reactional episodes described in the HIV negative leprosy patients. As the disease develops into HIV-positive individuals, a variety of other opportunistic infections may develop, some of which are directly related to deficiencies in the cellular immune response. However, leprosy does not seem to be related to the immune status of HIV+ patients.

Objective: Describe the reactional episodes among the co-infected leprosy x HIV+ patients.

Methods: With the intent to evaluate the frequency of reactional episodes in co-infected leprosy x HIV+ patients, we followed 38 patients. They were treated at Outpatient Unit of Leprosy Laboratory / Oswaldo Cruz Foundation / Rio de Janeiro / Brazil with multidrugtherapy (OMS).

Results: Out of 38 cases, 24 (63%) patients were paucibacillary (PB) and 14 (37%) were multibacillary (MB). Eighteen patients (47%) were male and 20 (53%) were female, ranging from 17 to 64 years of age. Twenty-three (60%) patients presented reactional episodes, and 20 patients developed type I reaction and 3 developed type II reaction. Among the PB patients, 21 (87%) presented reactional states and in the MB, 11 (78%) patients. Nineteen (825) developed a reaction during the first 6 months of treatment, 3 (13%) during the first year and only 1 (4%) after this. Only 8 (34%) patients presented more than one episode of reaction.

Conclusion: The HIV co-infection does not seem to change the natural course of leprosy, nor to interfere on the specific immune response to *M. leprae*, but the frequency of reaction in PB patients is higher than in HIV negative patients.

PCA 134

REACTIONS IN LEPROSY: AN EPIDEMIOLOGICAL STUDY OF 2600 PATIENTS FROM NORTH INDIA

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Although leprosy reactions are a very common phenomenon, very limited data has been published on their epidemiology from India, which harbours the largest number of case load in the world. This paper presents epidemiological data over a period of 15 years on reversal reactions (RR) and erythema-nodosum leprosum (ENL) from retrospective analyses of 2600 new leprosy patients registered and followed up at our clinic. Average period of follow up was for 72 months (range 24-156 months). There were 1634 males (mean age 37 ± 3.2 years) and 966 female patients (mean age 4 ± 12.3 years). 1494 (57.4%) of them had multibacillary and 1106 (42.5%) had paucibacillary disease labelled on the basis of slit skin smear.

The prevalence of RR at registration was 24% and that of ENL was 6.8%. The overall incidence rates among patients available for follow-up were 8.2%/100 persons years (PYAR) at risk for RR and 4.1%/100 PYAR for ENL. The most significant risk factor for RR was extent of clinical disease measured by count of body areas involved. The observation of other investigators that most RRs occur during first year of treatment was confirmed in our study. Lepromatous disease and high bacteriological index (BI \geq 3) were significant risk factors for ENL reactions. A total of 226/507 (26.4% of all ENL cases) patients had > 4 episodes over a period of > 3 years and the reactions continued to occur in decreased frequency till 7.2 years in few patients. Late RR was seen in 7.1% of all leprosy patients. The incidence of RR declined steadily after the start of the treatment but recurrent episodes continued to occur even up to 6 years after diagnosis.

PCA 135

RECIDIVA PAUCIBACILAR – RELATO DE UM CASO

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Os novos esquemas terapêuticos para hanseníase e redução no tempo da poliquimioterapia (PQT), torna a recidiva um tema cada vez mais importante. A OMS (1994) detectou coeficiente cumulativo de recidiva paucibacilar de 1,7%. Segue a descrição de 1 caso de recidiva paucibacilar: paciente, feminina, 46 anos, parda, MG, do lar. Início do quadro em 07/1990 com surgimento de 3 lesões eritemato-infiltradas, hipoestésicas, situadas nas regiões malares, acompanhadas de espessamento ulnar bilateral. A biopsia cutânea evidenciou hanseníase tuberculóide, o Mitsuda foi positivo (10mm), e a baciloscopia neg-

ativa. Foi iniciado tratamento com PQT PB, sem intercorrências até o seu término. Permaneceu assintomática, porém 9 anos após surgiu nova lesão eritemato-infiltrada e hipoestésica, na região frontal, associada à neurite fibular direita. Foi submetida a 60mg de prednisona com melhora da lesão (hipercromia residual) e desaparecimento da neurite. A biopsia revelou denso infiltrado linfoplasmocitário e histiocitário, circundando nervo com células epitelióides e gigantes formando granulomas. A baciloscopia foi negativa. Desde então evoluiu com períodos de piora e melhora da lesão, de acordo com curso oscilante de corticoterapia. Não apresentou surgimento de novas lesões ou recidiva da neurite. Em 01/2002 foi reiniciado tratamento com esquema PQT MB. Ressalta-se que pelas regras atuais do Ministério da Saúde esta paciente deveria ter sido tratada no primeiro episódio com esquema multibacilar, pois apresentava acometimento neural de 2 troncos.

PCA 136

RECOMBINANT HUMAN PLATELET-DERIVED GROWTH FACTOR FOR TREATMENT OF NEUROPATHIC ULCERS IN LEPROSY PATIENTS

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Data from the World Health Organisation indicates that the global prevalence rate for leprosy at the end of 2000 has been reduced to less than 1 per 10,000: an eighty nine percent drop over the past 15 years. This has been achieved through early detection and free effective multidrug therapy (MDT). Leprosy remains a public health problem however, in six endemic countries that represent approximately eighty three percent of prevalence worldwide. Nerve lesions, which are often progressive and irreversible may develop in one third of patients despite effective multidrug therapy. Therefore, clinicians treating leprosy patients will continue to have to deal with the complications from nerve damage including deformities and anaesthetic ulcers for many years to come.

Recombinant human platelet derived growth factor (PDGF) gel has been shown to increase the healing of diabetic neuropathic ulcers through fibroblast activation and stimulation of granulation tissue formation. A small number of patients in our clinic with lower extremity neuropathic ulcers secondary to leprosy were treated successfully with PDGF after failing to respond to conventional therapy including topical or oral antibiotics. All four patients had successfully completed MDT for lepromatous leprosy but had significant residual peripheral neuropathy and deformities. Three patients developed full thickness plantar ulcers from chronic pressure and one had a traumatic ulcer in an anaesthetic area on the lower leg. All four ulcers were rendered free of necrotic and infected tissue after debridement and

were treated with once daily topical application of 0.01% PDGF gel and good wound care until complete wound closure for three patients. The fourth patient had a marked decrease in ulcer size but was temporarily lost to follow up for nine months. The duration of treatment ranged from 8 weeks to 7 months in which no side effects were observed. None of the ulcers has recurred after a follow-up of 8 to 30 months. Our results support the use of PDGF in non-healing neuropathic ulcers in leprosy patients and it warrants further study.

PCA 137

REVERSAL REACTIONS IN AN OUTCOME LEPROSY CLINIC IN SALVADOR/BAHIA

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293 patients with leprosy were followed between 4 to 9 years after start of multidrugtherapy (MDT), to characterize reversal reactions (RR). RR were documented in 79 patients (27%), and begun during treatment in 47 patients (59.5%). Twenty patients (25%) had clinical presentation of RR after MDT and during the follow-up period. Neuritis with or without skin involvement occurred in 73% of patients, and cutaneous manifestations without neuritis were found in 27%. The majority of the patients (49/79) were paucibacillary, while the average bacillary index was 2.4 in the 27 multibacillary patients. Our data shows that the beginning of MDT is an important risk factor for the development of RR, which presents with neuritis in the majority of the patients. Due to the morbidity associated with neuritis, all leprosy patients should be carefully monitored during MDT in order to provide an early detection of reversal reactions.

PCA 138

REVIEW OF 100 PATIENTS WITH CHRONIC AND RECURRENT NEURITIS TREATED IN A SPECIAL NEURITIS CLINIC

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Leprosy is a chronic disease that affects skin and nerves. Nerve damage is the main cause of disability and stigma. Therefore, prevention and management of nerve damage is pivotal in leprosy control. ALERT as a referral center deals with a large number of leprosy patients with complications. Most of them

present with recurrent and chronic neuritis. A group of these patients were managed with individualized dose regimen of steroid in a special neuritis clinic. One hundred patients with an average of two years follow up were reviewed. Of these, 59 were males and the age of these cases ranged from 15 to 70. Thirty-seven were PB and 63 MB according to WHO classification. Ninety-eight of the cases were released from MDT and 2 were on MDT at the time of review. The outcome of treatment was measured by VMT/STG; 75 improved, 20 remained the same and five deteriorated. Of the 75 who improved, 20 had only motor improvement, 30 improved in only sensory function and 25 had both motor and sensory nerve function improvement. The results indicate that leprosy patients with recurrent and chronic neuritis could be better managed with individualized dose steroids and long term follow up.

PCA 139

SECUELAS DE LA LEPRO EN EL AREA OTORRINOLARINGOLOGICA

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La Lepra afecta al territorio otorrinolaringológico con frecuencia. La lesión nasal aparece hasta en el 90% de los casos en las formas multibaciles. También se afecta la apófisis alveolar anterior del maxilar, la laringe, etc. Se revisan los enfermos del Sanatorio San Francisco de Borja, 80 internos y 150 externos, realizándose una exploración otorrinolaringológica completa. Se trata de enfermos inactivos actualmente en su mayoría, y en los cuales sólo hallamos las secuelas de la enfermedad. Se presenta iconografía de las secuelas más representativas y los resultados de la revisión.

PCA 140

SERUM ZINC LEVEL AND LEPROMIN (MIT-SUDA) TEST IN NONREACTIONAL MULTIBACILLARY LEPROSY PATIENTS

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Serum zinc level in leprosy patients is lower than in healthy people. The decreasing level is in accordance with clinical spectrum and cellular immune response

in leprosy. It is still not clear whether people with Zn deficiency are more susceptible to leprosy or *M. leprae* metabolism will cause low serum Zn level, and whether leprosy treatment can increase serum Zn level and cellular immune response. A cross-sectional study was done on 1999. The subjects were non-reactional MB leprosy patients which are divided into 3 groups, each group consists of 20 patients i.e. untreated patients, 6-12 months therapy and more than 18 months. Determination of serum Zn level and a lepromin test were conducted in all subjects. Sixty five percent of the subject were between 14-30 years old, male were more common (78.33%) than female. There were no statistically significant differences in distribution of starting treatment age, sex, leprosy type, body mass index, and duration of illness among the three groups. The serum Zn level of the 3 groups were not significantly different ($p = 0.998$), neither were the lepromin test result between the subjects with and without treatment ($p > 0.05$). Serum Zn level and lepromin test result were not influenced by the duration of leprosy treatment. The serum Zn level was in accordance and significantly correlated with the lepromin test result ($p = 0.045$).

PCA 141

SILENT NEURITIS IN MULTIBACILLARY LEPROSY: STUDY OF PATIENTS DURING AND AFTER MULTIDRUG THERAPY

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In an effort to evaluate the frequency of silent neuritis, 103 multibacillary leprosy patients (18.4% BB, 47.6% BL, and 34% LL) were followed-up during an average period of 64.6 months from diagnosis, during and after multidrug therapy (24 doses), in relation to physical disabilities, according to the disability grade. Studying twelve patients who presented a worsening of the disability grade at the end of the treatment, or at the end of the follow-up, in comparison with the disability grade before treatment, we found two patients who experienced a worsening of physical disabilities without overt neuritis. We further analysed in detail four patients who developed final disability grade of 2, who had no disabilities or had disability grade of 1 at the beginning of the treatment, and we observed two other patients with silent neuritis. Three patients who presented a worse disability grade at the end of follow-up, in comparison with the end of treatment, were studied, and one of them had also silent neuritis. We found that five patients (4.9%) developed silent neuritis, during or af-

ter multidrug therapy. We recommend a careful neurological examination during the whole follow-up of multibacillary patients, aiming the detection and prompt treatment of silent neuritis.

PCA 142

SOME LABORATORY INDICES IN LEPROSY NEUROPATHIES

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Exacerbations of leprosy neuropathies often occur without clinical manifestations, but they result in decreased functional ability of the damaged extremities and accelerated invalidization. Over 3 years 97 patients with leprosy duration of 5-20 years and clinically proved neuropathies were under study (74 patients with MB and 23 patients with PB-leprosy). According to the degree of nerve damage patients under study were divided into two groups: 1) patients with deep invalidizing disturbances (contractures, mutilations, neurotrophic ulcers), and 2) patients with minimal clinical manifestations limited by hypertrophy of nerve trunks and pain syndrome. For prognostic assessment of course of leprosy neuropathies certain clinical and laboratory indices were studied. With using ELISA in blood sera antibodies towards PGL-1 and protein antigens of *M. leprae* as well as against sonicate of rabbit sciatic nerves (AgPN) were determined. Besides, concentrations of lactoferrin (LF) and C-reactive protein (CRP) were estimated. Conduction velocity in skin areas supplied with leprosy-damaged nerves was estimated according to Nakatani. Active clinical manifestations of neuropathies are the most often correlated with increased levels of antibodies against *M. leprae* antigens and AgPN as well as with high concentrations of LF in blood serum. These indices are correlated with the results of testing biologically active skin zones. CRP levels are widely varied in patients and did not always correspond to other indices. Thus, a set of laboratory and clinical tests: levels of antibodies against *M. leprae* antigens, AgPN, blood LF as well as conduction velocity in zones innervated by damaged nerves might be used for prognosis of the course of leprosy neuropathies.

PCA 143

SQUAMOUS CELL CARCINOMA AND CHRONIC LOWER LEG ULCER IN LEPROSY

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Objective: To further determine the epidemiological status, clinical features and prognosis of neoplastic transformation in chronic lower leg ulcers of leprosy.

Methods: Cases with neoplastic transformation in chronic lower leg ulcers of leprosy, which were diagnosed and admitted to a provincial leprosy hospital for operation, in the recent 20 years were retrospectively reviewed and analyzed.

Results: Between Jun 1980 and Sep 2001, 21 cases were diagnosed and treated. There were 15 males and 6 females with average age of 59.1 years (48-71 years) and mean ulcer duration of 16.2 years (8-30 years); tumors located 16 in sole, 4 in leg and 1 in ankle. Squamous cell carcinoma was the only neoplasia in this group with well to moderate tumor differentiation (grade 1-2), however metastasis is common (10 cases) and fatal. Above-knee amputation had been performed on all cases (10 cases) before Sep 1993, and in the remaining cases below-knee amputation were performed on. By Sep 2001, there were 10 alive, 9 died of cancer metastasis and 3 lost follow-up. The average postoperative survival was 37.1 months.

[Key Words] Squamous Cell Carcinoma; Ulcer; Lower Leg; Leprosy

PCA 144

STUDY OF REACTION IN THE HANSEN'S - AGED BETWEEN 0 TO 14 YEARS

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Introduction: Hansen's is an infectious disease; it is well known that it can present as acute and sub-acute types according to reaction state. Various authors has investigated and inferred about this. How ever very few studied in the age group between the 0 to 14 years. In this study we observed the incidence of reaction in children and followed up them from June 1992 to June 1998.

Material and Methods: Out of total 938 patients with Hansen's, 55 patients were in this particular age group of 0 to 14 years. According to the classification of Madrid these were divided into infantile nodular and tuberculoid types. All the patients were treated for the first time in their life for the Hansen's and all of them had the laboratory examinations before the treatment.

Results: Out of 55 patients studied 9 (16%) had episodic reactions, 5 (56%) had Type-I reaction, 2 (22%) had Type-II reaction and 2 (22%) had localized neuritis. As per these statistics males and females are equally affected and reactions were fre-

quently noted in the more than 5 years age group. Out of 9 patients who had reactions, 6 (67%) were multibacillary. Significant reactions noted in the patients with disseminated cutaneous lesions. At the first consultation none of them presented with any reaction where as during the treatment period, 3 patients showed up with episodic reactions.

Conclusion: All though the risk of having these episodic reactions in children are very low but this should be always considered as a factor of morbidity during the treatment.

PCA 145

STUDY OF REACTIONAL STATES IN CHILDREN UNDER 15 YEARS OF AGE

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Detection of Hansen's disease in children under 15 years of age in the State of Amazonas, has presented a gradual reduction comparing the co-efficiencies of 3,52/10.000 inhabitants in 1988 and 1,29/10.000 inhabitants in 2000. However, it still remains hyperendemic. Reactional states occur frequently in Hansen's disease, especially in it's multi-bacillar forms. Hansen's disease in childhood shows the same aspects of the disease as in the adult. However, few studies on reactional states in Hansen's disease have been related in known literature in age groups below 15 years. Reactional States represent a great problem in the management of patients receiving treatment and after discharge. They are also the largest cause of nerve damage, and consequently incapacity. The general objective of this work is to study reactional states in children under 15 years of age diagnosed with Hansen's disease, determining the frequency of Type 1 and Type 2 reaction, relationship with clinical forms and evolution of treatment. A descriptive study of Hansen's disease in children under 15 years of age, diagnosed and treated at the Fundação Alfredo da Matta between January 1998 and January 2001 was carried out using Patient's notes of 216 patients, of these 57,4% were male and 42,6 % female. The most frequent age group was between 11 and 15 years old, representing 60,6% of the patients. In relation to clinical form, 59,7% were indeterminate and tuberculoide forms, 17,5% Borderline Tuberculoide, 7,4% Borderline Borderline, 8,3% Borderline Virchoviana and 6,9% Virchoviana. Of the 216 cases studied, 55 presented reactional episodes, representing a frequency of 25,4%. Hansen's reaction was the most frequent in dimorphic forms. Pure Neuritis had a frequency of 58,6% and was associated with other types of reaction in 31,0%. These episodes appeared most frequently during treatment. The drug most frequently

used was prednisilone with a mean period of use being 4 months. In other patients who used prednisilone only 1 presented a decrease in growth.

PCA 146

SURTO REACIONAL TIPO MACULOSO EM HANSENÍASE DIMORFA

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A hanseníase é uma doença granulomatosa inflamatória crônica causada pelo *Micobacterium leprae*, também denominado bacilo de Hansen, e acomete pele e nervos periféricos. Evolui lenta e insidiosamente, sendo, muitas vezes, interrompida por episódios inflamatórios agudos e subagudos, cutâneos ou extracutâneos, chamados surtos reacionais, que guardam relação com o terreno imunológico do indivíduo. São fenômenos reacionais do tipo I e II. As reações tipo I são mediadas por células (imunidade celular) e ocorre nos tuberculóides e dimorfos. As reações tipo II são mediadas por anticorpos (imunidade humoral). Nos pacientes dimorfos ocorre edema e eritema de lesões pré-existentes e o aparecimento de lesões novas, pápulas e placas eritematosas em pequeno número, na maioria das vezes em sua vizinhança. Pode haver comprometimento neural acentuado com possibilidade de graves neurites. Quando a reação regride, as novas lesões podem persistir e a doença retoma seu curso. Os autores apresentam o caso de uma paciente de 43 anos, sexo feminino, com o diagnóstico clínico e histopatológico de hanseníase da forma diformo (Índice Baciloscópico = zero) tratada com esquema de poliquimioterapia multibacilar por 12 meses. A partir desse período, começou a apresentar lesões maculosas hipocrômicas localizadas na face, tronco, nádegas e coxa direita e também neurite dos nervos periféricos. A paciente foi medicada com Prednisona 1 mg/kg/dia até a regressão total das lesões, quando se iniciou a retirada gradativa do corticóide.

Motivo da apresentação: as reações hanseníase fegem muitas vezes do padrão habitual.

PCA 147

SURVEILLANCE ON UVEA DISEASE IN LEPROSY

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To determine the prevalence and characteristic of the uvea disease in leprosy, 1045 persons cured of leprosy and active cases of leprosy in Taixing, Jiangsu were checked by specially trained ophthalmologists. Uvea disease caused by direct invasion of *M. leprae*, Type-2 reaction, and secondary corneal disorders were found in 7.85% of the all investigated cases. The prevalence rate of the disease was found significantly higher in active cases (25%), multi-bacillary cases (24.47%) and those with long duration of the disease (38.93%). It was characterized by granulomatous iridocyclitis, with presenting of redness of the ciliary body (18.29%), irregular pupil (56.1%), diminished light reaction (50%), iris posterior synechiae (43.9%), small pupil (36.59%), blocked pupil (23.17%), synechia iridis anterior (20.73%), de-pigmentation (20.73%), and iridopleptysis (19.51%). Secondary cataract was found in 81.54% of those with chronic iridocyclitis, of which 60% with reduced vision, 40.24% blindness, and 52.73% curable blindness. The uvea disease in leprosy could be caused either by direct invasion of the *M. leprae* or type-2 reaction. It was commonly found in active cases, multi-bacillary cases and those with long duration of the disease. Granulomatous iridocyclitis is its clinical characteristic, and most of them develop cataract and loss of vision

PCA 148

THE ASSOCIATION OF SKIN PATCHES OVER SUPERFICIALLY LOCATED NERVE TRUNKS AND NEURITIS IN LEPROSY

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We have previously shown the strong association between facial patches located over the eye and the development of lagophthalmos. The aim of this study was to identify any such association between the presences of skin patches over superficially located trunk nerves at known sites of predilection and the development of neuritis/nerve damage.

All the records of leprosy patients registered at the centre over a 2 year period (Jan. 2000 to Dec.2001) were analysed with regard to the location and size of skin patches over the trunk nerves and the presence of nerve damage. The areas considered were the skin over the olecranon fossa at the elbow (for ulnar nerve), the front of wrist (for Median nerve), the head of fibula (for lateral popliteal nerve) and around the eyes (for facial nerve). The patches were arbitrarily divided into small patches (≥ 5 cm) and

large patches (> 5cm). Neuritis was defined in terms of motor nerve damage as evidenced by a weak VMT score ($\geq 4/5$). 92 patient charts were analysed (TT 4, BT 43, BB 2, BL 34 and LL 9). Overall it was observed that neuritis was present in 135 nerves. Out of this 126(93.3%) had associated patches over the trunk nerve. 65 (51.6%) of them were large patches and 61(48.4%) were small patches. 19 of the patients also had type I reaction. In these 19 patients 37 nerves were involved as result of the RR in the overlying skin patches. This association between the presence of skin lesions and the development of neuritis was highest in the ulnar nerve followed by the lateral popliteal nerve, facial nerve and median nerve.

PCA 149

THE EFFECT OF THE ACTIVITY OF MICROSOMAL ENZYMES AND ACETILATION ON METHEMOGLOBIN RATE IN LEPROSY PATIENTS

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As it is known, dapsone at certain doses may induce hemolysis, especially in persons with glucose-6-phosphate dehydrogenase (G6PDH) deficiency, occurring in about 10% of leprosy patients. However, DDS-induced hemolysis might be due to other factors among which peculiarities and intensity of drug metabolism, including rate of sulphone acetylating and hydroxylation, play an important role. Patients with lepromatous leprosy were given various schemes of MDT with dapsone 100 mg daily as a main component. Activity of microsomal enzymes by the time of antipyrine half-secretion ($T_{1/2}$) and acetylation rate of sulfadimazine was studied. All the patients studied had no G6PDH-deficiency. It was observed that in patients showing rather high activity of microsomal enzymes ($T_{1/2} = 12.5$ h in average) blood methemoglobin rate was significantly higher ($P < 0.05$) than in those with low activity of these enzymes ($T_{1/2} = 23.5$ h in average). Though methemoglobin rate in the most patients did not exceed 1.5%, it approached 2.5-3.9% in persons with a combination of low acetylating rate and high activity of microsomal enzymes. It might be a consequence of increase in derivatives of N-hydroxylation of dapsone with methemoglobin-forming properties in persons with predominance of oxydative phenotype of xenobiotic biological transformation.

PCA 150

THE FOLLOWING OBSERVATION FOR EFFECT OF 251 LEPER CASES IN THE MONITOR PRIOD AFTER MDT

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Objection: analysis 251 leper cases which is cured jointly and finish monitoring the observation of curative effect from clinicopathology, bacteriology, histopathology. Ways: We analysis comprehenly from clinicopathology, bacteriology, histopathology according to 251 leper cases which is cured jointly and the changes of curative effect in the monitor period. Conclusion: The rate of basically curing in clinical reaches 81.27%. The marked progress and the common progress are 18.73% after the course. The MB rates of basically curing in clinical, which are monitored 5 years, have reached 88.85%. The PB has been cured after their monitor period of five years.

The evaluation of bacteriology: The average BI about 2.80; $\Delta 1.5$ of 118 cases of MB has come down to 65 cases after the course.. It covered 55.08% of all and decreased 0.98 average annual. The BI of 48 cases of PB, which infected covered 39.33%, has come down to 32 cases, covered 66.67% of all, and the decrease rate of bacteria was 60% after course. The BI of MB has come down to 87 cases, covered 73.73% of all and decreased 0.09 average annual after finishing monitoring in 3 years later. The BI of 45 cases of PB has come down to zero, covered 93.75% of all after monitoring in 3 years later. They all revered after finished monitoring 5 years later. The 103 cases of MB has come down to zero, covered 87.29% of all, decreased 0.11 average annual after finishing monitoring 6 years later. The bacteria revered after finishing monitoring 10 years later.

The curative effect evaluation of histopathology: we cured 103 cases and it covers 41.04% of all. 73 case of curing nearly covered 29.08% of all. 75 cases have gone down partly and greater partly and it covered 29.88%. The rate of curing and nearly curing reached 86.26% after monitoring 3 years later. 32 cases have gone down in early period, middle period and later period and it covered 13.74%. The rate of curing and nearly curing has reached 94.35% after monitoring 6 years later. 13 cases have gone down incompletely and it covered 5.65% of all. They all revered after monitoring in 10 years.

The indication of the article is that jointly curing is the best clinical curative effect to PB and MB, and the plan of jointly curing is the best valuable and feasible way to control leprosy according to changes of the bacteriology and histopathology.

[Key words] Leprosy, MDT BI, Histopathology, Curative effect

PCA 151

THE REPORT FOR THE SKIN SMEARS QUALITY CONTROL ON LEPRESY IN SICHUAL PROVINCE IN THE PAST 15 YEARS

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The skin smears quality control on leprosy was implemented in the leprosy epidemic counties in Sichuan Province, in order to improve the quality of skin smears and implementation of MDT. 10% of skin smears, came from the leprosy epidemic counties, were selected randomly with double-blind method and evaluated in smears, stain and diagnosis in Sichuan Leprosy Laboratory on the basis of the criterion of the skin smears quality on leprosy in the Handbook of MDT on Leprosy. Meanwhile, the skin smears came from Sichuan Leprosy Laboratory were also checked and contrasted by the paramedical workers. In the past 15 years, the skin smears quality control was implemented and the quality of skin smears was improved between 17 and 97 leprosy epidemic counties in Sichuan. 4529 pieces of skin smears were checked. The average qualified rate of smears, stain and diagnosis was 96.88%, which was 86.97% in 1986. The implementation of skin smears quality control could improve professional level of paramedical workers and the quality of leprosy control.

PCA 152

THE REPORT OF HISTOID LEPROMA 1 CASE

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A sick man is fifty years old. He has been sick for four years. The clinical appearance is just like a drunk with universal infiltrated lupus, various sized and shaped nodules. There is a "fointed met" which like a hemisphere in each of the elbow joint. He has "ape-hands," elcosis at the bottom of his feet. Shallow nerve is bulky all over the body. *Mycobacterium leprae* is found from the eruption (2+–5+). Pathological diagnosis conform to HL.

Key words LLp HL

PCA 153

THE USE OF PILOCARPINE TEST FOR DIFFERENTIAL DIAGNOSIS BETWEEN TUBERCULOID LEPROSY AND GRANULOMATOUS DISEASES

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Background: Tuberculoid leprosy is often easily diagnosed on clinical aspects, but in some situations the signs and symptoms are not clear enough bringing difficulties and consequently delayed diagnosis, which may facilitate the installation of chronic disabilities. For this reason, the use of complementary procedures becomes fundamental for early diagnosis.

Subject and methods: we have studied six patients presenting a long term unique lesion suggesting granulomatous diseases in which several tests were made to elucidate the diagnosis. All of the patients had had previous topical treatments without improvement.

Results: the patients were between the ages twenty-eight and sixty-nine years, five of them were female, three were white and three were dark skin colored. All of them presented with infiltrated erythematous annular lesions with a variable course from two months to three years. The histopathological examination's findings were unspecific granulomatous inflammation. Four patients with facial lesions had incomplete pilocarpine test on suspected area. All of the six patients who receive paucibacillary therapy achieve great improvement.

Conclusions: pilocarpine test seems to be a very helpful complementary diagnostic method when differential diagnosis between Tuberculoid leprosy and other granulomatous diseases is not possible through clinical and histopathological examinations.

PCA 154

TRABALHO EM UMA COMUNIDADE DE EX-HANSENIANOS COM INTEGRIDADE DA PELE PREJUDICADA E COM ISOLAMENTO SOCIAL

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Trabalho do enfermeiro desenvolvido há 4 anos em uma comunidade que possui um grupo de pessoas com seqüelas da Hanseníase caracterizadas por úlceras crônicas.

Objetivos: Identificar os fatores interferentes na recuperação da integridade da pele prejudicada relacionada a seqüelas da hanseníase caracterizados por úlceras em MMII. Campo de trabalho e instrumentos utilizados: desde 1997; em Bauru/SP- Centro Comunitário do Parque Santa Terezinha, 27 adultos com seqüelas de Hanseníase (úlceras de MMII); compromisso social do Instituto Lauro de Souza Lima (fornecedor de material); teoria do autocuidado de Orem; Histórico, diagnóstico, intervenção e evolução de enfermagem.

Resultados: o trabalho permitiu a investigação de vários fatores interferentes na cicatrização das úlceras crônicas. Esses foram agrupados nos seguintes diagnósticos de enfermagem propostos por NANDA (North American Nursing Diagnosis Association): 1-Integridade da pele prejudicada. 2-Risco para Integridade da pele prejudicada. 3-Isolamento social. 4-Perfusão tissular alterada periférica. 5-Risco para infecção. 6-Nutrição alterada menos do que as necessidades corporais. 7-Risco para trauma. 8-Integridade tissular prejudicada. 9-Mobilidade física prejudicada. 10-Andar prejudicado. 11-Intolerância a atividade. 12-Dor crônica. 13-Medo. 14-Disfunção sexual. 15-Processos familiares alterados. 16-Enfrentamento comunitário ineficaz. 17-Controle ineficaz do regime terapêutico. 18-Déficit de atividades de recreação. 19-Distúrbio da imagem corporal.

Conclusão: a cicatrização das úlceras crônicas constitui um grande desafio aos profissionais de saúde em decorrência da imensidade dos fatores interferentes.

PCA 155

TREATMENT OF MILD SENSORY IMPAIRMENT IN LEPROSY: A RANDOMISED CONTROLLED TRIAL (TRIPOD 2)

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Aim: To investigate whether leprosy patients diagnosed with mild sensory impairment have a better prognosis when treated with steroids than similarly impaired patients treated with placebo.

Methods: A multicentre, randomised, double-blind, placebo-controlled trial was conducted in Nepal and Bangladesh. Patients were eligible if they had a confirmed leprosy diagnosis, were between 15 and 50 years old, had mild sensory impairment of the ulnar or posterior tibial nerve of less than 6 months duration and did not require steroids for other reasons. 'Mild impairment' was defined as "impaired on the Semmes-Weinstein monofilament (SWM) test, but testing normal on the ballpen sensory test". Subjects were randomised to either prednisolone treatment starting at 40 mg per day, tapering over 4 months, or placebo. Nerve function was monitored monthly. Any patient who deteriorated was taken out of the trial and was put on full-dose steroid treatment. Outcome assessment was done at 4, 6, 9 and 12 months from the start of the treatment. Outcome measures were the proportion of patients needing full-dose prednisolone and the SWM sum scores. Each patient contributed only one nerve to the analysis.

Results: 75 patients had nerves eligible for analysis, of whom 41 (55%) and 34 (45%) were allocated to the prednisolone and placebo arms, respectively. At 4 months, 3 patients in the prednisolone arm (7%) and 6 in the placebo arm (18%) had an outcome event requiring full dose steroids. At 12 months, these proportions had almost reversed, 11 (27%) and 6 (18%) in the treatment and placebo arms, respectively. In the latter group, 15 (44%) recovered completely without treatment.

Conclusions: Treatment of mild sensory impairment of the ulnar and posterior tibial nerves with prednisolone does not improve the long-term outcome in terms of recovery, nor does it reduce the risk of leprosy reactions or nerve function impairment beyond the initial 4-month treatment phase.

PCA 156

TREATMENT WITH CORTICOSTEROIDS OF LONG-STANDING NERVE FUNCTION IMPAIRMENT IN LEPROSY: A RANDOMISED CONTROLLED TRIAL (TRIPOD 3)

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Aim: Some leprosy patients with long-standing nerve function impairment (NFI) appear to have responded favourably to treatment with corticosteroids. This study investigated whether patients with untreated NFI between 6 and 24 months duration and who are given standard regimen corticosteroid therapy, will have a better treatment outcome than a placebo group.

Methods: A multicentre, randomised, double-blind placebo-controlled trial was conducted in leprosy control programmes in Nepal and Bangladesh. Treatment with prednisolone started with a dose of 40 mg/day, tapered by 5 mg every 2 weeks, and completed after 16 weeks. Outcome assessments were at completion of treatment at 4 months, and at 6, 9, and 12 months after the start of treatment.

Results: A total of 92 MB patients on MDT were recruited, of which 40 (45%) received prednisolone and 52 (55%) placebo treatment. No demonstrable additional improvement in nerve function, or in preventing further leprosy reaction events was seen in the prednisolone group. Overall, improvement of nerve function at 12 months was seen in about 50% of patients in both groups. Analysis of sub-groups according to nerve (ulnar and posterior tibial), duration of NFI, and sensory and motor function, also did not reveal any differences between the treatment and placebo groups.

Conclusion: The trial confirms current practice not to treat long-standing NFI with prednisolone. Spontaneous recovery of nerve function appears to be a common phenomenon in leprosy. Leprosy reactions and new NFI occurred in a third of the study group, emphasising the need for regular nerve assessment.

PCA 157

ULCERATED LESIONS IN LEPROSY

Solange M. Maeda, Marcos C. Floriano, Alessandra Yoradjian, Jane Tomimori-Yamashita

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Erythema Nodosum Leprosum (ENL) or type II reaction is believed to be an immune complex reaction seen in multibacillary leprosy in which the dead bacilli and their products react with antibody in the tissue or blood. Although ENL occasionally develops in untreated patients, it occurs more commonly after

initiation of therapy. This presents most commonly as small papules or larger nodules which are painful and tender to touch. In some cases they may ulcerate, and the histological analysis may show vasculitis pattern affecting superficial and mid-derma vessels, leading to epidermal necrosis, bulla formation and ulceration. Therefore it has been proposed that ENL is a manifestation of immune complex-mediated vascular injury. A clinical and histopathological overview of ulcerated lesions in lepromatous leprosy patients will be presented. These patients had necrotizing lesions on the limbs similar as described in "Lucio's phenomenon" and also acute constitutional symptoms. The Lucio's phenomenon is observed in diffuse nonnodular lepromatous leprosy most commonly in Mexico and Central America. Histopathologic studies of Lucio's phenomenon have shown leucocytoclastic vasculitis, endothelial cell proliferation, thrombosis, ischemic necrosis. Is Lucio's phenomenon and Type II reaction a unique variant of cutaneous vasculitis separated only by distinctive clinical settings?

EPIDEMIOLOGY

PE 1

A ENDEMIA HANSÊNICA NO NOROESTE DO ESTADO DE SÃO PAULO

Ferreira, E.A.R.; Mencaroni, D.A.; Oliveira, M.H.P.; Pinto Neto, J.M.; Villa, T.C.S.

Escola de Enfermagem de Ribeirão Preto/ Universidade de São Paulo

Av. Bandeirante, 3900. Campus Universitário – Ribeirão Preto – CEP 14040-902 São Paulo. Brasil.

O Brasil após onze anos da implantação da MDT ocupa a segunda posição mundial em relação a prevalência com 4,6 casos /10 mil habitantes. A distribuição da endemia é irregular. O estado de São Paulo, considerado um dos mais desenvolvidos do país, apresenta uma prevalência de 1,6 casos/10 mil habitantes. Há regiões dentro desse estado com prevalências maiores, como por exemplo a região noroeste. Essa região serviu de cenário para esse estudo descritivo, tendo como objetivo analisar a endemia de acordo com alguns indicadores. Foram analisados dados epidemiológicos do período de 1994 a 2001 de 99 municípios totalizando 1.311.763 habitantes (76,9% dos municípios com até 10 mil habitantes) que compõem uma das 24 regiões administrativas da Secretaria de Estado da Saúde de São Paulo, denominada Direção Regional de Saúde XXII. Em 2001, o coeficiente de detecção variou de

zero (47,5% dos municípios) a municípios com 10 casos/ 10 mil habitantes. O coeficiente de prevalência variou, no período, de 6,58 a 2,40 casos/10 mil habitantes, encontrando municípios acima de 10 casos/ 10 mil habitantes. As formas clínicas polarizadas representam atualmente mais de 80% dos casos. Do total dos casos, 95% estão em MDT. Há necessidade de intensificação das ações de controle na região, especialmente o diagnóstico precoce.

PE 2

A MULTICENTRIC TRIAL FOR TREATMENT OF 2-5 LESIONS PB LEPROSY WITH SINGLE DOSE OF ROM

M.D. Gupte, B. Nagaraju, S. Balasubramaniam, V.N. Mahalingam, S. Anitha, K. Sarojamma, S.V. Subbaroyulu, N.K. Nanda, Margery Emmanuel, Jayarama and Subbaiah

National Institute of Epidemiology (ICMR), Chennai –31, Tamil Nadu, India Chennai & CLT&RI in Tamil Nadu.

Our experience in conducting a multicentric trial for treatment of 2-5 lesions PB leprosy with single dose of ROM and under programme conditions is discussed. This study is a double blind randomized controlled clinical trial.

Conclusion: The trial confirms current practice not to treat long-standing NFI with prednisolone. Spontaneous recovery of nerve function appears to be a common phenomenon in leprosy. Leprosy reactions and new NFI occurred in a third of the study group, emphasising the need for regular nerve assessment.

PCA 157

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initiation of therapy. This presents most commonly as small papules or larger nodules which are painful and tender to touch. In some cases they may ulcerate, and the histological analysis may show vasculitis pattern affecting superficial and mid-derma vessels, leading to epidermal necrosis, bulla formation and ulceration. Therefore it has been proposed that ENL is a manifestation of immune complex-mediated vascular injury. A clinical and histopathological overview of ulcerated lesions in lepromatous leprosy patients will be presented. These patients had necrotizing lesions on the limbs similar as described in "Lucio's phenomenon" and also acute constitutional symptoms. The Lucio's phenomenon is observed in diffuse nonnodular lepromatous leprosy most commonly in Mexico and Central America. Histopathologic studies of Lucio's phenomenon have shown leucocytoclastic vasculitis, endothelial cell proliferation, thrombosis, ischemic necrosis. Is Lucio's phenomenon and Type II reaction a unique variant of cutaneous vasculitis separated only by distinctive clinical settings?

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PE 2

A MULTICENTRIC TRIAL FOR TREATMENT OF 2-5 LESIONS PB LEPROSY WITH SINGLE DOSE OF ROM

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National Institute of Epidemiology (ICMR), Chennai –31, Tamil Nadu, India Chennai & CLT&RI in Tamil Nadu.

Our experience in conducting a multicentric trial for treatment of 2-5 lesions PB leprosy with single dose of ROM and under programme conditions is discussed. This study is a double blind randomized controlled clinical trial.

The objective of the study is to evaluate the efficacy of a combination of Rifampicin, Ofloxacin and Minocycline (ROM) administered as a single dose for the treatment of skin smear negative 2-5 lesions PB leprosy compared to the standard 6 monthly doses of WHO PB MDT regimen.

Six centres for 2-5 lesions PB leprosy had been selected. 1596 skin smear negative patients with not more than one peripheral nerve trunk involvement (adults 1167; children 429) were included.

The total duration of the study is 48 months (six months of intake phase, six months of treatment phase and 36 months of post treatment follow-up).

During intake phase Medical Officers from NIE helped the investigators in selection of patients and documentation. Frequent visits to the participating centres by Medical Officers and Statisticians from NIE are made in order to help the staff in clinical examination, data collection.

Detailed report with reference to the progress of the study will be discussed.

Collaborating Centres: National Institute of Epidemiology (ICMR) and WHO

Participating Centres: Chittoor and Cuddapah districts in Andhra Pradesh; Naini (TLM) in Uttar Pradesh; Champa (TLM) in Madhya Pradesh

PE 3

A MULTICENTRIC TRIAL FOR TREATMENT OF MONO LESION PB LEPROSY WITH SINGLE DOSE OF ROM

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National Institute of Epidemiology (ICMR), Chennai -31, Tamil Nadu, India.

NIE is conducting an open trial for treatment of mono lesion PB leprosy with single dose of ROM in order to find out relapse rate under programme conditions. A total duration of the study is 48 months. The intake phase commenced in April 1998 and the study is expected to be completed by January 2003.

1263 untreated smear negative single skin lesion leprosy patients (adults 820; children 443) were included and followed up once in six months after completion of treatment. During intake phase Medical Officers from NIE helped the staff in participating centres in clinical examination, selection of patients, documentation of clinical findings and related research methodology. Monitoring is done by making field visits by Medical Officers and Statisticians from NIE to assess the progress of the trial. During follow-up patients who developed new lesions are examined by Medical Officers from NIE. The de-

tailed report on progress of the trial will be discussed.

Collaborating Centres: National Institute of Epidemiology (ICMR) and WHO

Participating Centres: Chittoor and Cuddapah districts in Andhra Pradesh

PE 4

A MUNICIPALIZAÇÃO DA SAÚDE E O CONTROLE DA HANSENÍASE

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Direção Regional De Saúde De Araçatuba. Rua Oscar Rodrigues Alves, 1296. Vila Mendonça - Cep 16015030. Araçatuba SP - Brasil

Este trabalho pretende analisar o impacto da municipalização dos serviços de saúde nas ações de controle da hanseníase.

O universo a ser abordado é constituído pelos quarenta municípios que compõem a área de abrangência da Direção Regional de Saúde de Araçatuba - DIR VI - SP.

O estudo pretende verificar o grau de variação de alguns indicadores epidemiológicos e operacionais e o comportamento da endemia no período de 1990 a 2000.

Dentre esses serão focalizados, principalmente, coeficiente de detecção, coeficiente de prevalência, taxa de abandono e alta por cura.

A observação desse quadro comparativo tem como principal finalidade a verificação da interferência da mudança do modelo assistencial no desenvolvimento das ações de controle da hanseníase.

PE 5

A RECIDIVA DA HANSENÍASE NOS DADOS OFICIAIS DO RJ: VALIDAÇÃO NO ARQUIVO LOCAL DA UNIDADE DE REFERÊNCIA DO MUNICÍPIO DE DUQUE DE CAXIAS

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Curso de Pós-Graduação em Dermatologia /FM/ HUCFF / UFRJ e SMS-DC

O presente trabalho compara base dados de nível central e local do Município de Duque de Caxias no Sistema de Informações de Agravos de Notificação (SINAM). A variável do estudo foi a recidiva de casos de hanseníase, analisada através do modo de entrada no arquivo central e validada com as informações dos prontuários dos respectivos pacientes, no registro local. De acordo com a análise dos dados secundários de nível central municipal, no período de 1990 a 2001,

foram registrados no banco de dados 3.112 casos de hanseníase residentes e tratados em DC. Dos 191 casos de recidiva registrados no banco de dados da SMS-DC no período de 1990 à 2001, um total de 180 casos (94,2%) tinham no registro local (prontuário) modo de entrada como caso novo. A grande maioria, correspondendo a 165 (91,6%), tinha ficha de notificação antiga na qual não existe uma formatação compatível com a ficha atual de notificação do SINAN. Apenas 11 casos foram diagnosticados como recidiva (5,8%) de fato, e todos foram casos recentes.

Ao que parece a mudança da ficha de notificação, parece justificar os erros na entrada dos dados. Esse trabalho permitiu a correção do dado oficial de recidiva no município, de 6,1% para 0,0035%, reforçando o baixo percentual geral de recidiva dos esquemas oficiais de tratamento de hanseníase. Faz-se ressalva ao fato de que outros casos de recidiva tratados no município estejam sendo diagnosticados em unidades de referência da cidade do Rio de Janeiro, não constando no registro municipal. Esse dado portanto pode não mostrar a magnitude do problema, especialmente tratando-se de evento raro. É importante que as três esferas de atuação governamental adotem diretrizes e práticas que permitam a utilização das informações existentes nos três segmentos e, o livre fornecimento de dados, de modo a contribuir, para a ampliação e aperfeiçoamento do relacionamento entre as estruturas que compõem o SUS.

PE 6

A SURVEY OF THE KNOWLEDGE AND ATTITUDE TOWARDS LEPROSY OF THE HEALTH WORKER IN THE EPIDEMIC AREA

Wu Xinsheng, Wang rongmao, Ning Yong, Hu Lufang, Li Binyu, Wang Kai, Shi Ling, Hei Lu

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Objective: in order to find out the knowledge and attitude towards leprosy of the health workers in the epidemic area and the factors influence on it.

Methods: Health workers are surveyed in the field by questionnaire at county, district and village level, analyzed the data by computer.

Results: 902 received valid questionnaire showed that health workers fear leprosy in different extent, and detest the leprosy patients.

Conclusion: Health workers who are not belonging to the professional leprosy control have wrong knowledge and attitude on leprosy. It is the major step to train these workers about the knowledge of leprosy, changing the pattern in order to eliminate leprosy.

[Key words] health workers leprosy knowledge attitude

PE 7

A SURVEY OF THE KNOWLEDGE AND ATTITUDE TOWARDS LEPROSY OF THE RESIDENTS IN THE EPIDEMIC AREA

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Sichuan provincial Institute of Dermatology & Venereology, China

Objective: in order to find out the knowledge and attitude towards the leprosy from the residents in the epidemic area and try to find the best method of health education on leprosy.

Methods: 300 random residents are selected to fill the questionnaire out in the field. Analyzed the data by computer.

Results: 292 received valid questionnaires, showed that it is common phenomenon for the residents to fear leprosy and discriminate against leprosy patients and many factors influence on it.

Conclusion: We should carry out the health education, widely and deeply, focus on that leprosy is preventable and curable, not fearful, let the patients and cured patients return to the community. This is the basic condition as well as important procedure to eliminate leprosy as a social problem.

[Key words] residents, leprosy, knowledge, attitude

PE 8

AN ANALYSIS OF THE BENEFITS OF PREVENTION AND TREATMENT OF LEPROSY IN SANMING CITY

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Situated in the Northwestern part of Fujian Province, Sanming City is part of the inland mountainous region; during the reformation of institutions in 1983, the Municipal Dermatology Prevention Institute was formed and a prevention and treatment network established. Beginning from 1986, it implemented MDT scheme and adopted such various means as "five checks", outpatient service and disease reporting to discover patients at an early stage; it also extensively conducted such comprehensive measures of prevention and treatment as health education; as a result, the prevention and treatment were stepped up and the goal of basically eradicating leprosy was reached in 1993. The benefits were quite obvious. We herewith make the following report so as to evaluate the economic benefits of the prevention and treatment of leprosy in a scientific way and provide

useful economic information: we selected the benefits of the two situations in the periods of 1973~1982 and 1983~1992 for evaluation and made calculations using such methods as cost-profit and cost-benefit. Financial investment: in the period of 1983~1992, the allocation of fiscal fund totaled 1,248,400 yuan, which was a 114.66% increase from that in the period of 1973~1982. Social benefits: the adoption of comprehensive prevention and treatment resulted in significant drop in "three rates", reduction in epidemic range and early achievement of goals. Compared with the previous period, the period of 1983-1992 saw a reduction of 169 patients in incidence. Economic benefits: The reduction in the incidence of 169 patients saved 1,334,400 yuan in the cost of providing health service and receiving health service and 1,827,100 yuan of non-incidence earning; a reduction of disabilities for 59 patients due to prevention and treatment and 1,350,900 yuan of economic loss due to disease and disability. Since the MDT scheme was promoted, a total of 320 patients were cured during the period of 1983~1992, shortening courses of treatment and saved treatment expenses of 1,114,000 yuan and 5,766,100 yuan was earned by shortening the courses of treatment. In summary, the economic benefits created by the prevention and treatment of leprosy in the period of 1983-1992 totaled 11,392,500 yuan, excluding the invisible expenses in the economic losses resulted from diseases, i.e. the losses—social expenses resulted from such life quality issues as pain, depression, sadness and social segregation suffered by the patients and their relatives. Therefore, this paper is based on an under-estimation of calculation. The ratio of total benefits and total investment reported by this paper is 7.48:1, BCR>1. This manifests that the benefits of prevention and treatment service of leprosy are tremendous and the prevention of leprosy is an undertaking with effective investment and high benefits. However, the basic eradication of leprosy is not the ultimate goal and further efforts need to be made. Therefore, the authors suggested that:

1. Increase the investment for fund of prevention and treatment.
2. Enhance follow-up monitoring of prevention and treatment and strengthen such work as rehabilitation.
3. Consolidate the construction of teams of leprosy prevention personnel, elevate professional proficiency and improve the work quality of service and prevention and treatment.

[**Key words**] leprosy prevention and treatment analysis of benefits

PE 9

ANÁLISE DA IMPLANTAÇÃO DA ESTRATÉGIA DO CONASEMS NA ELIMINAÇÃO DA HANSENÍASE NO MUNICÍPIO DE PALMAS - TOCANTINS

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Avaliação da implantação da intervenção do CONASEMS na eliminação da hanseníase no município de Palmas (TO), por meio de enfoques epidemiológico e operacional desenvolvidos em séries de tendências temporal; acompanhamento do nível de autonomia em gestão, de mudanças estruturais que possam modificar a assistência ao doente de hanseníase. Ressalta a importância dos indicadores da redução no coeficiente de detecção em menores de 15 anos e da taxa de prevalência em consequência da detecção precoce principalmente nos casos com lesão única. A intervenção do CONASEMS resulta na articulação entre os gestores municipais em assumir o atendimento ao doente de hanseníase como ação básica de saúde. Tem como hipótese o fato de O "grau de autonomia" técnico-gerencial e financeira na gestão do Sistema Único de Saúde, em nível local condicionar a integralidade da implantação da Estratégia de Aceleração da Eliminação da Hanseníase em nível municipal. Intervenção é considerada uma variável dependente em relação às características contextuais do meio de implantação. Se o contexto é favorável à intervenção, será possível fazer a predição do tempo necessário para a eliminação da hanseníase. Nesse caso, o grau de implantação da intervenção é a variável independente e as variáveis dependentes serão os resultados ou efeitos esperados. As informações foram colhidas na perspectiva de três metodologias diferenciadas em função do propósito a que foram elaboradas:

1- Indicadores epidemiológicos e operacionais propostos como instrumento no controle da endemia (MS, 2000);

2- Indicadores-chave para o monitoramento de eliminação da hanseníase (OPAS, 1998);

3- Indicadores do *Independent Evaluation of Indian Leprosy*, (WHO, 2000).

Palavras-chave: avaliação, eliminação, hanseníase.

PE 10

ANÁLISE EPIDEMIOLÓGICA DOS CASOS NOVOS DE HANSENÍASE RESIDENTES NO MUNICÍPIO DE BELO HORIZONTE, MINAS GERAIS, BRASIL, NO PERÍODO DE 1999 A 2001

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São apresentados e analisados os dados epidemiológicos dos casos novos de hanseníase, residentes em belo horizonte, no período de 1999 a 2001, utilizando-se as informações do SINAN (sistema de informação nacional de agravos notificáveis), implantado nesta secretaria no final do ano 2000.

Esta análise é feita com relação à idade, sexo, forma clínica da doença, grau de incapacidade e baciloscopia ao diagnóstico.

PE 11

ANALYSIS ON NERVE IMPAIRMENT OF THE UPPER LIMB IN 8578 LEPROSY PATIENTS

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In order to make clear the situation of nerve impairment of the upper limb in leprosy cases, we selected 8578 leprosy non-active and active cases who are still living in Hunan province as the study samples. The result showed that about 40.29% of the upper limb in all cases developed nerve impairment. The lateral nerve impairment was 23.15%. It is higher than that of bilateral nerve impairment (17.14%). The nerve impairment among active and relapsed cases was 54.03%. It is higher than that of non-active cases (19.51%). The MB cases developed more nerve impairment (50.15%) which is higher than that of PB cases (21.15%). We also find that 36.55% of the ulna nerve developed nerve impairment, the medium nerve, 16.68% and the radial nerve, 1.64%. The claw hand with the stiff fingers was seen in 73.03% of cases. The nerve impairment has relation with leprosy reaction counted for 41.06%. Most of active and relapsed leprosy cases have the single nerve impairment. The frequency of nerve impairment developed is as following. The first is in ulna nerve, the second, medium nerve and radial nerve. Two third of nerve impairment is in reversible. The nerve impairment in upper limbs is significantly different due to delay of diagnosis of leprosy, leprosy reaction and different type of clinical leprosy

PE 12

ANALYSIS OF NEWLY FOUND LEPROSY PATIENT FORM 1990 TO 2000 YEAR IN GANSU PROVINCE

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Objective: To explore epidemiological feature of newly found leprosy patient and relapse leprosy patient in low endemic areas.

Methods: A retrospective epidemiological date of leprosy from 1990 to 2000 year in Gansu Province was made.

Results: The data analysis showed that newly found leprosy patient 138 cases and the average annual found rate was 0.058/100000, of which MB was 116 cases and PB was 22 cases, MB:PB rate was 5.6:1. The relapse leprosy patient was 52 cases and the relapse rate was 2.64% during 1990 and 2000 year, of which MB was 46 cases and PB was 6 cases, MB:PB rate was 7.7:1. 50 cases were relapsed after cure with DDS monotherapy and 3 cases were relapsed after cure with MDT.

Conclusion: The found rate in the early of 1990's was a little higher than that then and it has declined tendency. Leprosy patients should be timely detected and treated so as to eliminate infectious resource.

[Key words] Multibacillary Paucibacillary » Newly found leprosy patient » Relapse leprosy patient

PE 13

ANALYSIS OF QUALITY CONTROL OF LEPROUS BACILLI MICROSCOPY

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Objective: To understand the quality status of Leprous Bacilli Microscopy.

Method: 2594 specimens smear were detected at lower level and checked by provincial laboratory during 1990-2001.

Result: The quality rate of smear membrane, quality rate of stain, quality rate of BI, medium quality rate of three indices were 94.48%, 94.63%, 93.52%, 94.20%.

Conclusion: The quality of leprosy bacilli microscopy was high, and the results were creditable in our province. This was favorable to diagnose leprosy and evaluate the treatment effect.

[Key word] Leprosy microscopy quality control

PE 14

ARREST OF LEPROSY MORBIDITY AND DISEASE TRANSMISSION IN URBAN AREAS – A MOP UP OPERATION

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Currently available chemotherapeutic agents undoubtedly have offered bacteriological cure to leprosy patients in the shortest possible time. But the sporadic occurrence of relapses in small numbers has been a matter of concern in the context of disease transmission. Transmission due to relapses adds a new dimension to the disease burden and delays the goal of elimination. Relapses are encountered in all types of treatment regimens including the short course chemotherapy regimens with newer drugs. In addition about 10 % of PB leprosy patients develop delayed clinical problems and about 20 – 30 % present with reaction and neuritis leading to nerve damage. This phenomenon increases the morbidity and poses a challenge to the programme managers. Therefore, mopping up of all 'cured' leprosy patients, particularly MB patients, is necessary to identify the complications likely to be encountered so that proper interventions can be taken to minimize the morbidity. We conducted a mopping-up exercise in urban areas mainly to identify relapses and related clinical problems among the cured leprosy patients.

The clinical details of 2664 leprosy patients registered with the clinics of Bombay Leprosy Project from 1-3-2001 to 28.2.2002 and who have completed treatment were collected from the patients' records. An attempt was made to contact these patients. Community Volunteers were given task-oriented training with the help of a pocket card to suspect clinical problems in the field, to be confirmed later by supervisory staff. 968 patients (37%) were physically assessed to identify relapses and other clinical events in the field. Skin smears and skin biopsies were done in 605 cases. Twelve relapses were detected and all of them were confirmed by investigations. 143 (15%) patients had signs of reaction. These were treated with a standard course of steroid therapy. Patients with physical disabilities were provided with necessary disability services.

This mopping-up exercise indicates that patients cured earlier tend to have the risk of developing late reaction as well as relapses, especially in a long-term follow-up. Since this is not a population-based study, one cannot derive any epidemiological observations. It is concluded that leprosy patients who have completed treatment may develop clinical problems and can be assured of relief, if they are given prompt attention at the appropriate time, through a mopping-up exercise. Such an exercise is particularly more relevant in view of relaxation of active surveillance in the leprosy programmes.

PE 15

ARTICULAÇÃO DAS AÇÕES DE CONTROLE DA HANSENÍASE AO PROGRAMA SAÚDE DA FAMÍLIA NO MUNICÍPIO DE SÃO JOÃO DO PIAUÍ, BRASIL

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Introdução: O Ministério da Saúde vem adotando como estratégica a implantação do PSF objetivando ampla mudança do modelo assistencial em saúde. Neste sentido, programas verticais, como o de Controle da Hanseníase (PCH), também vêm passando por intensas modificações que necessitam serem avaliadas de forma contínua.

Objetivo: Descrever o processo da implantação e os primeiros resultados da inserção do PCH no PSF do Município de São João do Piauí, visando otimizar a assistência integral ao paciente com hanseníase.

Métodos: Estudo descritivo, operacional, baseado nos dados epidemiológicos e de serviço do Município de São João do Piauí, no período de 1999 a 2001.

Resultados: O PCH foi implantado no Município no início dos anos 90, centralizando suas ações no Hospital Regional (Estado) e, posteriormente, alcançando o nível municipal. Mesmo a este nível, apenas em meados dos anos 90 foi possível estabelecer estratégias para avaliação clínica geral, diagnóstico baciloscópico, realização de PQT e prevenção de incapacidades de forma efetiva. Em 2001, com a articulação com a SES, deslocaram-se as atividades do nível Estadual para as duas unidades do Município. Como resultado, observou-se: maior número de profissionais envolvidos (incluindo agentes comunitários de saúde), aumento da detecção de casos, maior cobertura da PQT, melhor abordagem dos estados reacionais e menor grau de incapacidades no diagnóstico.

Conclusões: Esta primeira avaliação mostra que ainda é precoce para se ter uma resposta mais clara sobre o impacto deste novo modelo assistencial em saúde. Mesmo assim, importantes mudanças foram alcançadas no Município e trazem uma perspectiva positiva da intensificação das ações do PSF. Estão sendo programados estudos a longo prazo para uma avaliação mais acurada deste processo

PE 16

ASPECTOS EPIDEMIOLOGICOS DA HANSENÍASE NO ESTADO DA PARAÍBA

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O estudo trata de uma série histórica compreendida entre 1990 – 2001 sobre Hanseníase. Teve como objetivo analisar a situação epidemiológica da hanseníase no estado da Paraíba, com vistas a estabelecer ações prioritárias que possibilitem a intervenção buscando a eliminação.

Os dados foram obtidos através do SINAM (sistema de informação de agravos e notificação), no total de 5.621 fichas, obedecendo ao fluxo: serviço de saúde, Sec. municipal de saúde, coordenação de vigilância epidemiológica da Sec. estadual de saúde, onde está inserido o núcleo de dermatologia sanitária.

A análise dos dados deu-se a partir dos coeficientes de detecção de prevalência e avaliação do grau de incapacidade física da casuística analisada. Conclui-se que na Paraíba a hanseníase distribui-se de forma heterogênea em aproximadamente 50% dos 223 municípios do estado, com áreas de concentração em municípios do litoral agreste e sertão. Apresentando assim uma média endêmicas com palavras-chaves: hanseníase, epidemiologia, eliminação.

PE 17

AVALIAÇÃO CLÍNICA EPIDEMIOLOGICA DE PACIENTES COM HANSENÍASE ACOMPANHADOS EM UM AMBULATÓRIO DE DERMATOLOGIA SANITÁRIA

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Introdução: A hanseníase é uma doença infecciosa considerada problema de saúde pública em nosso país, sendo o quarto no mundo em número de casos, ficando atrás apenas da Índia, Birmânia e Nigéria.

Objetivo: Conhecer a distribuição epidemiológica dos pacientes com hanseníase acompanhados no Ambulatório de Dermatologia Sanitária do Instituto de Dermatologia da Santa Casa de Misericórdia.

Material e Métodos: Participaram do estudo todos os pacientes de ambos os sexos com o diagnóstico clínico

e/ou laboratorial de hanseníase baseados na classificação de Madrid, que estavam em acompanhamento no Setor de Dermatologia Sanitária, no período entre janeiro de 1999 a dezembro de 2001. Todos os pacientes foram avaliados pelos médicos residentes e quando disponível, foram realizados alguns dos seguintes exames: biópsia cutânea, teste de Mitsuda e baciloscopia. Após confirmação diagnóstica foram tratados com esquema poliquimioterápico (PQT).

Resultados: Foram avaliados 184 (100%) pacientes, sendo 89 (48,3%) provenientes do Município do Rio de Janeiro e 95 (51,6%) de outros municípios; sendo classificados nas seguintes formas clínicas: 79 dimorfo (42,9%); 11 indeterminado (6,0%); 1 não classificado (0,5%); 62 tuberculóides (33,7%); 31 virchovianos (16,8%); totalizando 94 (51,1%) pacientes do sexo feminino e 90 (48,9%) do sexo masculino. Dos casos novos detectados foram observados os seguintes graus de incapacitação: grau 0- 137 casos (74,5%); grau 1-18 casos (9,8%); grau 2- 18 casos (9,8%); grau 3-1 caso (0,5%); NC-10 casos (5,4%).

Comentários Finais: No Brasil a hanseníase ainda mantém-se endêmica, e o controle desta doença deve ser realizado por todos profissionais da saúde, sua divulgação portanto, se faz necessária principalmente nos meios universitários onde acreditamos ser um ponto fundamental deste conhecimento e divulgação.

PE 18

AVALIAÇÃO DO PREENCHIMENTO DO GRAU DE INCAPACIDADE NA FICHA DO SINAN

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Introdução: O Grau de Incapacidade - GI que o caso de Hanseníase apresenta na detecção é o indicador mais importante para avaliar a endemia, por falar da precocidade do diagnóstico, da endemia oculta e da necessidade de medidas de combate à principal causa do estigma social da Hanseníase. A avaliação e o registro do GI, já estão incorporados à rotina na detecção de quase 100% dos casos. O correto registro desta informação na Ficha do **Sistema Nacional de Agravos de Notificação – SINAN**, padronizada no Brasil, que utiliza codificação que pode induzir a erros de preenchimento, onde o grau Zero recebe código 1, o I é = 2 e o II = 3, foi o principal motivo que nos levou realizar o presente estudo.

Metodologia: Foram comparados o GI registrado no Quadro de Avaliação e a informação registrada na Ficha do SINAN de 6.774 notificações ocorridas em Minas Gerais de 06/1999 a 12/2001.

Resultados: Das 6.774 Fichas, 99% tinham o Quadro de GI preenchido e destes 19% tinham a anotação incorreta do GI no SINAN. Das 1.297 preenchidas com erro, 43% informaram o Grau no lugar do Código, 36% deixaram em branco e 21% preencheram outro código. Dos que não preencheram o Quadro de GI, 82% informaram algum código no SINAN. Por esta possibilidade de erro recomendamos que o SINAN apresente alternativa de informar o GI e não o Código e o Quadro do GI na própria ficha.

PE 19

AVALIAÇÃO DO PROGRAMA DE CONTROLE DA HANSENÍASE NO MUNICÍPIO DE CARUARU/PE

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A hanseníase é uma doença infecto-contagiosa, e endêmica em vários países, causada pelo *Mycobacterium leprae* ou bacilo de Hansen, um parasita intracelular obrigatório que apresenta afinidade por células cutâneas e nervos periféricos. A hanseníase é um sério e importante problema de saúde pública por causar incapacidade física e permanente, apresentando altos índices de prevalência em diferentes regiões do Brasil, com mais de 12 milhões de casos reconhecidos em todo mundo e cerca de 600 mil casos novos por ano. Trata-se de uma doença de transmissão interpessoal cuja fonte principal é o homem, através das formas contaminantes, que não estejam em tratamento, dificultando assim o controle epidemiológico. Procuramos avaliar o programa de controle da hanseníase no Centro de Saúde Amélia de Pontes/CSAP, referência em dermatologia sanitária localizado no agreste pernambucano. Trata-se de um estudo realizado a partir do levantamento de dados contidos nos prontuários dos pacientes tratados e em tratamento no CSAP, compreendendo um período de cinco anos (1996 à 2000). Foram revisados 474 prontuários de pacientes atendidos por demanda espontânea ou indicados. Destes, 133 com residência fixa no município (28.05%), sendo 121 na zona urbana (90.97%) e 12 na zona rural (9.02%). Observamos que indivíduos apresentando boa resposta imunológica exibem lesões em menor quantidade e bem delimitadas, ao contrário dos pacientes com comprometimento da capacidade imunológica que apresenta lesões numerosas e sem limites precisos. Graças ao trabalho multidisciplinar exercido na comunidade, o diagnóstico precoce e o início do tratamento imediato fazem com que a população busque com maior frequência o serviço de referência em hanseníase.

PE 20

AVALIANDO A COBERTURA DE BCG EM CONTATOS DE HANSENÍASE, NO BRASIL

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A vacina BCG confere proteção contra hanseníase em todas as populações estudadas. Os últimos estudos, sobre vacinas para hanseníase, realizados mostram que o BCG ainda é a melhor opção disponível, no momento. Deste 1993, a norma nacional através da portaria nº 814/GM de 22 de julho de 1993, recomenda a aplicação de duas doses de vacina BCG intradérmica a todos os contatos intradomiciliares dos casos de hanseníase independente de forma clínica.

Objetiva-se neste trabalho, avaliar a cobertura de vacina BCG, no Brasil, no período de 1993 a 2001.

Utiliza-se como fonte de dados o Programa Nacional de Imunizações. Os resultados mostram que a cobertura da vacina BCG tem aumentado no período, porém o nível atingido parece ser insuficiente para interferir no aparecimento de casos novos da doença. A baixa cobertura da vacina BCG esta relacionada a um baixo percentual de contatos examinados, atividade que necessita ser priorizada nas ações de controle da hanseníase.

PE 21

BCG EM COMUNICANTE: EFICÁCIA E SUSCETIBILIDADE

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A Hanseníase é uma doença infecto-contagiosa ainda presente em nosso meio. Muitos casos não são notificados levando a uma desatenção por parte da vigilância sanitária e da população.

Como uma das profilaxias da Hanseníase, utiliza-se a vacinação com BCG.

Neste trabalho fizemos um levantamento de todos os casos de pacientes comunicantes hansenícos da Unidade Básica de Saúde IV no município de Itapevi (São Paulo) no período de 1997 à 2001.

Foram registrados 214 prontuários de comunicantes neste período de 6 anos procurando definir e separar nas famílias estudadas a eficácia do BCG dentro da mesma.

Por este trabalho concluímos que: 1 dose parece ser suficiente para a profilaxia da Hanseníase, no entanto

aconselhamos manter a imunidade ativa fazendo um reforço (segunda dose); dos casos que receberam BCG e desenvolveram a patologia, concluímos que possivelmente já estavam no período de incubação ao receberem a vacinação; quando separados por grupos etários, observamos que os comunicantes que receberam BCG e desenvolveram a moléstia tiveram forma paucibacilar (90% deste grupo); e, para finalizar, concluímos com a população estudada, que a vacinação com BCG continua eficaz na profilaxia da Hanseníase.

PE 22

BCG REVACCINATION ON LEPROSY CONTACTS: PRELIMINARY RESULTS

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Introduction: Studies of large-scale field trials on BCG carried out in Uganda, Burma, Papua New Guinea and India demonstrated that BCG was indeed capable of preventing leprosy, but that its protective efficacy varied widely from about 20% to more than 80%. In Venezuela, studies indicated that the protective efficacy of BCG was directly proportional to the number of doses given. In a 1996 study realized in Africa, Fine postulated that an initial BCG vaccination imparted a minimum 50% protection rate, while two-doses increased protection to around 75%. The Brazilian Ministry of Health has recommended two doses of BCG-ID in household contacts of leprosy patients since 1990, however, to date no studies on the efficacy of BCG in preventing leprosy have been carried out.

Objective: Evaluate the efficacy of BCG revaccination in conferring protection against leprosy disease in contacts of leprosy patients.

Material and Methods: All the contacts (4,055) aged 1 to 75 examined during 10 consecutive years (June 1987 - December 1999) were enrolled in the study. The healthy contacts, numbering 1,927, who were examined before 1991 were not administered a BCG vaccination at their initial exam irrespective of the presence/absence of a BCG scar. Another 2,128 contacts were examined after 1991. The contacts in this group who upon examination were found to have a BCG scar were then revaccinated with BCG. On the other hand, the contacts without a previous BCG scar were given their first dose at the initial exam and scheduled to receive a second six months later, in accordance with the Brazilian Ministry of Health guidelines.

Results: The vaccine efficacy rate among contacts without a previous BCG scar was 70% (95% CI

29.6–87.3) whereas among contacts with previous BCG scar, it was 55%. (95% CI 8.76–77.8). The protective effect of BCG was higher for the multibacillary forms of leprosy, at 89.2 % (95% CI 57.0 – 97.3) than for the paucibacillary forms of the disease, at 81.2% (95% CI 70.4 – 88.0).

Conclusion: In view of the results, a second dose of the BCG vaccine confers protection against leprosy among household leprosy contacts.

PE 23

CAMPANHA DE COMBATE A HANSENÍASE – SÃO CARLOS – SP – 2001: ANÁLISE DOS DADOS

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O município de São Carlos – SP, participou da Campanha Estadual de Combate a Hanseníase de 23 a 27 de abril de 2001, desenvolvendo atividades de divulgação e estratégias de detecção de casos novos, envolvendo diversos segmentos da comunidade local.

A Campanha teve início com reuniões da equipe de saúde para planejamento e organização das ações e posteriormente com alunos dos cursos de graduação na área de saúde e professores do Departamento de Enfermagem da Universidade Federal de São Carlos, representantes das associações de bairros e das indústrias, profissionais da saúde, religiosos entre outros, com o objetivo de uma grande mobilização social. Os alunos receberam treinamento para aplicação do teste de sensibilidade para atendimento da população durante a Campanha.

Foram desenvolvidas ações educativas na comunidade, testes de sensibilidade em qualquer mancha na pele nos Postos de Saúde e exames clínicos com Dermatologistas, para as pessoas encaminhadas após avaliação sensorial.

Os resultados foram: de 290 pessoas examinadas com manchas, 112 foram encaminhadas para consulta com Dermatologista, dos quais 48 foram avaliados na semana, sendo que 46 foram negativos, 01 positivo e 01 com suspeição diagnóstica.

Espera-se com esta campanha dar continuidade ao processo de divulgação da doença e desta forma contribuir para a melhoria dos indicadores epidemiológicos, sendo que o município de São Carlos, apresentou em 2001 um coeficiente de prevalência de 0,9 por 10.000 habitantes, enquanto que no Estado, no ano de 2000 foi de 1,74.

PE 24**CAN WE PREVENT LEPROSY AMONG HOUSEHOLD CONTACTS OF LEPROSY PATIENTS ? - A PRELIMINARY REPORT FROM INDIA**

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Studies indicate that the relative risk of leprosy among household contacts varies from 4 to 9 when compared to the population who do not have household contact with leprosy patient. This randomised double blind controlled trial is undertaken to determine protective efficacy of single dose of Rifampicin as chemoprophylaxis to household contacts in reducing the risk of developing clinical leprosy among them. The protective efficacy is measured in terms of reduction in incidence of leprosy among household contacts. Nine NGO leprosy projects supported by Damien Foundation India Trust (DFIT) are participating in the study. All the newly registered leprosy patients during the years 2000 and 2001 were considered as index cases and their household contacts were examined for clinical evidence of leprosy. Families allocated randomly to study and control groups. The followup examination (re-examination) is done annually. There were 1958 newly registered leprosy patients. Among these, 14.8% of families had more than one case at intake and 23.8% of the families had MB cases. A total of 8063 household contacts were enrolled till Dec 2001. Among them 391 had leprosy (previously treated and new) at the time of intake. There were 7672 eligible contacts. The first group of eligible contacts (3271) was re-examined in April 2001 and three new cases were detected giving an overall New Case Detection Rate of 0.9 per 1000. Details of methodology and updated re-examination findings will be presented.

PE 25**CASE DETECTION AMONG NON-HOUSEHOLD CONTACTS OF NEW SMEAR POSITIVE MB CASES**

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Household contacts of smear positive MB cases are generally considered as high-risk population and hence covered in routine case detection activity. However, leprosy cases like other people also spend

much more time outside their homes, thereby having contact with people residing in surrounding houses, at the place of work and at the place of social activities. In taluka Panvel, 7946 people have been indentified for having contacts with 46 new smear positive MB cases by virtue of their staying in the surrounding houses (4612 people), working with the index cases (1548 people) and having social contact with the index cases (1786 people). Of these 7324 (92%) had been examined to reveal 27 new cases (4 SSL, 16 PB and 7 MB). The New Case Detection Rate (NCDR), observed among extra-household contacts of smear positive MB cases (37/10000) was found to be much higher than that is seen in routine surveys. Among three categories of non-household contacts, the maximum NCDR of 66 cases per 10000 population was observed among the people having social contacts with smear positive MB cases. The results suggest that the non-household contacts of smear positive MB cases should also be considered as high-risk population.

PE 26**COMPARE OF NEWLY DETECTED LEPROSY CASES BETWEEN BEFORE MDT AND AFTER MDT IN NANKANG CITY**

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Objective: To compare the profiles of case-finding and the clinical characteristics of new leprosy cases detected after MDT with that before MDT.

Methods: Materials of cases detected before MDT and after MDT in Nankang City were compared.

Results: In comparison with before MDT, detection rate has decreased dramatically (0.75/100000) after MDT. The rate of early detection cases in newly detected patients has increased (57.41%). The rate of cases with positive skin smears was higher (74.07%) than that before MDT (53.72%). The rates of cases with single skin lesion and with Grade II disability were similarities between before MDT and after MDT. The way that cases were detected through dermatologic clinic was main mode yet.

Conclusion: Detection rate has decreased dramatically after MDT. It suggests that extensive health education of leprosy is the main one of measures on early detection of cases.

PE 27**COMPORTAMIENTO DE LA LEPROSIA MUNICIPAL CAMAGUEY. CUBA 1984 - 1998**

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Se realizó un estudio descriptivo transversal del comportamiento de la lepra en el municipio Camagüey durante los últimos quince años (1984 – 1998), el universo de estudio estuvo representado por 260 casos, diagnosticados como tal en las historias clínicas familiares e individuales. Como registro primario se utilizaron los informes anuales del departamento municipal de estadísticas de Camagüey y el modelo de encuesta epidemiológica del enfermo de lepra, con los datos obtenidos, se confeccionó una encuesta según bibliografía revisada la cual una vez llenada pasó a ser el registro primario de datos. Los aspectos analizados fueron, la incidencia de la enfermedad su tasa $\times 100\ 000$ hab, la distribución según grupo étnico, sexo, color de la piel, nivel de escolaridad, ocupación, condiciones de la vivienda, formas clínicas, primeros síntomas y signos referidos de la enfermedad, localización de los mismos, modo de detección, grado de incapacidad, fuente de infección, tiempo de diagnóstico y los resultados de la situación del enfermo con relación al foco.

Entre los resultados obtenidos se observó una tendencia hacia la disminución de la incidencia y su tasa, ligero predominio del sexo femenino, bajo nivel escolar, mayor número de desocupados y de pacientes mayores de 35 años, porcentaje superior de las formas clínicas multibacilares y predominio de la LD y LL.

En los casos de LL predominan los nódulos cutáneos y en la LD, LI y LT las manchas anestésicas. El modo de detección espontáneo y el diagnóstico tardío aportaron el mayor porcentaje, la fuente de infección fue desconocida en el mayor número de enfermos. Predominaron los casos sin incapacidades en el momento del diagnóstico y en los casos discapacitados predominó el Grado I.

PE 28

CONSTRUÇÃO DO PERFIL EPIDEMIOLÓGICO DE PACIENTES DE 0 A 14 ANOS, COM HANSENÍASE, EM UM HOSPITAL ESCOLA NO RECIFE

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A Hanseníase, uma das mais antigas doenças humanas, ainda é um problema de Saúde Pública no Brasil, as condições sanitárias e de nutrição deficientes são responsáveis pela pré disposição em crianças. Este trabalho, trata-se de um estudo quantitativo do tipo descritivo e retrospectivo, cujo objetivo é conhecer o perfil da hanseníase em crianças de 0 a 14 anos de idade diagnosticadas num hospital escola do Município de Recife, no ano de 2001. As variáveis estudadas foram idade, sexo, forma clínica, baciloscopia, grau de incapacidade, modo de detecção e situação atual desses pacientes. Os dados coletados estão em processo de análise.

PE 29

DADOS CLÍNICOS E DEMOGRÁFICOS DE UM SERVIÇO DE ATENÇÃO PRIMÁRIA A HANSENÍASE EM RIBEIRÃO PRETO-SP

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Nosso objetivo é apresentar dados clínicos/demográficos dos pacientes em tratamento de Hanseníase, de janeiro de 1998 a dezembro de 2001 e as peculiaridades do serviço que estão relacionadas aos resultados obtidos. O trabalho é desenvolvido na Unidade Distrital de Saúde- Zona Sul, da Secretaria Municipal de Saúde, responsável por 81.541 habitantes. Neste período incluímos 37 pacientes, 28 (75,6%) homens e 9 (24,4%) mulheres, com idade média de 37 anos (menor = 6 anos e maior=70 anos), sendo 94,5% de Ribeirão Preto, a maioria migrantes (67,5% de outros estados e 27% de outras cidades do Est.S.Paulo). Em relação às formas clínicas, 16 (43,2%) com Hanseníase virchowiana, 6 (16,2%) foram dimorfos, 9 (24,4%) tuberculóides e 6 (16,2%) indeterminados, conforme diagnóstico apoiado em características clínicas, baciloscópicas e anátomo-patológicas (59,4% multibacilares e 40,6% paucibacilares). Apresentaram grau de incapacidade zero 23 pacientes (62,2%), grau de incapacidade I 9 pacientes (24,4%), grau de incapacidade II 2 (5,4%) e grau III 2 pacientes (5,4%). Do total 12 pacientes (32,4%) apresentaram alguma forma de reação durante o tratamento e 5 (13,5%) persistiram com sintomas reacionais, fazendo uso contínuo de medicação específica após alta medicamentosa. No encerramento dos casos em 31.12.2001 tínhamos alta cura em 23 (62,2%) pacientes, tratamento em curso para 13 (35,1%), onde uma paciente foi transferida (2,7%) foi transferida e nenhum abandono. Consideramos que os bons resultados obtidos pelo serviço, notadamente o índice de abandono zero nos 4 nos incluídos resultam de metodologia de trabalho participativa desenvolvida a partir da abordagem abran-gente do paciente e de seus familiares, com efetivo acolhimento pelos membros da equipe.

PE 30

DETECTION OF *Mycobacterium leprae* DNA BY PCR IN BLOOD AND SKIN FROM NINE BANDED ARMADILLO (*Dasypus novemcinctus*): PRELIMINARY RESULTS

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Introduction: and purpose: The multiple drug therapy (MDT) is highly effective in killing *M. leprae* in this human reservoir, i.e. infected person. In many countries and in spite of a dramatic fall in prevalence, the number of new cases detected annually does not show a marked decline, maybe, because the sources didn't eliminate. Wlasek et al (1974) described a leprosy-like infection in seven armadillos from Louisiana (EUA). We studied the wild armadillos from Espírito Santo State, Brazil, a hyperendemic leprosy area

Methods: Fourteen armadillos, *Dasypus novemcinctus* species, were examined. Blood samples were collected. For amplification of specific *M. leprae* DNA, a set of primers ML-1 and ML-2.

Results: Those animals were asymptomatic and none of them presented clinical diagnosis of leprosy. Blood from five of fourteen animals had a positive PCR.

Conclusion: These are first results in the medical literature and are in accordance with that from American researcher's that also reported the presence of *M. leprae* in armadillos from Texas and Louisiana States of USA. Anyway, these preliminary results suggest that in the Espírito Santo State, Brazil, the nine-banded armadillos could be considered a natural reservoir of *M. leprae*.

PE 31

DISTRIBUIÇÃO DA HANSENÍASE SEGUNDO O SEXO NO MUNICÍPIO DE GOVERNADOR VALADARES – MINAS GERAIS / BRASIL

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Introdução: A hanseníase em Governador Valadares é considerada hiperendêmica. O nosso pressuposto é o de que a taxa de detecção se distribui desigualmente nos espaços urbanos e também entre os sexos.

Objetivo: Analisar a distribuição da hanseníase segundo o sexo em Governador Valadares.

Metodologia: Estudo epidemiológico de natureza descritiva de tipo operacional.

Resultados: Observamos uma maior proporção de casos em mulheres do que homens, respectivamente 55,3% e 44,7%. Proporção confirmada pela maior taxa de detecção em mulheres, 10,20/10.000 contra 9,27/10.000 em homens. Verificamos que 56,6% dos casos diagnosticados por demanda espontânea são de mulheres. Observamos que o número de casos de hanseníase no sexo feminino é maior nas formas tuberculóide, dimorfa e indeterminada e a virchoviana no sexo masculino. Isto justifica a maior proporção encontrada de casos com incapacidade nos homens, 19,7% contra 9% nas mulheres. Estes dados confirmam a ocorrência de uma maior proporção de diagnóstico tardio em homens.

Conclusão: A hanseníase em Governador Valadares incide desigualmente entre homens e mulheres, acarretando maior repercussão nos homens em termos de incapacidades físicas. Desta maneira, este estudo aponta para a necessidade dos serviços de saúde deste município implementarem estratégias que considerem as diferenças de necessidades biológicas e sociais entre homens e mulheres de modo a proporcionar equidade no acesso e proteção à saúde.

PE 32

DISTRIBUIÇÃO GEOGRÁFICA DOS CASOS NOVOS DE HANSENÍASE DIAGNOSTICADOS NO MUNICÍPIO DE BELO HORIZONTE, MINAS GERAIS, BRASIL, NO PERÍODO DE 1999 A 2001

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Os pacientes de Hanseníase diagnosticados em Belo Horizonte, no período de 1999 a 2001, foram distribuídos geograficamente segundo os respectivos Distritos Sanitários de residência.

Utilizou-se o banco de dados do Setor de Epidemiologia da Secretaria Municipal da Saúde de Belo Horizonte (Sistema de Informação Nacional de Agravos Notificáveis), e o programa Map-Info da Prefeitura Municipal de Belo Horizonte.

Foram analisados os aspectos socioeconômicos dos Distritos Sanitários em relação ao diagnóstico da Hanseníase.

PE 33

EFFECTIVENESS OF BCG VACCINATION IN PROTECTING AGAINST LEPROSY IN VIETNAM

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In order to assess the effectiveness of BCG vaccination in protecting against leprosy, a prospective case-control study was carried out in the North of Vietnam. The objective of the study was to determine the frequency of positive reaction to the BCG vaccine in the patients and in the control groups. If leprosy cases were found to have BCG reactions, this would be evidence for a protection against leprosy by successful immunization with BCG.

90 leprosy patients and 180 controls (2 controls for one case) were paired according to their identical parameters. All patients was investigated by the same clinician. Laboratory tests (BI, Histopathology) was also done for all cases. Patients and controls was matched first for height, weight and sex, living condition, changes of residence. The main feature checked for was the presence or absence of a vaccination scar, this being the physical manifestation of a positive reaction to vaccination with BCG in the past.

The results obtained are shown as below:

1. BCG vaccination seems to provide protection against non-lepromatous leprosy in the North of Vietnam.

2. The BCG vaccine does not have any clear protective effect against lepromatous leprosy.

PE 34

EPIDEMIOLOGIA DA HANSENÍASE EM MAIORES DE 60 ANOS, MUNICÍPIO DO RECIFE-PE DE 1995/2001

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A Hanseníase é considerada um importante problema de saúde pública para o município do Recife. Na década de 90, o coeficiente de prevalência da hanseníase manteve-se em níveis elevados, variando entre 12.48 e 32.90/10.000 hab, com tendência linear crescente. Na mesma década o coeficiente de detecção da doença manteve-se elevado, variando de 4.47 a 8.61/10.000 hab, sendo o município considerado hiperendêmico para hanseníase, segundo parâmetros do Ministério da saúde. Considerando que o número de idosos vem aumentando em todo o país, esta apresentação tem por objetivo focalizar as características epidemiológicas da hanseníase em maiores de 60 anos, em uma unidade de referência do município do Recife-Pe, no período de 1995 a 2001, através de informações obtidas de prontuários de pacientes acima de 60anos no período, tendo sido consideradas as seguintes variáveis: sexo; modo de

detecção; comunicantes; forma clínica; grau de incapacidade física; classificação operacional e Baar.

PE 35

EPIDEMIOLOGIA DAS FORMAS DE HANSENÍASE NUM PERÍODO DE TRÊS ANOS EM UM MUNICÍPIO DO ESTADO DE SÃO PAULO (1999/2001)

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USB 4 - Itapevi (Rainha)

Os autores mostram a distribuição da patologia HANSENÍASE nas suas diversas formas, na população de um município da Grande São Paulo; segundo a classificação de Madri, isto é, formas indeterminadas dimorfas tuberculóides e vischovianas. Estudaram-se neste período assinalado 52 casos com a seguinte distribuição:

- formas instáveis: 36,5%
- formas estáveis: 63,5%

Mostram, os autores que as formas bacilíferas correspondem a 50% de todos os casos, compreendendo-se assim, a importância do paciente multibacilar na manutenção da endemia.

Especificamente os 52 casos revistos apresentam a seguinte frequência absoluta:

- forma I: 13 casos
- forma BD: 6 casos
- forma T: 13 casos
- forma V: 20 casos

PE 36

EPIDEMIOLOGIA DO PROGRAMA DE HANSENÍASE DO MUNICÍPIO DE ROSÁRIO OESTE – MT, NO PERÍODO DE 1992 A 2001

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A hanseníase constitui importante problema de saúde pública no Estado de Mato Grosso apresentando elevados índices de prevalência e de detecção anual de casos. Este estudo objetiva a apreensão das características epidemiológicas do Programa de Controle da Hanseníase do município de Rosário Oeste – MT, no período de 1992 a 2001, através de levantamento de informações obtidas do registro do total de 504 prontuários de pacientes diagnosticados e inscritos no referido programa, sendo consideradas as seguintes variáveis: forma clínica, idade, sexo, área de residência, modo de detecção, tempo de aparecimento de sinais e/ou sintomas, número de pacientes examina-

dos e com BCG id 2ª dose, grau de incapacidade, ocorrência de reações e situação de registro ativo.

PE 37

EPIDEMIOLOGICAL ANALYSIS IN THE URBAN AREA OF WUHAN DURING THE PERIOD FROM 1949 TO 1999

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2441 leprosy patients have been accumulated in the urban area of Wuhan from 1949 to 1999, during which two periods have dominated the peak of onset. The first peak reached 29.041/100,000 in 1949, incidences before 1949 included. The second one was seen within the years from 1950 to 1957 with the average incidence of 8.76/100,000. Since 1957, the incidence has shown a tendency of decrease every year. By the end of 1999, 2,296 patients have been totally cured.

With the development of MDT in 1987, it has shortened the duration and raised the cure rate. And only 14 present MB patients have been detected by the end of 1999. Incidence and prevalence in 1999 was reported respectively as 0.05/100,000 and 0.006. The aim of "leprosy elimination" has been accomplished after the examination and evaluation given by Health Department in Hubei Province and Evaluation Group from Provincial Dermatology Research Department. Four years watch leads to a constantly decreasing tendency of incidence and prevalence in Wuhan.

[Key Words] Leprosy Epidemiological Analysis

PE 38

EPIDEMIOLOGICAL ANALYSIS OF ACTIVE LEPROSY IN HEILONGJIANG PROVINCE FROM 1990 TO 1999

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Heilongjiang province is situated in the north of China and its average temperature is 1.3°C which belongs to frigid temperate zone. 1,034 leprosy cases had been diagnosed by the end of 1999 since leprosy case was registered in 1949, so it is part of the non-prevalent area. 891 patients had been cured after fifty-year positive prevention and cure, and now only 24 patients were still in active, morbidity of the leprosy was 0.006/100,000. Recent five-years average morbidity was less than 0.001/100,000, but also it throughoutly kept a lower level in recent ten years. Now we will make an epidemiological analysis of leprosy detected from 1990 to 1999 year as follows:

During ten years, 37 cases (male 23 cases, female 14 cases; M:F=1.57:1) were reported, which contained 29 new patients and 8 relapsed patients and relapse rate was 21.6%. Among them the youngest sufferer was 13 years old, the oldest was 69 years old and the average was 40.1 years old. Main profession were peasants (22 cases, 75.9%), the others were workers (2 cases), cadres (2 cases) and the resident of city (3 cases). Of 29 new patients, 3 cases were LL, 19 cases were BL, 4 cases were BB, 3 cases were BT and nobody was TT, the ratio of type was 89.6%; moreover, 19 patients were diagnosed within six years, 8 patients were diagnosed within six to ten years and 2 patients were detected more than ten years. Before they were reported, the shortest course was 1 year, the longest was 12 years, and the average was 4.6 years. There were 28 patients who had got disability in varying degrees when they detected, accounting for 96.3%. 25 sufferers had ever been to different levels medical units (including countryside, county, city and province), accounting for 86.1%, 16 persons of them had been to the provincial rank hospitals and 12 persons had been to the several provincial rank hospitals. Of the reported ways, multiple hospitals diagnosed 16 cases (11 cases in the provincial rank hospitals and 5 cases in the city rank hospitals), 11 cases were reported by the special medical institution (3 cases in the provincial rank institution and 8 cases in the city rank institution), and two persons were reported by themselves. 29 new patients were distributed over 23 countries (or cities) in Heilongjiang province, which were highly scattered condition. Those who were born in other province accounted 89.6 percentage. The minimum times that patients lived in ancestral home was 8 years, the maximum times was 55 years and the average times was 28.9 years. In ten years, the lowest yearly diagnosed number was 1 case, the most was 6 cases and the average was 2.9 cases. There was only one who got leprosy in family. There were 8 patients who relapsed in all in ten years, of which 7 leprosy recurred after the treatment of D.D.S and 1 leprosy recurred after the treatment of D.D.S+R.F.P. The type of relapse were respectively 2 cases of LL, 4 cases of BB, but also they were all polybacteria kind of leprosy. The youngest leprosy who recurred was 43 years old, the oldest was 65 years old, and the average was 52 years old. Among 29 new leprosy, 8 sufferers had family history, 17 sufferers had contacted with leprosy before, and 4 sufferers were unknown contact history.

Heilongjiang province is non-prevalent region of leprosy in history and its character of distribution has close correlation with migration. On one hand leprosy highly scattered, on the other hand, the number of patients is closely correlated with number of migration. Polybacteria kind of patients are absolutely predominant, which shows that polybacteria kind of patients are chief in low prevalent condition. Average age of attacking leprosy rose, it was 32.9 years old in 1980s, however, it rose to 40.1 years old in 1990s.

lepers can not be detected for long time after leprosy came on shows that medical personnels are generally short of the ability of early cognition to leprosy in our province, which is quite disadvantage to diagnosing lepers early. Training medical personnels for leprosy's knowledge is an important task of preventing and curing leprosy in heilongjiang province.

PE 39

EPIDEMIOLOGICAL ANALYSES OF CHILDREN LEPROSY IN GANSU PROVINCE (1949-2001)

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Objective: To study epidemiological features of children leprosy in Gansu province.

Methods: The data of children leprosy from 1949 to 2001 in Gansu province were analyzed in terms of gender, age, duration of the disease, infection source, detection modes, regional distribution, incidence.

Results: A total of 4801 leprosy cases were detected during 1949-2001, of which 518 (10.79%) were child cases (324 males and 194 females). Average delay in detection was 3.91 years. The main source of infection was directly contact with families, accounting for 94.58%, MB were 399 cases, and PB were 119 cases, the chief age of children were 14 years. The majority of cases were detected through active modes. There have been different degree epidemiological of 12 regions in 14 regions of Gansu province. Epidemiological features of children leprosy in Gansu province were basic correspondence with epidemiological trends of adults leprosy in Gansu province, the top of incidence was 1.01/100 000 in 1954, the degression of incidence was 1 case in 2001.

Conclusion: The present study shows the proportion of children leprosy is one of the sensitive indicators of leprosy endemicity, which is one of reference according as evaluation of effectiveness of leprosy in one region.

[Key words] Children Leprosy Duration of Disease

PE 40

EPIDEMIOLOGICAL ANALYSIS OF LEPROSY IN JIANGXI PROVINCE

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Objective: To summarize the achievement and experience in leprosy control in Jiangxi Province and pro-

vide scientific basis for formulation of leprosy strategies.

Methods: Based on the National Leprosy Recording and Reporting System, Epidemiological data of leprosy in Jiangxi Province were analyzed using computer.

Results: Jiangxi Province was a leprosy medium endemic area with a higher distribution of leprosy in the south than the north. The prevalence, incidence and detection rates were highest in the 1950s or 1960s and had decreased annually since then. Average incidence rate for the recent 5 years (0.1604 per 100 000) and prevalence rate (0.049 per 10 000) in 1998 reached the criteria of basic elimination of leprosy at provincial level, however, still 15 counties of cities not reaching the criteria.

Conclusion: The comprehensive measures including early detection of cases, immediate treatment with multidrug therapy and effective health education are helpful and important for leprosy control.

[Key words] Leprosy Incidence Prevalence Epidemiologic factors

PE 41

EPIDEMIOLOGICAL ASPECTS OF THE LEPROSY'S TRANSMISSION AND ARMADILLO MEAT CONSUME

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Introduction: and purpose: The leprosy transmission still now a days is a polemic question. Some authors demontred the possibility of the armadillos, *Dasypus novemcinctus* species, be a environmental source of *Mycobacterium leprae*. The epidemiologic inquiry realized to check the correlation between the being human's contact with armadillos and the incidence of leprosy.

The objective of this research is check the frequency of the leprosy cases contacts with armadillos and also the interhuman contact before of the own diagnose.

Methods: The inquiry was realized with 107 patients ex-leprosy cases (leprosy cases that had finished the treatment with PQT) that lived in Pedro Fontes Colony - Hospital, in Cariacica, Espírito Santo State, Brazil 29 leprosy cases and 173 no leprosy case from Dermatology Service of the Santa Casa Hospital, Vitória- Brazil. The inquiry included Batas about the armadillo meat consume before own diagnosed, the

existence of known cases and/or familial leprosy cases. It was realized Qui-square test, correlation and Exact Fischer Test.

Results: 90.4% of the leprosy's cases or ex-leprosy's cases had ever eaten armadillo meat in their diet before their leprosy diagnose, while 9.6% of the no leprosy's cases had ever eaten armadillo meat. It didn't have correlation between the armadillo meat consume and it has familial and know cases of leprosy before the leprosy diagnose.

Conclusion: This research revealed a direct correlation between the armadillo meat consume and leprosy cases.

PE 42

EPIDEMIOLOGICAL TRENDS OF LEPROSY IN GUIZHOU PROVINCE

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Objective: To analyze the epidemiological trends of leprosy and evaluate the effectiveness of leprosy control with fixed duration MDT in Guizhou province.

Methods: used for the National leprosy data annual report and computer recording system of leprosy in Guizhou province, each epidemiological data were analyzed.

Results: Leprosy endemic areas had obviously changed in Guizhou. All 87 counties prevalence were >0.01% and 66 counties were >0.1% among them in 1986. In 2000, only 3 counties were >0.1% prevalence. 49 counties prevalence were during 0.01-0.1% and others were <0.01%. The detection rate decreased from 0.22/10 000 in 1986 to 0.066/10 000 in 2000. The prevalence decreased from 0.24% in 1986 to 0.021% in 2000. During 1986-2000, there were 7 405 leprosy patients treated with fixed duration MDT, regular rate of MDT 95.88%. Three were 18 leprosy relapsed with a relapse rate of 0.24%. The incidence of leprosy in children and the disability rate of new case were still no change trends.

Conclusion: The fixed duration MDT was effective to treat leprosy patients. The endemic of this disease has been evidently under control in Guizhou.

[Key words] Leprosy, Incidence, Prevalence, Recurrence

PE 43

EPIDEMIOLOGICAL TRENDS OF LEPROSY IN SEVAGRAM CONTROL UNIT

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Sevagram Leprosy Control Unit has been the first control unit in the country started in 1952. Since the inception till 2001 a total of 2050 cases have been detected from a population of 27875. This paper is intended to present the epidemiological scenario of the control unit, after implementation of MDT programme for two decades which needs serious attention while declaring the elimination of leprosy.

The prevalence rate of leprosy was 234/10,000 in the year 1952 which declined to 12.9/10,000 (94.5% reduced) in the year-2001. The deformity rate declined from 9.1% to 2.4% (73.6% reduced). Percent MB cases which include LL,BL&BB also declined from 21.8 to 15.6 (28.4% reduction), while percent PB cases which include TT,BT,IND&PN increases 78.2% to 84.4%. While number of positive cases with BI- 1&2 is decreased the number of cases with BI- 3 and above increased from 2.1% to 5.2%. The new case detection rate also declined from 54/10,000 to 13.6/10,000 (74.8% reduced). It is recent observation that NCDR is more than PR and NCDR has been almost static since last two decades.

The above observations show that the MDT could reduce the number of accumulated active cases in the society but could not hinder the occurrence of new cases and suggest the need for further epidemiological and bacteriological studies which may throw some light on transmission mechanism of leprosy

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PE 44

EPIDEMIOLOGIST AS THE DISTRICT LEPROSY MANAGER: THE SRI LANKAN EXPERIENCE

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Integrating leprosy in the general health services represents an immense organizational and logistical challenge. Sri Lanka, like many other countries, only has a small leprosy team who were responsible for the vertical programme. It was crucial to identify a counterpart within the regional health services to help carry out the numerous activities planned. The regional epidemiologists were selected as the "managers" of the integration process as well as for the monitoring of the integrated programme in their re-

spective district. It was envisaged that they would work in close collaboration with the leprosy worker of the area. A goal oriented project planning workshop was conducted to actively seek their input in formulating the detailed plan.

This paper discusses how and why the epidemiologists were identified as the most appropriate counterparts. The paper will also critically examine the expectations at the outset and the reality of their role after 18 months experience. It will also discuss the challenges faced in translating the concept of empowerment and teamwork into reality. It also addresses the problems encountered in shifting responsibility from a highly committed small team to new players.

PE 45

EPIDEMIOLOGY ANALYSIS OF LEPROSY IN ZHEJIANG PROVINCE

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Objective: To evaluate the effectiveness of leprosy epidemic and control in Zhejiang Province.

Methods: To adopt the analysis of retrospective study.

Results: By the end of 1999, 16461 leprosy patients have been registered, of which 11935 had been cured and only 97 were still active cases. Compare 1999 with 1973, active cases decreased 99.02%. The main character of epidemiology: the mean age of attack increased, the value of type ratio increased, and the incidence of children decreased, accorded with the character of leprosy control later stage.

Conclusion: The tendency of leprosy epidemic dropped continuously in Zhejiang province, effect of control is notable and fruit is solid.

[Key words] Leprosy, Epidemiology, Analyze

PE 46

EPIDEMIOLOGY AND CONTROL OF LEPROSY IN VIETNAM

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In Vietnam, leprosy is considered as one of social diseases which must be eliminated before the year 2000. Before 1982 (the year of MDT implementation), the prevalence rate was very high and the distribution of leprosy patients was uneven. In mountainous areas, the prevalence was 20 per 10,000,

while in the delta provinces, the rate was only 2 per 10,000. The proportion of children and women cases was 8% and 36% respectively. However, after implementation of MDT, the National Leprosy Control Programme has proved to be very fruitful. The epidemiological status of the disease has remarkably also changed. The national prevalence rate has considerably decreased from 6.7 per 10,000 in 1982 to 0.2 per 10,000 in 2001. By the end of 2001, all provinces of the country have reached already the goal of leprosy elimination.

However, while the prevalence rate has continued to reduce in the recent years, the number of newly detected cases has remained steadily ranging from 1500 to 2000 with a detection rate less than 3 per 100,000. In order to attain the final goal, the national criteria for leprosy eradication are set up and implemented in 2002.

PE 47

ESTADOS REACIONAIS NAS DIFERENTES FORMAS CLÍNICAS DE HANSENÍASE

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Os estados reacionais (ER) são intercorrências comuns no curso da hanseníase, sendo fundamental para o manejo e prevenção de incapacidades o diagnóstico precoce e a conduta terapêutica adequada. O objetivo deste estudo foi analisar os tipos de ER mais frequentes em cada espectro da doença, bem como a época do aparecimento dos mesmos. Neste contexto, foram estudados retrospectivamente 87 pacientes com diagnóstico histopatológico de hanseníase, submetidos a poliquimioterapia (PQT). Os pacientes foram classificados, de acordo com os critérios de Ridley-Jopling (1962), em 29% de tuberculóide-tuberculóide (TT), 1% de dimorfo-tuberculóide (DT), 15% de dimorfo-dimorfo (DD), 5% de dimorfo-virchowiano (DV), 35% de virchowiano- virchowiano (VV) e 15% de forma indeterminada. Verificou-se que os ER foram complicações frequentes (64%), sendo classificados com base nos dados clínicos e histopatológicos em: tipo I (27% reação reversa); tipo II (28% eritema nodoso hansênico e 3% fenômeno de Lúcio); e 47% neurite isolada. A reação tipo I predominou entre os pacientes portadores de forma DD (80%), a reação tipo II nos VV (68%), enquanto a neurite isolada na forma TT (83%). Quanto ao aparecimento do primeiro episódio reacional, verificou-se que 46% dos pacientes (50% neurite isolada; 27% tipo I; 23% tipo II) já se encontravam com reação no momento da admissão; em 37% (42% neu-

rite isolada, 33% tipo II, 25% tipo I) a reação surgiu no primeiro ano de PQT. Apenas 1 paciente (4%) apresentou reação tipo II (Fenômeno de Lúcio) durante o segundo ano de PQT e após PQT 2 pacientes (8%) apresentaram reação, sendo uma do tipo I e outra do tipo II. De acordo com estes dados clínicos, pode-se concluir que os estados racionais são complicações comuns nas diferentes formas clínicas de hanseníase, havendo predomínio de reação tipo I na forma DD, reação tipo II nos VV e neurite isolada nos TT. Cabe ressaltar que, devido ao risco aumentado de alterações permanentes nos sistema nervoso periférico durante a reação tipo I e a neurite isolada, estas são consideradas condições emergenciais na hanseníase necessitando portanto de diagnóstico e tratamento precoces.

PE 48

ESTUDIO COMPARADO DE LA ENFERMEDAD DE HANSEN Y TUBERCULOSIS PULMONAR EN LA SEGUNDA MITAD DEL SIGLO XX EN ESPAÑA

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Objetivo: Evaluar la asociación entre hanseniasis y tuberculosis determinando si sus evoluciones siguen un patrón en sus presentaciones, que puede ser competitiva hacia el mismo nicho ecológico, o paralela en cuanto que comparten factores de riesgo.

Material y métodos: El material ha sido el conjunto de anuarios del Instituto Nacional de Estadística de España, los informes del Registro Estatal de Lepra y los Registros de Enfermedades de Declaración Obligatoria. Para la recogida de datos y presentación de resultados se ha utilizado el programa informático Excel y para el análisis estadístico el PSPS. La metodología estadística ha consistido, en una primera fase, presentación descriptiva: Comparación de medias globales anuales entre las Comunidades Autónomas de España en el periodo 1950-2000 para incidencia de lepra e incidencia de tuberculosis respiratoria y evolución comparada de ambas incidencias a lo largo del periodo señalado, en una segunda fase, análisis estadístico de las variables utilizando la pruebas de correlación, regresión lineal simple con transformación logarítmica y valoración previa de requisitos de normalidad de distribución y homogeneidad de la varianza.

Resultados: Los datos han sido recogidos por provincias, comunidades autónomas y globales para España. Mostraremos los resultados correspondi-

entes a las tasas anuales nacionales presentadas a intervalos de 5 años. La lepra se expresa como incidencia acumulada cada 5 años dado el impreciso periodo de incubación y la baja incidencia. Se ha encontrado un Coeficiente de Determinación R^2 de 0,64, y un valor $p < 0,01$.

Conclusiones: La asociación encontrada entre ambas variables es significativa a mas del 1%, y es de carácter directo, con presentación gráfica en paralelo, por lo que apuntaría, en nuestro caso, hacia la segunda hipótesis de coparticipación de mismos factores de riesgo. Sin embargo, hay amplias variaciones entre provincias y comunidades autónomas.

PE 49

ESTUDIO ESTADÍSTICO Y EPIDEMIOLOGICO DE CASOS DE LEPRO DETECTADOS EN CONTACTOS EN UN PERÍODO DE 5 AÑOS EN SANTA FE

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Santa Fe es una provincia situada en el área endémica de lepra de la República Argentina. La distribución de los casos no se dan de manera uniforme y las tasa de prevalencia y detección a fines del 2001 fueron de $0,6 \times 10.000$ y $2,2 \times 100.000$ respectivamente, habiendo bolsones epidemiológicos que superan tasas de 4×10.000 hab. Dentro de la provincia.

A la luz de los conocimientos actuales se sabe que la mayoría de los casos nuevos detectados provienen de contactos tanto intra como extra domiciliarios. Es por ello que nuestro objetivo es conocer el porcentaje de contactos que han enfermado después del diagnóstico del foco principal.

Se presenta un trabajo estadístico y epidemiológico, realizado entre los casos detectados desde enero de 1996 hasta diciembre de 2000, que arrojó cifras significativas, por lo que se propone “ el control de convivientes “, como estrategia destacada para arribar a la meta de la eliminación de la Lepra como problema de Salud Pública.

PE 50

ESTUDIO SEROEPIDEMIOLOGICO DE UN FOCO DE LEPRO EN EL HOSPITAL "CELIA SANCHEZ MANDULEY". MUNICIPIO MANZANILLO. GRANMA

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Se realizó un estudio en el Hospital "Celia Sanchez Manduley" del Municipio Manzanillo donde fueron estudiadas 447 personas contactos extradomiciliarios compañeros de trabajo de 6 pacientes de Lepra multibacilar mediante estudio serológico con el antígeno PGL-I por el método Ultramicroanalítico (SUMA) y de acuerdo a los resultados e la serología, prueba de Lepromina y Baciloscopia. El 19,2% de los estudiados mostró niveles de anticuerpos superiores al nivel de corte establecido. Los resultados fueron analizados en relación al sexo, la edad, el tiempo de relación con los enfermos. Se analiza la conducta seguida al final de la Investigación, concluyendo que estos estudios resultan de gran utilidad en el control de la Lepra.

PE 51

ESTUDO DE INCIDÊNCIA E PREVALÊNCIA DE HANSENÍASE EM MENORES DE 15 ANOS NO MUNICÍPIO DE PARACATU-MG DURANTE UM PERÍODO DE CINCO ANOS

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Paracatu/MG é considerada pela Secretaria Estadual de Saúde como município prioritário para o controle da hanseníase devido aos altos coeficientes de incidência e prevalência desta nosologia em sua população. Foi realizado um estudo de incidência e prevalência de hanseníase em menores de quinze anos diagnosticados e tratados neste município por um período de cinco anos, analisando diversas variáveis como forma clínica, idade, sexo, grau de incapacidade, escolaridade, cicatriz vacinal, contatos, entre outras. O objetivo deste estudo é obter um panorama epidemiológico desta doença visando subsidiar os serviços e secretarias de saúde municipal e estadual em suas ações, contribuindo para eliminar a hanseníase como doença de saúde pública

PE 52

ESTUDO RETROSPECTIVO DA OCORRÊNCIA FAMILIAR DA HANSENÍASE EM UNIDADE DE REFERÊNCIA NO MUNICÍPIO DE ITAPEVI – SP

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A hanseníase é uma moléstia que nos acompanha desde a antiguidade e ainda está longe de ser erradicada.

O Brasil é responsável por 85% dos casos das Américas, ocupando o 2º lugar em número de doentes em todo o mundo.

Praticamente o único reservatório é o homem, dificultando pesquisas laboratoriais e fazendo com que o contato pessoal seja a principal forma de transmissão. Estudos epidemiológicos tornam-se então instrumentos importantes para compreensão da doença.

Este é um trabalho retrospectivo que se baseou no levantamento de dados de prontuários de doentes e seus respectivos familiares, acompanhados durante o período de 1996 a 2001 no UBS Rainha, unidade de referência para hanseníase, localizada no município de Itapevi - São Paulo. Enfatizamos os comunicantes familiares como integrantes do principal ambiente de propagação da moléstia. Avaliamos 78 casos com 642 comunicantes. A maioria destes últimos era assintomática. Porém, 9% apresentou hanseníase. Destes comunicantes doentes, 66% possuíam forma infectante (Borderline ou Virchowiana) perpetuando assim a transmissão domiciliar.

Variáveis como sexo, relação familiar dos comunicantes e forma do caso índice (multibacilar ou paucibacilar) foram analisados como fatores de risco para aquisição da doença.

PE 53

EVOLUÇÃO DA DETECÇÃO E PREVALÊNCIA DA HANSENÍASE REGISTRADAS DO CENTRO DE SAÚDE DONA LIBÂNIA – REFERÊNCIA EM DERMATOLOGIA SANITÁRIA - FORTALEZA – CEARÁ PERÍODO 1995 – 2001

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Ao realizar este trabalho, acerca de evolução da endemia hanseníase utilizando indicadores de morbidade (incidência e prevalência) no município de Fortaleza, não podemos deixar de pensar na situação preocupante da referida endemia em algumas secretarias regionais de Saúde da capital cearense. Hanseníase, doença endêmica em todo território nacional, tem colocado o Brasil na incômoda posição de segundo país do mundo e primeiro das Américas em número de casos registrados. A meta preconizada pela OMS para o ano 2000 e postergada para 2005 é redução de 1 caso de hanseníase para cada 10.000 habitantes. O objetivo deste trabalho é estudar a situação epidemiológica e operacional da hanseníase no município de Fortaleza registrados no centro de referência Dona Libânia no período 1995 – 2001.

A metodologia utilizada é de um estudo descritivo e analítico de uma série histórica, no período de 1995 – 2001. A casuística é constituída de todos os casos notificados no período. Os dados foram obtidos do SINAN. Os resultados parciais encontrados foram que a média de casos por ano era de 700 casos e a distribuição por secretarias regionais de saúde – SER, observa-se um grande número de casos na regional VI (30% dos casos da capital), região do Conjunto Ceará e Grande Bom Jardim.

Concluimos que é imperativa a implantação de todas as ações de eliminação de hanseníase, previstas na Norma Operacional de Assistência a Saúde – NOAS para todas as unidades básicas de saúde do município de Fortaleza, e a unidade de referência apoiando esta descentralização, ficando a referência ocupando o seu verdadeiro papel de apoio para – Unidades Básicas de Saúde da Família – UBASF nos municípios de Fortaleza nos casos de difícil diagnóstico e controle.

PE 54

EVOLUCIÓN COMPARADA DE EL PRODUCTO INTERIOR BRUTO Y LA INCIDENCIA DE HANSENIASIS EN LA SEGUNDA MITAD DEL SIGLO XX, EN ESPAÑA

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Objetivo: Determinar si el Producto Interior Bruto y la lepra presentan una asociación en su evolución, haciendo especial hincapié en el análisis por Comunidades Autónomas.

Material y métodos: El material ha sido el conjunto de anuarios del Instituto Nacional de Estadística de España, el Registro de Enfermedades de Declaración Obligatoria y el Registro Estatal de Lepra del Instituto de Salud Carlos III. Para la recogida de datos y presentación de resultados se ha utilizado el programa informático Excel y para el análisis estadístico el PSPS.

Resultados: Los datos han sido recogidos por provincias, comunidades autónomas y globales para España. Mostraremos los resultados correspondientes a las tasas anuales nacionales presentadas a intervalos de 5 años. La lepra se expresa como incidencia acumulada cada 5 años dado el impreciso periodo de incubación y la baja incidencia. Se ha encontrado una correlación de Pearson de 0,82. El valor de p es $< 0,01$.

Discusión y Conclusiones: La correlación encontrada entre ambas variables es significativa a mas del 1%, y es de carácter inverso. Por tratarse de un es-

tudio ecológico, no podemos considerar la asociación como causal; así mismo es necesario considerar la posibilidad de sesgos y factores de confusión.

PE 55

FATORES QUE INFLUENCIARAM A INADEQUAÇÃO DO DIAGNÓSTICO E DO ACOMPANHAMENTO DAS REAÇÕES EM PACIENTES COM HANSENÍASE EM RONDÔNIA, BRASIL

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Introdução: Os episódios reacionais em hanseníase mantêm-se como um grande desafio para os PCH. Apesar de se conhecerem os aspectos clínicos das reações e sua relação com lesão neural, ainda persistem questões a respeito de sua epidemiologia, o que dificulta a definição de estratégias para o controle efetivo.

Objetivo: Caracterizar os fatores que influenciaram a inadequação do diagnóstico e acompanhamento dos pacientes com hanseníase com reações e que tiveram alteração ou não do grau de incapacidade.

Métodos: Estudo descritivo, operacional, baseado nos casos novos diagnosticados em 1997 em Rondônia e com alta por cura. Estudaram-se 684 casos, dados demográficos e informações sobre a evolução da doença, considerando início da PQT e alta. Realizou-se pesquisa em prontuários para avaliação da conduta e caracterização de reações. Para a entrevista foram selecionados pacientes com reações apenas após a alta e os com progressão do grau de incapacidade durante tratamento, com avaliação clínica. Foi avaliada a estrutura do PCH nos municípios selecionados.

Resultados: Apesar dos avanços gerais obtidos pelo PCH no Estado, mantêm-se as dificuldades da abordagem dos estados reacionais. Foram identificadas falhas em vários aspectos operacionais da conduta das reações. A caracterização desta situação no Estado reflete a predominância de casos novos classificados operacionalmente como PB. Identificou-se a centralização do PCH e a necessidade de articulação com o PACS e PSF. As entrevistas refletem a inadequação dos serviços e mostram a necessidade de trabalho articulado para o efetivo controle das reações.

Conclusões: Faz-se necessária a redefinição de prioridades no Estado incorporando a abordagem das reações como medida estratégica para se alcançar a atenção integral dos pacientes.

PE 56

GENDER ISSUES AND LEPROSY FROM THE SLUM OF DHAKA

(The effectiveness of female LCA and volunteers in increasing urban slum population)

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Background: Dhaka leprosy Control Project was initiated by the Leprosy Mission to improve the quality of life of the people residing in the city of Dhaka. It is a joint venture by the government of Bangladesh and the Leprosy Mission. The Leprosy Mission is working in half of the Dhaka city. This project was initiated in 1996 where 80% of the leprosy control assistants were male. Later on it was felt that the workers mainly the male workers were going under difficulty to enter into the houses as during their visits mainly the female portion of the population were in the house and the male were either working or roaming about. And we felt that female workers/volunteers should be recruited for smooth efficient and effective leprosy control activities.

Observation: The statistics of the years from 1996 to 2001 were observed and the following statistical reports were found regarding the achieved activities.

Description	1996	1997	1998	1999	2000	2001
Staff	15	15+6	15+6	15+8	15+7	14+8
Description	1996	1997	1998	1999	2000	2001
New patients diagnosis	209	481	809	1206	1293	1902
PB Male	57	143	322	434	510	765
PB female	93	212	324	492	493	862
MB male	37	77	91	190	188	170
MB Female	22	49	72	90	102	101
PB Child	21	55	149	221	172	304
MB Child	05	15	22	39	47	38
Disability Grade-I	15	55	37	56	75	55
Disability Grade-II	28	42	33	62	71	56
RFT	37	186	423	781	1186	1167
Case Deletion	16	34	123	179	303	192
Case Load	279	545	827	1109	964	1518
Credit Program						
Vocational training						
IGA						

Result: A differentiation was before and after 1997. And the results show clearly that percentage of diagnosis of new cases are quite high after 1997. This was due to the female 5-6 female volunteers, to make the balance of gender among the field workers. The increase in the per head of the new patients were some times 50-70% of the previous years. The disability rate came down from 12% to 5-6 %. The involvement of the female in credit program are 70% and which has resulted much improvement in their family economy.

Conclusion: Inclusion of female worker in the control services of leprosy is critically important as it helps the group of workers easy access into the houses of the slum dwellers where female members of the family mainly in the houses. Involvement of

the female workers has resulted in per head diagnosis of new patients, decreased the disability rate, and increase in treatment compliance.

PE 57

GENDER, LEPROSY AND LEPROSY CONTROL: FOUR CASE STUDIES IN ACEH, INDONESIA; PLATEAU STATE, NIGERIA; FAR WEST AND EASTERN NEPAL; AND RIO DE JANEIRO STATE, BRAZIL

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This study was carried out in the four countries to identify to what extent *biological, sociocultural/economic and health service* factors played a role in gender differences in case finding of leprosy patients. The quantitative part of the study consisted of analysis of a cohort of at least 500 patients registered in 1994 and followed up till declared cured in ultimately 1998. Qualitative interviews and FGDs with patients, RFTs, relatives, community leaders and leprosy staff followed in 1998-99. The M/F ratio was 1.5 and 1.7 in Indonesia and Nepal but roughly 1 in both Nigeria and Brazil. Despite these differences, males in all four countries were more seriously affected than females with MB leprosy, deformities and reactions. Biological (hormonal) factors appear to protect women. Only in the Far Western Region of Nepal where services are rather inaccessible, both sexes were equally seriously affected. Where services had invested in decentralisation of treatment (Brazil, Indonesia) more women started reporting. Other service factors were sensitivity of staff in treating patients of opposite sex (80% F staff in Brazil; 75-80% M staff in the other countries), and adequate health education to community and patients', responding to their needs and stressing the strong points of MDT.

Mobility of men (financial and social) appeared in all four countries a positive factor in case finding, but women scored better in alertness to bodily signs. Yet, this not necessarily resulted in early case finding, because women opted sometimes for the 'wrong' healer: untrained private practitioner (Brazil), traditional healer (Nepal). In Aceh, where beliefs in traditional causes are strong, visits to *dukun* delayed men and women alike. In all four countries leprosy is a stigmatising disease at community and (less) family level, but predominantly in case of deformity and reactions. Involving well-coping, non-deformed leprosy patients in community education proved a powerful instrument in combating the stereotypes of leprosy and promoting early case finding.

PE 58

GEOGRAPHICAL INFORMATION SYSTEMS AND LEPROSY CONTROL: USEFUL TOOL OR GIMMICK?

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Concept and capabilities of Geographical Information Systems (GIS)

Significance in health care systems and (infectious) disease control, with special emphasis on leprosy control.

Review of the most important characteristics of some commonly used GIS software packages and GIS applications.

A GIS is a computer-based system for data input, data management, data manipulation and analysis, and display of all and any type of geo-referenced data.

Therefore, in leprosy control a GIS is a useful tool for planning and management (decision support); Epidemiology and surveillance; Education, persuasion and lobbying (advocacy); Complex analysis and research.

Software package	Strong features	Weak points	Use in leprosy
Idrisi	Raster based, Spatial analysis	Learning curve, Digitising	Analysis, Research
Ilwis	Raster based, Digitising, Modelling	Learning curve	Analysis, Research
MapInfo/ArcView	Vector based, Nice display, Easy to learn and use	Few analytical tools, Little map algebra	Planning, Surveillance, Persuasion
Atlas GIS	?	?	?
GIS application	Strong features	Weak points	Use in leprosy
HealthMapper (ArcView and Access Database)	Interface Easy expansion with other programmes, Supported by WHO	Fixed set-up, Few analytical tools	Planning, Surveillance, Persuasion
PopMap/EpiMap	?	?	?

With the advent of Internet Mapping Servers (IMS) like ARCIMS, it is now possible to have the data at a central server and the GIS data can be accessed, queried and printed over the internet on the local computer.

PE 59

HANSENÍASE EM MUNICÍPIO DA GRANDE SÃO PAULO: CASOS AUTÓCTONES X CASOS IMPORTADOS

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Objetivo: Demonstrar a prevalência e incidência de pacientes hansenícos num município da grande São Paulo- Itapevi - com população de 162.421 habitantes (IBGE 2000) com ênfase para os virchovianos, comparando os casos nativos (autóctones) e os “importados” e analisar sua influência sobre a população atual.

Método: Os autores examinaram 96 prontuários de pacientes matriculados no setor de hansenologia no município de Itapevi-SP num período de 6 anos, analisando fatores como: sexo, idade, naturalidade e procedência.

Resultados: Observou-se que 52 % dos casos são oriundos de outras localidades, em sua maioria de outros estados, sendo que 48 % são casos autóctones. O índice de prevalência para os autóctones no ano de 2000, quando o número total de casos era de 41, foi de 1,6: 10.000 Hab e para os “importados” 1,3: 10.000 Hab.

Conclusões: Considerando-se, e tendo como média de 5 anos o período de incubação para a hanseníase, traduzindo esta média talvez um período mais curto para o pólo T e mais longo para o pólo L, estamos mostrando, no município de Itapevi- SP, como a influência de imigrantes hansenícos, sobretudo os virchovianos, interfere nos coeficientes de incidência e prevalência da patologia, aumentando aqui os números absolutos e relativos e diminuindo estes na sua origem. Este fato também indica a eficácia dos nossos indicadores de detecção.

PE 60

HANSENÍASE NA INFÂNCIA: ASPECTOS CLÍNICOS- EPIDEMIOLÓGICOS EM UMA ÁREA INDUSTRIAL

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Introdução: O objetivo deste estudo é considerar de forma concisa os aspectos clínicos e epidemiológicos da hanseníase na infância na região do Grande ABC. As crianças parecem ser mais susceptíveis sendo que estas correm o risco pela presença de hanseníase pela família. Quase 60% dos adultos desenvolvem a moléstia na infância ou no início da idade adulta, portanto, relatos de longo período de incubação devem ser encarados com cautela, pois sinais físicos iniciais, podem ser discretos, além de que muitas lesões podem desaparecer espontaneamente.

Casuística: Foi realizado um estudo transversal retrospectivo, de casos de hanseníase na infância, abrangendo doentes de 0 a 14 anos, através da análise das notificações compulsórias e prontuários médicos arquivados no Centro de Vigilância Epidemiológica e Postos de Saúde credenciados nos municípios da região do Grande ABC, no período de janeiro de 1990 a 1999.

Resultados e discussão: Nesse período, foram registrados um total de 571 casos novos de hanseníase, sendo que destes, 35 correspondiam a crianças de 0 a 14 anos. Notou-se que no período de 1990 a 1997, a hanseníase infantil permaneceu com uma incidência estável e após 1997, houve um aumento significativo do número de crianças acometidas, correspondendo à perda do poderio econômico da região, caracterizando assim a correspondência de hanseníase e pobreza.

PE 61

HANSENÍASE NA INFÂNCIA E ADOLESCÊNCIA

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Foram revisados 308 prontuários de comunicantes e doentes do dispensário de hansenologia de uma Unidade Básica de Saúde do município de Itapevi no período de 5 anos (1997 à 2001), constatando-se o diagnóstico de 94 casos de pacientes com Hanseníase distribuídos nas formas paucibacilares e multibacilares. Deste total, 16 eram crianças e adolescentes, constituindo elas 17% do total dos casos. Dos 214 comunicantes, 110 eram menores de 18 anos. Dos 16 menores hanseníacos, 60% apresentavam pelo menos contato com um familiar portador da patologia, geralmente multibacilar. 32% destes menores receberam duas doses de BCG id e desenvolveram, mesmo assim, Hanseníase; porém sempre foram de formas paucibacilares. Conclusões: A) Hanseníase abaixo dos 18 anos é problema de saúde pública grave. Segundo nossa casuística, 17% do total de nossos pacientes estão neste grupo etário. B) Destes 16 pacientes com MH, os que receberam duas doses de BCG (5 pacientes), sempre foram paucibacilares. C) A prevalência e a incidência da patologia neste grupo etário obriga a ações mais enérgicas de controle, já que são comunicantes de comunidades "fechadas" (a família), permitindo-se, assim, maior contágio. Ressalta-se que 51% do total de comunicantes são menores de 18 anos.

PE 62

HANSENÍASE NA INFÂNCIA

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De um total de 878 casos novos detectados pelo serviço no ano de 2001, 78 (8,8%) pertenciam à faixa etária de menores de 18 anos. Destes casos, 3 (0,3%) tinham 5 anos ou menos, 19 (2,1%) tinham 10 anos ou menos; e 64 (7,2%) tinham 15 anos ou menos. Quanto ao sexo, 47 (57,3%) eram masculinos; e 35 (42,7%) eram femininos. No que se refere às formas clínicas, 2 (2,4%) eram indeterminadas (I); 37 (45%) eram tuberculóides (T); 34 (41%) eram dimorfas (D); 8 (9,8%) eram virchowianas (V); e 1 (1,2%) foi não especificado. De acordo com a classificação operacional, 89 (47,6%) eram paucibacilares e 43 (52,4%) eram multibacilares, sendo 22 (26,8%) portadores de baciloscopia positiva, 58 (70,7%) portadores de baciloscopia negativa e 2 (2,4%) com baciloscopia não especificada. Quanto ao grau de incapacidade física, 67 (81,7%) tinham grau zero; 8 (9,8%) tinham grau I e 7 (8,5%) tinham grau II ao início do tratamento.

PE 63

HANSENÍASE NO RIO GRANDE DO NORTE – UMA ENDEMIA OCULTA?

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Criou-se um banco de dados com informações sobre 2.799 casos de hanseníase, notificados no Rio Grande do Norte entre 1928 e 2000. As informações dos casos registrados foram conferidas pelas suas respectivas unidades de tratamento. Ao mesmo tempo, as medidas de controle da endemia no Estado foram estudadas através de livros históricos, documentos arquivados na Secretaria Estadual de Saúde e de entrevistas com os 6 coordenadores do Programa no período de 1977 e 2000. Neste trabalho apresenta-se a série histórica da detecção de casos novos nos últimos 20 anos e comparam-se estes resultados com a detecção registrada para o país no mesmo período. O trabalho demonstrou que os coeficientes anuais de detecção registrados no Estado mantêm íntima relação com o desenvolvimento de atividades mínimas de controle da endemia. Destacam-se quatro picos importantes registrados em 1984, 1988, 1992 e 1997; nestes anos o incremento observado para este coeficiente foi respectivamente de 57%, 65%, 31% e 52% em relação aos anos anteriores; enquanto para o país o incremento no coeficiente de detecção registrado nestes anos foi de -4%, 30%, 12% e 9%. Destaca-se que no Rio Grande do Norte, após os picos observa-

dos a detecção de casos novos não cai para os níveis dos anos anteriores às intervenções, mostrando que os serviços implantados e os profissionais treinados permanecem contribuindo para o aumento da detecção nos anos posteriores. Apesar do Estado apresentar coeficientes de detecção da hanseníase ainda considerados médios pelos parâmetros do Ministério da Saúde, este trabalho aponta para uma situação preocupante com relação ao controle da doença no Rio Grande do Norte, uma vez que o rápido e contínuo aumento na detecção de casos de hanseníase, nitidamente dependentes da implantação de atividades de controle, pode apontar para a existência de um importante reservatório de casos ainda sem diagnóstico (endemia oculta).

PE 64

HANSENÍASE: REAÇÃO REVERSA X FORMA CLÍNICA

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Em um total de 341 pacientes que deram entrada, como casos novos, no primeiro semestre de 2001, tivemos 77 (22,5 %) com reação reversa. Destes, 23 (29,9 %) apresentavam somente reação cutânea e 54 (70,1 %) manifestavam somente reação neural. Com relação às formas clínicas predominantes tivemos: 5 pacientes (6,4 %) da forma tuberculóide (T); 50 (65 %) da forma dimorfa (D); 19 (24,6 %) da forma virchowiana (V) e 3 casos (4 %) sem forma clínica especificada. Vale ressaltar a maior predominância de formas neurais reacionais, principalmente nos casos dimorfos, como descrito a seguir: (T) – 40 % cutâneas e 60 % neurais; (D) – 24 % cutâneas e 76 % neurais; (V) – 57 % cutâneas e 43 % neurais.

PE 65

HANSENÍASE. INCAPACIDADES FÍSICAS APÓS PQT, NO PERÍODO DE 1994 A 1998 EM TERESINA – PIAUÍ

Ana Lúcia França da Costa

A hanseníase, doença crônica que acomete pele e nervos periféricos, é um dos mais antigos males da humanidade. As deformidades que causa são responsáveis por estigmas e tabus que ainda hoje persistem. A contribuição da poliquimioterapia (PQT) na diminuição da prevalência da doença no mundo é aceita por todos especialistas na área. Mas, qual a situação dos pacientes que receberam alta após tratamento com poliquimioterapia em relação às inca-

pacidades físicas? Neste estudo procurou-se investigar a prevalência e a evolução dessas incapacidades em pacientes com hanseníase, que receberam PQT, no período de 1994 a 1998, em Teresina, Piauí, Brasil. Por meio de amostragem probabilística sistemática, constituiu-se uma amostra de 617 desses pacientes. Nesta foi aplicada um inquérito de morbidade em duas etapas: teste de rastreamento e subsequentemente avaliação clínica de incapacidade. A amostra final foi de 319 pessoas, sendo 161 do sexo masculino e 158, do feminino. As idades variavam de 6 a 94 anos, com idade média de 43, 19 anos. De 135 pacientes avaliados segundo o grau de incapacidade (OMS/1988), 30,4% apresentaram incapacidade. Destes, 63,4% pacientes tinham grau 1 e 36,5%, grau 2. de 17 pacientes, que apresentavam grau 0 no momento do diagnóstico, 88,2% evoluíram: 70,5% para grau 1 e 29,5% para grau 2. De 15 pacientes que tinham grau 1 no diagnóstico, 73,3% mantiveram-se no grau 1 e 26,7% evoluíram para o grau 2. Finalmente, de 8 pacientes que apresentaram grau 2 ou 3 no diagnóstico, 25% regrediram para grau 1 e 75% mantiveram a graduação anterior. O tempo médio (em anos) de evolução desde o diagnóstico até a avaliação atual (1994 – 2001) foi de 4,32 anos, com período máximo de 9,79 e mínimo de 2,08 anos. A prevalência de incapacidades físicas em pacientes com hanseníase após tratamento com PQT, foi de 12,8%. Houve agravamento do grau de incapacidades em 28,8% dos pacientes examinados. Os idosos, os homens, e os pacientes multibacilares apresentarem maior risco para o desenvolvimento de incapacidades.

PE 66

ILEP-ORGANISATIONS SHOULD STRIVE FOR HIGH BCG COVERAGE IN THE COMMUNITIES UNDER THEIR CARE

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A single BCG vaccination at birth or in the 1st year of life provides partial protection against leprosy. Nine case-control studies showed a vaccine efficacy of 20% to 81%, median 60%. It is reasonable to think that these studies underestimated the true effect since in some children the BCG scar does not persist. A prospective study and 3 randomised community trials showed efficacies of 36% to 80%, median 47%. Studies from India showed 20%, 42% and 60%. The duration of this protection is at least 10 to 15 years. Some studies suggest that BCG results in a shift from lepromatous to tuberculous forms of leprosy. BCG coverage is better than 80% in most countries in Asia but lower in Africa. Coverage in local communities may be much lower than the national average.

Systematic vaccination of all newborns will reduce the child ratio but will not noticeably reduce the NCDR. Repeated vaccination and vaccination at older ages would have more impact on NCDRs but is contraindicated in persons infected with HIV and may precipitate clinical disease in those infected with *M. Leprae*. A special programme would be needed for vaccination at older ages, while BCG-vaccination at birth is a standard component of the MCH services in most countries.

ILEP organisations should monitor BCG-coverage and advocate for provision of standard MCH services in all communities in which they are involved thus reducing the risk of leprosy for children up to 10-15 years of age.

PE 67

IMPLEMENTAÇÃO DA POLIQUIMIOTERAPIA NAS RESERVAS INDÍGENAS DE DOURADOS E BRASILÂNDIA-MS

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Trabalho realizado nas Aldeias Bororó e Jaguapirú, da Reserva Indígena de Dourados-MS e na Aldeia Ofaié-Xavante, no município de Brasilândia-MS.

O objetivo principal deste trabalho foi o de implementar a PQT nas Reservas Indígenas de Dourados e Brasilândia-MS. Muitos fatores contribuem para o limitado acesso das comunidades indígenas aos serviços de saúde: dificuldades causadas pela localização geográfica, problemas culturais, sociais e carência de profissionais de saúde treinados para suspeitar de casos novos de Hanseníase em seu meio. A estratégia foi a de treinar agentes de saúde indígenas, da FUNASA, professores indígenas, auxiliares de enfermagem dos programas locais, para atuarem na detecção precoce de casos novos e na administração da PQT nos casos confirmados mediante avaliação médica, realizada através de mutirões de atendimento médico. Foram treinados na Reserva Indígena de Dourados-MS: 10 Agentes Comunitários Indígenas de Saúde, 01 agente de saúde da FUNASA, 02 enfermeiras do PSF Indígena, 01 estagiária de enfermagem, 01 coordenador pedagógico da Escola Indígena Jaguapirú, 10 professores indígenas de 5 Escolas Indígenas locais. Ao todo foram 25 pessoas treinadas nesta Reserva. Na Reserva Indígena de Brasilândia foram treinados: 04 agentes de saúde da FUNASA, 03 servidores do Programa de Hanseníase

local, 01 funcionária da Secretaria Municipal de Saúde local, 02 Agentes Comunitários de Saúde, 02 lideranças indígenas da Aldeia Ofaié-Xavante, ao todo 12 pessoas treinadas. Foram detectados 1 caso da forma clínica tuberculóide na Reserva Indígena de Dourados-MS (Incidência de 1,4/10.000hab.) e 3 casos da forma clínica indeterminada na Reserva Indígena de Brasilândia-MS (Incidência de 576,9/10.000 hab.)

PE 68

IMPORTANCE OF CONTACT CHECKING FOR CASE FINDING OF LEPROSY IN A LOW ENDEMIC SITUATION

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Introduction: Contact checking is the only active case finding method used by most of the Leprosy Control programmes. However, there is no definite guideline for how long contact survey should be continued. Damien Foundation Bangladesh follows the strategy to check the household contacts of smear positive cases once in a year for 5 years and for other cases only once. The question arose whether 5 years contact checking is necessary?

Material and methods: The results of the annual examination of household contacts of smear positive patients detected in 1995 in the greater Mymensingh district have been analyzed retrospectively. Out of 135 smear positive patients, the contacts of 129 cases could be examined for 5 successive years. Among these 129 cases, 86 had a Bacillary Index (BI) of 4+ or more.

Results: The data show that a total of 5,518 contact examinations were done in 5 years. The mean case detection rate among contacts was 87/10,000 population per year, with a maximum of 202 in 1st year and 134, 130, 21 and 54 respectively in the following years. The case detection rate was in average five times higher among the contacts of cases with a BI of 4+ or more, compared to those of smear positive cases with a BI of 3+ or less.

The case detection rate was 0.22/10,000 only in the general population in 1995.

Conclusions: The above data show the usefulness of the regular examination of contacts of smear positive leprosy patients. Although incidence seems to decrease over time, it remains high even 4 years after the diagnosis of the index case. Since it is not possible to extend the period of active contact examina-

tion indefinitely, it is extremely important to take benefit of these examinations to increase awareness on the early signs of leprosy among the contact population.

PE 69

INCIDÊNCIA E PREVALÊNCIA DE HANSENÍASE NA CIDADE DE ARACAJU, NO ANO DE 1999

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Considerando a situação epidemiológica da hanseníase no mundo e considerando a inexistência de dados coletados e tratados em relação a casos novos e antigos de hanseníase no município de Aracaju-SE, este trabalho propôs conhecer o perfil de incidência e prevalência da referida patologia neste município, no ano de 1999. Para isso, adotamos os parâmetros: sexo, faixa etária e forma clínica predominante no diagnóstico. As fontes de informações foram os prontuários de pacientes cadastrados no Programa Estadual de Controle da Hanseníase e dados do Laboratório de Referência de Micobactérias do Instituto Parreiras Hortas (Lacen-SE). O método utilizado foi o quantitativo, ao qual aplicamos o teste estatístico do qui-quadrado (χ^2) para responder às seguintes hipóteses formuladas: A ocorrência das formas clínicas da hanseníase não está associada ao sexo; As formas clínicas de hanseníase ocorrem independentemente do local onde as pessoas moram; Não há associação entre a idade e as formas clínicas de hanseníase. Escolhemos o teste qui-quadrado (χ^2) pela possibilidade de verificar a significância dos afastamentos entre as frequências observadas nas amostras e as frequências esperadas se as hipóteses nulas fossem verdadeiras, e porque nos interessava verificar a proporção de indivíduos com o atributo hanseníase em uma dada população. Concluímos que não existe associação quanto a incidência e prevalência da doença em relação às formas clínicas, sexo e faixa etária na amostra analisada

PE 70

INFLUENCE OF MULTIDRUG THERAPY ON SMEAR POSITIVE CASES IN TALUKA PANVEL

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Panvel Taluka has its unique features, such as surrounded by costal and hilly area where the residents are uneducated, in low socio-economic group of tribal and fishermen community and generally meals among them are out of homes six months in year to earn their livelihood. At the other hand there are several developed and developing big industrial packets in same Taluka, where residents around are highly educated, economically well settled but under the influence of constant influx of semi and unskilled persons.

MDT was initiated in Panvel Taluka in 1990. The comparison of newly detected cases in pre and post MDT era in centres different regional and population set up was made. During last 5 years (1988-1992), total 1597 new cases (234 MB and 1363 PB) registered by conventional methods of SET. The analysis showed that there is a no change in child rate, deformity rate and smear positive cases rate in newly detected cases in pre and post MDT era but bacterial quantum based on B.I. of smear positive cases (n=166) reduced considerably after MDT and brought to the negligible state irrespective of regional and population variation. It is further noticed that the results are more impressive in area of educated and stable population.

PE 71

INTEGRATING DATA FROM HEALTH INFORMATION SYSTEM

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Epidemiological surveillance in leprosy is based in the evaluation and monitoring of the activities of the Brazilian program. It includes epidemiological and operational indicators constructed from data of the National System of Notifiable Diseases (SINAN) collected at the local level. Analysis of these indicators are used to the understanding of the epidemiological pattern of the endemic and also to subsidize managerial interventions in the Leprosy Control Program. The information related to the indicators by each state of the federation, which represents the foundations of the control, are analyzed from tabulations of aggregate data that are discussed in the text. In practical terms, there is not yet basic information such as the number of leprosy patients assisted by the SUS/MS, as well as the financial expenditure on these patients by the Federal Government. Taking into consideration that the Notification Form is the

only source of information existing today, it is observed some limitation regarding the type, quality and analysis of these data, making it difficult to know the concrete situation of the endemic in the country.

The aim of this study is to stress the importance of information related to medical services (SIA/SUS, SIAB, SIH/SUS and SIM) as a contribution to the epidemiological surveillance of leprosy. It is discussed also the need for updating data from health services to attain a systematic situational diagnosis, with periodical evaluation and patronization in order to reorient decisions at the local level.

PE 72

INTEGRATION OF LEPROSY IN GENERAL HEALTH SYSTEM IN BIHAR

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Damien Foundation India Trust

Prevalence rate of leprosy in Bihar was 29 and 15 in June 1998 and 2000 respectively. At present 29% of caseload of India is from Bihar. National Leprosy Eradication Programme in Bihar State was carried out by vertical staff only till 1998. After detection of 2,05,569 new cases in MLEC-I during 1998 and 1,11,609 new cases from on going activities, on conclusion of State level conference of Civil Surgeons and District Leprosy Officers for strengthening NLEP, Govt. of Bihar issued instructions for one day weekly leprosy clinic at all Health facilities on Tuesday and Drug distribution by General Health staff at DDP. (5000 Population) where vertical staff is not posted to ensure treatment compliance of all leprosy cases under treatment.

Keeping in view W.B assistance till March 2004 and good number of cases detected by on going regular performance and campaigns, Govt. of Bihar decided and issued orders in August 2001 to integrate leprosy work in General Health system (defining the work of each category of General Health and NLEP workers). Leprosy patients to be examined and treated at all health facilities on all working days in OPD and follow up treatment to continue through near by HSC on fixed day every week.

So far 22 districts are having Damien Foundation India Trust Support team. Out of these 22 districts 33.48% of Health facilities and 31.12% of HSCs have been integrated for leprosy work till December 2001 and complete integration of all health facilities and HSCs is expected by 2003.

PE 73

INTEGRATION OF LEPROSY SERVICES: EPIDEMIOLOGICAL IMPACT AFTER A YEAR OF ACTIVITY

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Leprosy integration into the general health services was completed in February 2001 and is already starting to bear fruit, but implementing the necessary changes has been a challenging task. Many new procedures had to be established, logistics improved, attitudes changed and health workers trained. A broad bridge between curative and preventive health services had to be built. Integration efforts were supported by an advertising campaign to inform people that leprosy, like any other illness, can be treated at all health facilities.

Contrary to the expectation that quality of service would drop following integration, more cases are now detected and an extensive network of government doctors is able to diagnose, treat and manage leprosy patients more efficiently. The new case load rate has increased from 0.89/10,000 inhabitants in 2000 (1700 new cases) to 1.2 /10,000 in 2001 (2398). The prevalence has increased from 1,158 in 2000 (0.6/10,000 inhabitants) to 1,583 (0.8 per 10,000 inhabitants). These figures have been corrected for about 5 % of re-registration. Almost every district has registered an increase of case detection, though it was more significant in low endemic areas.

A few areas still need more attention, such as integrating MDT supplies within existing systems as well as improving the flow of information. The paper will focus primarily on the epidemiological impact of integration, experience with the flow of information and future plans to further simplify the system.

Integration has definitely brought treatment closer to patients throughout the country, and is paving the way for the sustainable elimination of leprosy.

PE 74

LA LEPRO EN CIUDAD DE LA HABANA, CUBA AÑO 1997-2001

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Se analiza la situación de la endemia de la lepra en Ciudad de la Habana, capital del país. Donde la detección de casos nuevos en el último lustro 1977-2001, ha ido descendiendo, como promedio se detectaron 48 casos nuevos en los primeros 5 años y 27 en los últimos cinco. La ciudad tiene una población de 2181395 hbtes, distribuidos en 15 municipios, siendo la Región Sur, (Arroyo Naranjo, 10 de Octubre y Boyeros) la de mayor detección y la Este (Cotorro) la más baja.

Finalizando 2001 con 34 enfermos y una tasa de prevalencia $0,2 \times 10^4$ habitantes, se reduce la tasa de 1993 en 4 puntos.

Las acciones del programa de control están descentralizadas e integradas en la Atención Primaria de Salud (APS), los enfermos y población en vigilancia son atendidos por medico y enfermera de la Familia, alcanzando a examinarse el 80.1% de la población total de riesgo.

En las estrategias actuales, Post eliminación hay sostenibilidad de las acciones, dirigidas fundamentalmente a la capacitación y desarrollo de recursos humanos (APS) y fortalecimiento del componente educativo del programa para lograr incrementar el diagnóstico precoz y la interrupción de la transmisión como objetivo final.

PE 75

LEPRA EN GUINEA ECUATORIAL. SITUACIÓN EPIDEMIOLÓGICA 1999-2001

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Tras tres años de trabajo colaborando con el Ministerio de Sanidad y Bienestar Social de Guinea Ecuatorial, se consigue un Censo de casos nuevos, en tratamiento y enfermos discapacitados. Se realiza una valoración por Distritos, tanto en la zona continental como en la zona insular, reflejando las características epidemiológica de los pacientes.

Se realiza una valoración comparativa con Censo de años anteriores.

Se recogen las principales características de los enfermos discapacitados, para lo cual se realiza una exploración neurológica simplificada.

PE 76

LEPROSY ELIMINATION PROGRAM: EPIDEMIOLOGICAL TREND IN EAST KALIMANTAN

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Objective: to study the epidemiological trend of leprosy in East Kalimantan province from 1990 to 2000.

Material and Method: data were obtained from compilation of regular quarterly reports in line to the operational definition of WHO.

Result: a total of 1254 cases detected during 1990 to 2000, in which 152 cases of them were children, accounting for 12.12% of all cases. For disability grade-2 of the WHO grading system, there were 230 of cases detected (18.34). For the clinical classification, 891 were MB (71.05%) and 363 were PB (28.95%). About 56.70% of cases were found through active case finding. At the end of the year 2000, the prevalence rate was 0.86 per 10000 with case detection rate of 5.54 per 100000 populations. The peak of prevalence (3.61 per 10000 population) was occurred in 1992 then decreased annually till 0.73 per 10000 populations in 1998 and then slightly increased (1.04 per 10000 populations) in 1999. Meanwhile, the peak of detection was occurred in 1992 (9.93 per 10000 populations), then decreased till at the lowest level (2.32 per 100000 population) in 1995. In 1996, the detection tends to increase and reach the second peak at 1999 (6.88 per 100000).

Conclusion: this study figured out that leprosy control in East Kalimantan province WHO target of elimination by year 2000 at provincial level, but at district level, there was uneven distribution. There were 5 of 12 district did not reach the target. The special effort should be addressed to reach elimination status at every district.

PE 77

LEPROSY ENDEMY CHARACTERIZATION IN UBERLÂNDIA-MINAS GERAIS, BRAZIL, 1996-2000

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Aiming to eliminate leprosy as a public health problem in Brazil until 2005, the SUS (Unique Health System) in each city, with the purpose of decentralization of leprosy's control actions, has the necessity of knowing the aggravation through operational and epidemiological indicators and prevalence estimates undetected, in order to plan new strategies and evaluate their results, respecting local and regional realities. To characterize the leprosy enemy and estimate the occult prevalence in Uberlândia, a retrospective analytic study was realized with a survey of 613 leprosy patient's records during the period from January, 1996 to December, 2000, by SINAN (Complaint's System of Information and Notification).

The results showed an occult prevalence estimative of 146 cases until 2000, increasing the official prevalence from 4,47/10.000 inhabitants to a real prevalence rate of 7,39/10.000 inhabitants. The sanitary districts with higher occult prevalence estimative also demonstrated an increase of the detection coefficient in people under 15 years old and coincided with those areas where predominated the old disease focus. With an identification of priority areas, technical and operational factors were listed as factors which prevent the leprosy control. Therefore, it's craved to touch the SUS managers in the city, in the direction of proposing a health policy which prioritizes the quality of assistance and its hierarchy by a resolute capacity consolidated in the health professional's competence and in the development of articulation and society mobilization mechanisms to eliminate leprosy until 2005.

PE 78

LEPROSY IN CHILDREN - A RETROSPECTIVE STUDY OF CHILD CASES DETECTED IN NORTH EASTERN SUBURBS OF GREATER MUMBAI FROM 1995 - 2001

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Early detection of large number of child leprosy cases is one of the significant indicators of the continued presence of leprosy infection in a given geographical region. This study is based on the data of child leprosy cases detected over a five year period (1995 to 2001) at ALERT-INDIA's urban leprosy control projects in North Eastern suburbs of Mumbai.

The cases were studied from the epidemiological and clinical aspects as well. Case detection was initially done through School Surveys and Mass Surveys. As high as 36% were child leprosy cases. Follow-up ex-

amination of the family contacts of these children revealed that sizeable number of them were members of multiple leprosy case families.

Critical analysis of the data confirms the persistence of the chain of transmission as a primary factor leading to the appearance of new cases in the community.

PE 79

LEPROSY SITUATION IN ENDEMIC STATES OF INDIA AT THE THRESHOLD OF ELIMINATION

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Although there is no reduction of NCDR in India, there is a significant reduction observed in two endemic states of Andhra Pradesh and Tamil Nadu. The ratio of PR and NCDR is declining and reveals at the elimination could be reached even when NCDR is at the higher level i.e. 4 to 5 per 10000 population with SSL proportion among new cases above 50%.

The significant number of cases detected in Bihar and Orissa during MLEC reveals that the lacunae in operational activities of new detection would result in a large number of undetected cases in the community. The voluntary reporting hovering about one – third only. This underscores the need for relying on active case detection for breaking the transmission, so has to achieve sustained elimination of leprosy.

The influence of socio-economic factor on continued occurrence of leprosy could not be ruled out. One of the reasons for the failure of models that projected the decline of leprosy by 2000 A.D. could be due to exclusion of economic status and health care seeking status as contributory factors.

The operation efficiency should be ensured by complementing NLEP with Health Management Information System (HMIS) at State/National level (Macro) and at selected district level (Micro) to gain in-depth knowledge of leprosy parameters especially on double entry / recycling of case.

In view of this situation, NLEP should adopt a more realistic approach for declaring the attainment of elimination level.

PE 80

NEMATÓIDES INTESTINAIS: AUMENTO DO RISCO PARA HANSENÍASE MULTIBACILAR?

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Introdução: Os nematóides intestinais induzem uma imunomodulação no hospedeiro caracterizada por predomínio da ativação de células Th2 e redução de algumas atividades das células Th1, o que pode interferir no curso de outras doenças, como na hanseníase, que para evolução benigna depende do estímulo da resposta Th1.

Objetivos: Estudo caso-controle para verificar a presença de nematóides intestinais em pacientes portadores de hanseníase atendidos em um centro de saúde.

Pacientes e métodos: Revisão de prontuários de 477 pacientes portadores de hanseníase com anotação de um resultado de exame parasitológico de fezes. Como controles: prontuários de 470 pacientes atendidos no mesmo posto, período e faixa etária, sem hanseníase, e com um resultado de exame parasitológico de fezes.

Resultados: A frequência de nematóides intestinais foi maior nos pacientes com hanseníase do que nos controles, porém a diferença estatisticamente significativa foi quando comparamos as formas multibacilares com as paucibacilares e os controles.

Conclusões: Os resultados sugerem uma associação significativa entre a presença de nematóides intestinais e as formas multibacilares da hanseníase, talvez possibilitando uma imunomodulação exercida pelos parasitas intestinais, favorecendo a progressão da hanseníase para as formas multibacilares.

PE 81

NON-CONDITIONAL LOGISTIC REGRESSION ANALYSIS OF RISK FACTORS ON DISABILITIES OF LEPROSY

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Objective Analysis of factors impacting on the disability of leprosy and provide the scientific basis for formulating the preventive strategies.

Methods Based upon the individual records of the living leprosy cases were collected by local leprosy workers of Liaoning, using non-conditional logistic regression analysis model to analysis effective factors on disability of leprosy.

Results the results of single factor non-conditional logistic regression analysis are: leprosy type, marriage, education, native place, standard of living, the reaction. The results of multiple factor non-

conditional logistic regression analysis are: native place, standard of living, the reaction, leprosy type.

Conclusion the reaction, leprosy type, native place, standard of living, can significantly effect the disability of leprosy. It is very effective to prevent the disability of leprosy through controlling the reaction, treating the patient in time, made their life rich and increasing the standard of living to made economical rehabilitation.

[Key words] Leprosy Disability non-conditional logistic regression analysis

PE 82

PERFIL DA HANSENÍASE EM ALFENAS (MG)

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Os autores apresentam um estudo retrospectivo de 100 pacientes ingressos no Serviço de Hanseníase da S.M.S. de Alfenas (MG) no período de outubro de 1997 a maio de 2001. Tal estudo mostra a característica da hanseníase nesta região do estado de Minas Gerais, tais como incidência de homens 58% sobre 42% de mulheres e adultos 96% sobre 4% de crianças menores de 15 anos de idade. Nosso estudo mostra também outros dados epidemiológicos como a média baciloscópica, exames complementares, esquemas terapêuticos empregados e reações como eritema nodoso e neurite.

Motivo da Apresentação: Demonstração de que pequenos serviços públicos, com grandes esforços, estão fazendo para a eliminação da hanseníase em Minas Gerais.

PE 83

PERFIL DO DOENTE DE HANSENÍASE NO MUNICÍPIO DE JOÃO PESSOA - PB

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O presente trabalho descreve um estudo exploratório descritivo com abordagem quantitativa, realizado em João Pessoa, entre Abril e Maio de 2000, com o objetivo de traçar o perfil do doente de Hanseníase no município estudado. A amostra foi coletada a partir de 101 prontuários de caso notificados em pacientes no ano 1999, no Hospital Clementino Fraga. O estudo evidenciou que no município estudado os homens adoececem mais de Hanseníase do que as mulheres, com uma percentagem de 54% e 46% respectivamente,

atingindo mais os casados com 54% e em seguida os solteiros com 41%; já os viúvos com 5%. Considerando o parâmetro grau de instrução, verificou-se que 50% dos pacientes da amostra estudada, possuíam o nível fundamental, bem como, com relação a faixa etária, os resultados revelam um índice altíssimo na população entre 25 e 60 anos com mais de 60% dos casos. Quanto aos bairros mais atingidos, a relação com a doença pesquisada é equitativa, a exceção dos bairros do Cristo Redentor, Mangabeira e Centro.

PE 84

PERFIL EPIDEMIOLÓGICO DA HANSENÍASE

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Em um total de 878 casos novos detectados pelo serviço em 2001, 82 (8,8 %) tinham menos de 18 anos; 305 (34,7 %) tinham entre 18 e 38 anos; 377 (42,9 %) tinham entre 39 e 65 anos; e 114 (13,6 %) tinham mais de 65 anos de idade. Quanto à forma clínica, 41 (4,6 %) eram indeterminadas (I); 234 (26,6 %) eram tuberculóides (T); 452 (51,4 %) eram dimorfas (D); 148 (16,8 %) eram virchowianas (V); e 3 (0,3 %) não especificadas. Quanto ao grau de incapacidade, 452 (51,5 %) tinham grau zero; 151 (17,2%) tinham grau I; 47 (5,4 %) tinham grau II; e 228 (26 %) tinham grau de incapacidade física não-avaliado. Quanto à baciloscopia, 345 (39,3 %) foram positivos; 500 (57 %) foram negativos; e 33 (3,7 %) foram não especificados

PE 85

PERFIL EPIDEMIOLÓGICO DA HANSENÍASE NO MUNICÍPIO DE TAUBATÉ – SP NO ANO DE 1999

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O Brasil ocupa o segundo lugar do mundo em número absoluto de casos de Hanseníase. Em reunião promovida pela O.M.S., em 1999, o Brasil assumiu novo compromisso de reduzir os coeficientes de prevalência a níveis inferiores a um paciente em cada 10000 habitantes até o final de 2005.

Avaliou-se, retrospectivamente, a situação epidemiológica e operacional do controle da Hanseníase no Município de Taubaté – SP no ano de 1999.

Detectou-se coeficiente médio de prevalência (3,24 / 10000 habitantes) e alto coeficiente de detecção anual de casos novos para o ano de 1999 (1,27 / 10000 habitantes). Cerca de 83,50% eram formas multibacilares e o esquema terapêutico predominante foi o da Poliquimioterapia em 80,03% dos pacientes. Dos que receberam alta por cura e foram avaliados quanto à incapacidade, 20,83% apresentaram graus II e III da mesma.

É proposto o atendimento pelas U.B.S., por estarem mais próximas da comunidade, oferecendo oportunidade de diagnóstico precoce e tratamento para todos os doentes. Encaminhamento a serviços de nível secundário e terciário seria feito para detecção diagnóstica mais apurada e na ocorrência de complicações.

PE 86

PRELIMINARY STUDY OF LEPROSY AMONG BRAZILIAN JAPANESE ORIGIN PEOPLE, IN SÃO PAULO, PARANA (BRASIL) AND LEPROSY RESEARCH CENTER (NIID) – JAPAN

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In the 90's decade, the emigration of Brazilian of Japanese origin people to Japan, in order to work, has been in large number, netting 250,000 persons in the year 2000. It is a question of some concern, considering that Brazil is a leprosy high endemic country and Japan is considered a residual endemic country of leprosy. According to the Leprosy Research Center data, 56 new cases were diagnosed in Japan among Japanese people since 1993 up to 2000, including Okinawa Islands. In the same period of time, 75 new cases were detected among foreign persons and among them 33 were Brazilians. In Japan the notification is made without case identification, so it is impossible to find out if these cases are also in Brazilian Files. In order to measure the actual magnitude of the leprosy among the Brazilian people of Japanese origin in Brazil, a search was performed in São Paulo and Paraná States. These two states probably have the most of Japanese origin people living and may provide the most of emigrants to Japan, also. In the São Paulo State Surveillance System, three different files were searched, to cover the period since 1982 up to 2000 (19 years). Those informations are not easily accessible and it demanded a lot of manual work. After all, 578 notified cases were founded and 533 of them were new cases. An annual notified average of 28.05 new cases. The clinical

classification was: 118 indeterminate, 147 tuberculoïd, 68 borderline, 140 lepromatous and 60 none classified. The information of Paraná State was accessed using the SINAN –DOS data file, which has 202 cases recorded since 1954 up to 2000. The clinical classification was: 38 indeterminate, 65 tuberculoïd, 26 borderline, 71 lepromatous and 2 non classified. The coefficients were not calculated because the data about the number of Japanese descendants is not reliable. More details of this study will be presented during the Congress. The authors intend to continue with the search in order to know more about the transmission among these people in spite of the low number of cases (less than 1% of the total files researched). The problem exists and it seems to be worthy of more studies.

[**Key words**] – leprosy, surveillance system

PE 87

PREVALÊNCIA OCULTA DA HANSENÍASE NA DIRETORIA DE SAÚDE DE BELO HORIZONTE

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Esta investigação teve como objetivo analisar a prevalência da hanseníase na Diretoria Regional de Saúde de Belo Horizonte (DRS-BH), no período de 1995 a 1999. Trata-se de estudo epidemiológico, descritivo, que utilizou dados das fichas de notificação dos casos residentes na DRS-BH. As taxas de prevalência e detecção tem sofrido queda nos últimos anos, o que poderia significar uma tendência declinante da doença; entretanto, deve-se analisar se não se trata de problemas operacionais na detecção de casos novos, já que observamos que há uma prevalência oculta da hanseníase nos municípios da DRS-BH, sendo significativa em Belo Horizonte, Betim, Contagem e Santa Luzia; com estimativa, nos últimos 5 anos, de 247, 105, 82 e 58 casos, respectivamente. Os 492 casos que deixaram de ser diagnosticados são responsáveis por 82% da prevalência oculta da DRS-BH. O alto percentual de casos notificados com grau de incapacidade confirma que há prevalência oculta na região e que o diagnóstico está sendo tardio, podendo comprometer as metas de eliminação da hanseníase como problema de saúde pública, sendo necessário, intensificar as ações de controle, especialmente, exame de contatos.

PE 88

PROGRESS ON FIELD TREATMENT OF REACTION IN NORTHEASTERN STATES OF NIGERIA

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Efforts of the National Tuberculosis and Leprosy Control Programme in Nigeria (NTBLCP) and the Non-Governmental Organization (NGO) have resulted in a dramatic reduction in the registered prevalence 0.8 per 10,000 in 2001. Despite this achievement, leprosy remains a public health problem due to the back load of disabled ex-patients and stable Case Detection Rate (CDR) 0.7 per 10,000 over the last five years. Disability grade 2 among new patients is more than 10%.

Complications of leprosy (reactions and nerve damage) remain the most important causes of impairment and disability in Nigeria. It was the policy that all patients with reactions be referred to the referral hospital. Due to distance and other personal reasons, most patients when referred do not arrive at the hospital. It is well documented that about 15 – 30% of leprosy registered for MDT treatment develop reactions leading to nerve impairment or disability. No study has been carried out to ascertain the level of reactions in the field in 13 Northern states of Nigeria. It is also well documented that majority of patients who develop nerve function impairment after registration do so in the first year (about 80% reported in Indonesia and 67 – 91% in Bangladesh). As a result of the problems encounter by the patients and the field programme, the policy of treating reaction patients only in the hospitals was changed and field treatment of patients with steroid was started in 1998. This is aimed at making steroid treatment more accessible to patients.

The objective of this paper is, to access the actual magnitude of reactions in the field, to determine the actual number of patients who started steroid treatment and completed according to the standard guideline, to identify problems encounter with implementation of the field treatment with steroids, to make recommendations on ways of improving field treatment with steroids.

The method used in the study was the evaluation of reports received from the field, quarterly reports sent to the office by the programme officers, interviews with some leprosy control staff and Primary Health Care staff on their experiences.

In the period under study (1998 –2000), 13,148 new patients were treated with MDT out of which 581 patients were treated in the field with steroids. Of the total patients reported, 62% were males and 38% were females. Out of the 581 patients that were treated with steroids, treatment results were obtained for only for 499 patients showing 459 (91%) had their condition improved with steroids (reactions subsided or disability reversed) while 40 (9%) had their condition remain the same or had their condition deteriorated. Those who deteriorated were referred to the referral hospital for further management

by the Medical Officer. Out of the results analysed, 201 (40%) were females and 298 (60%) were males. Treatment completion and improvement in condition was better with the females (95%) than the males (83.9%).

PE 89

PROGRESS TOWARDS SUB-NATIONAL LEP-ROSY ELIMINATION, BANGLADESH

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Bangladesh has made considerable progress in achieving the goal towards elimination of leprosy at National level. At the end of December 1998, the registered prevalence of the country for the first time fall below 1/10,000 population and become 0.87 and further declined to 0.66 at the end of December 2001. Virtually Bangladesh have achieved the goal of elimination of leprosy at National level two years ahead of WHO target date. One of the major indicators of efficiency of case finding, the visible deformity/disability rate declined from 21.40% in 1993, 7% at the end of December 2001.

Eight NGOs are assisting the Government in MDT implementation in 29 districts (231 upazilas) of the country and has created an exemplary partnership record, where the resources from the Government and NGOs are pooled and optimally utilized. The NGO collaborative areas are endemic and contribute over 80% of the country caseload at any point of time. From 1985 to December 2001 a total of 130555 cases have completed MDT and declared cured. As of end of December 2001, 8540 cases are under treatment and the estimated prevalence of leprosy is about 12,000. The gap between the estimated and registered cases has reduced and is expected to reduce further each year.

Leprosy is not evenly distributed in Bangladesh in conformity with world pattern. The leprosy endemicity varies widely within the country. Eight (8) northern districts of Rajshahi division, two metros - Dhaka and Chittagong and 2 (two) district of Chittagong division - total 12 (twelve) areas contributing over 70% of the total cases and still having prevalence >1/10,000 population. After achieving the elimination goal at National level the major attention of NLEP is to achieve elimination at sub-national level. More details including strategic plan 2002 - 2003 will be presented

PE 90

"REACHING THE UN-REACHED" IN RANDOMLY SELECTED URBAN AREAS OF ORISSA - A STRATEGIC INTERVENTION BASED COMMUNITY PARTNERSHIP

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Introduction: Orissa is situated along the east coast of India with a population of 36.7 million with 13% urban population. Leprosy elimination looks nearly achieved in Orissa. But if we analyze leprosy elimination parameters for the urban segments, it seems highly improbable to achieve this. This is because the PR in urban areas is roughly double (13.7/10000) the over all PR of the state (6.9/10000); This could be due to inadequate health infrastructure at grass root level to address the health issues in rapidly growing urban and peri-urban slums; lack of coordination between available service providers and systems. This needs timely interventions.

Objective:

- To reach the un-reached population involving decision makers, health providers and community leaders and other allied players working in developmental sectors to facilitate leprosy elimination process.

Strategy:

- Team (consensus) building of all players and partners to gain their commitment and enhance level of motivation.
- Capacity building of all health providers.
- Sensitization of key players.
- Door to door search with community participation.
- Strengthening the institutional capacity of health facilities to promote voluntary reporting and integrated MIS.
- Follow for six months.

Activities and Process:

- Identification and interaction with all the major stakeholders have been done in five urban areas.
- Team building workshops have been conducted in three urban areas and other activities are in progress in remaining areas.

Conclusion:

- Preliminary results show very good participation from decision makers, health providers and other players including community leaders.

- This approach will definitely help us to reach the under privileged sections of the community.
- Replication will be possible after impact assessment.

PE 91

RECIDIVAS NO CENTRO DE REFERÊNCIA DE ESPECIALIDADES METROPOLITANO NO PERÍODO DE JAN/99 A FEV/02 – CURITIBA/PR

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A recidiva nos pacientes de hanseníase é motivo de preocupação entre as equipes de saúde, especialmente quando corresponde a 10% dos casos cadastrados no período. O objetivo deste levantamento é fazer o diagnóstico dos casos de recidiva a partir de janeiro de 1999 até fevereiro de 2002 através da revisão dos prontuários, tendo sido compiladas as informações sobre tempo decorrido entre a alta e o 2º cadastro, tratamento prévio, grau de incapacidade e situação dos comunicantes. Não houve diferença quanto a sexo, o tempo médio decorrido entre a alta e o novo cadastro foi de 5 anos, o grau de incapacidade avaliado como II e III correspondeu a 21,87% no 1º tratamento e 18,75% no 2º, a média de comunicantes por paciente foi de 3,06, dos quais 69,38% foram examinados. Dos 11 casos que receberam PQB PB previamente, 9 foram classificados erroneamente 1 recebeu ROM e foi insuficiente e 1 foi indevido.

Das 21 formas MB, 19 apresentaram IB em um sítio = ou > 2 e/ou atividade clínica

e/ou EM ou EM persistentes, 2 não tinham justificativa para o tratamento A conclusão demonstra diagnóstico tardio, com GI alto no 1º cadastro e evolução para médio no 2º e que num universo de 309 casos novos cadastrados 32 foram por recidiva e dos quais somente 3 não se encaixariam nos critérios preconizados.

PE 92

REDIRECIONANDO ESTRATÉGIAS: META - A ELIMINAÇÃO DA HANSENÍASE NO MUNICÍPIO DE PIMENTA BUENO – RO

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Secretaria Municipal de Saúde de Pimenta Bueno – RO

Introdução – O município de Pimenta Bueno está localizado ao longo da rodovia Br 364, estado de

Rondônia sendo considerado hiperendêmico para hanseníase, segundo critérios da OMS, com prevalência de 38,18/10000 hab. e 44,42/1000 hab. de detecção no ano de 1996, quando houve então priorização pelo gestor local com ações específicas para a sua eliminação.

Objetivo: Este trabalho tem como objetivo a reflexão da importância do envolvimento do gestor municipal para a Eliminação da Hanseníase, realizando ações simples.

Materiais e Métodos: Estudo dos indicadores epidemiológicos dos anos de 1996 a 2000, relacionando-os as ações desencadeadas pela equipe municipal durante o mesmo período, as fontes são dados da Coordenação Estadual, Secretaria Municipal de Saúde Gerência Municipal do Programa.

Discussão: Durante o período de 1996 a 2000, o município de Pimenta Bueno desencadeou ações estratégicas como treinamentos para guardas de enfermias, profissionais de saúde de vários setores, líderes comunitários, agentes do PACS/PSF, agentes de saúde escolar, agentes de saúde rurais e outros, tendo como meta a eliminação da hanseníase.

Resultados: Contribuir com a experiência, despertando gestores e gerentes municipais para implementação de ações viáveis em nível Municipal, redirecionando serviços e estratégias para atingir a eliminação da hanseníase.

Conclusão: A determinação política do gestor municipal em eliminar a hanseníase é fator essencial, pois buscando estratégias baseadas na realidade local, reduzimos a prevalência para 12,63/10000 hab. a detecção para 11,69/1000 hab. no ano de 2000, ainda muito longe do almejado mas visualizando um caminho a ser trilhado, juntos, dirigentes e população.

PE 93

RESEARCH OF LEPROSY SPREADING AND CONTROL IN CHINESE WHITE-TROUSERS YAO NATIONALITY

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The White-trousers Yao Nationality is one of the branches of the Yao nationality in South China. They mainly live in Lihu, Baxu of Nandan County and in Bagong of Hechi, Guangxi province and also in Yao Mountains of Libo County, Guizhou province. This

nationality has its own original language, habits and customs. They never marry out and completely keep the features of its tribal history.

Leprosy has been so popular in the White-trousers Yao nationality that it has made Nandan the third most popular county in leprosy in Guangxi province. In order to make a research on the spreading law of leprosy and the characteristics of its prophylaxes and cure in this nationality, we have had the research data of leprosy epidemiology in the White-trousers Yao nationality counted and analyzed. As a result, we found 364 cases of leprosy among the 290 thousand total White-trousers population, and the case rate of accumulation was 13.25%. That's 8 times higher than other nationalities in the same areas.

The incidence of this disease in the most serious years (1952-1956) was 129.15 cases in 100 thousand people. The disease was distributed over a large area. There were lepers in 130 villages of the White-trousers Yao nationality (its total villages were 268) and the rate in other national villages was 48.51%. But the rate in other national villages was 9.56%. The incidence of the disease of families was very high, coming to 5.77%. While other national villages was 0.59%. There were 61 families which had more than two lepers, which made up 22.34% of the total leper families, while other national families 11.25%. The female sex suffered from the disease more often than the male sex and the rate was ten to one (other nationality was three to zero point two). We have also found that the period of illness was long, on an average of 6.24 years, while the Zhuang nationality was 4.49 years. Therefore it had evident national spreading traits. Analyzing through the grey-model relation finds that the related degree is the highest in the consanguineous marriages and it is believed that a closed marriage of the same clan probably leads to the increase of the leprosy susceptible gene. Besides the housing conditions of the White-trousers Yao nationality, their life, economy, culture and sanitation are poor. So it is very hard to reach the prevention and cure of leprosy and result in this disease spreading quickly, far and wide. Although we have taken active measures to prevent and treat it, the result is still not satisfied and even the spreading tendency of the disease is upward again and again. The clothing customs of white-trousers Yao nationality make their skin exposed outside too much and this makes it easier to be infected by the disease and it will also increase the rate of the female's suffering from the disease. According to the dynamic calculation through the grey model instrument, it will take about 40 years to reach the aim of wiping out leprosy in the White-trousers Yao nationality.

[Key words] the White-trousers Yao Nationality, Leprosy Spreading and Control

PE 94

RESULTS AND LONG -TERM IMPACT OF LEC – HODEIDAH (YEMEN)

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Leprosy elimination Campaign (LEC) was implemented from 15th Nov'97 to 3rd May'98, in 22 districts of Hodeidah province in Yemen, which is an endemic governorate in Yemen which is known as a low endemic country. The Campaign was concentrated on the Health Education, Intensive Community Mobilization and training the local health personnel to detect hidden Leprosy cases. During the period of 11 weeks, 276 cases of leprosy were detected and placed on MDT. 192 (70 %) of new cases detected and they confirmed as Leprosy cases classified as MB and the remaining 84 were PB. 69 cases (25%) suffered by visible deformities and 22 patients (8%) were children.

Follow up made in December'99 the patients, who were placed on MDT revealed (93% and 92%) cure rates for both MB and PB cases respectively.

PE 95

REVERSAL REACTIONS – PARAMETERS CLINICAL AND EPIDEMIOLOGICAL ASSOCIATED TO ITS OCCURRENCE

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Background: the study discusses the clinical and epidemiological parameters associated to the occurrence of reversal reactions in patients undergoing multibacillary therapy. Subject and Methods: the authors present forty-two patients with multibacillary disease treated with twenty-four doses of PQT-WHO at the Souza Araújo Outpatient Unit of FIOCRUZ from January of 1986 to January of 1991. They had clinical, dermatological, neurological and histopathological examination, bacillary index (BI) and lepromin skin testing. All of them had no prior treatment and where classified as primary cases.

Results: there were thirty-two male patients (76%) and ten females (24%), a sex ratio was approximately 3:1. Seventy-four percent were between sec-

ond and sixth decades. Twenty five patients (60%) were classified as borderline-borderline (BB), fourteen patients (33%) as borderline-lepromatous (BL) and three patients (7%) as lepromatous-lepromatous form (LL). Thirty-three percent had BI under 3+ while twenty-six percent had BI up to 3+. Clinically, in twenty-eight patients (67%) there were multiple lesions at the diagnostic time. In seventy-two percent of patients the reversal reactions started until the first six months of specific treatment. Forty-two percent of patients presented several episodes. Approximately fifty percent of newly diagnosed patients had no chronic disability. Commentaries: the reversal reaction is an important medical problem due to the risk of permanent damage, which impose a health and economic burden particularly in developing countries like Brazil. For this reason is of fundamental importance to dermatologists to know the clinical and epidemiological parameters, the immunopathogenic mechanisms and the correct medical management of these cases.

PE 96

SELF-ERADICATION OF LEPROSY?

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The study investigates epidemiological prerequisites for the 'endemic fading-out' of a contagious disease and applies these findings to the particular features of leprosy. It identifies the 'basic reproductive rate' of an infection, the duration of latency and infectiousness, the life expectation and the size of the host population as factors determining the number of both latent and infectious infections in this population. It intends to demonstrate that once one single index case is given, leprosy can survive in an isolated population of approximately 30 persons only. It is concluded that the 'endemic fading-out' of a contagious disease does not depend on its prevalence, but either on the basic reproductive rate or on the host population size. If the reproductive rate is smaller than 1 (e.g. due to the decreasing susceptibility of the host population), or if a minimum population size for continuous transmission is not given, the disease will eventually 'fade out'. As long as this rate is above the value of 1, leprosy can – due to its lasting infectiousness – survive in extremely small host populations.

PE 97

SENSITIVITY AND SPECIFICITY OF THE W.H.O OPERATIONAL CLASSIFICATION BASED ON NUMBER OF SKIN LESIONS

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The WHO Study Group on Chemotherapy of Leprosy Committee in 1993 concluded that approaches based on clinical classification may be required where reliable facilities for the bacteriological examination of skin smears are not available or reliable. The Committee recommended that leprosy patients be classified according to the number of skin lesions, into pauci-bacillary leprosy (2-5 skin lesions) and multi-bacillary (more than 5 skin lesions). However, the sensitivity and specificity of classification based solely on the number of skin lesions, using skin smear positive patients as a gold standard has not been reported.

The Schieffelin Leprosy Research and Training Center has been carrying out leprosy control activities in Gudiyatham Taluk since 1962 as part of the NLEP. Using data from the control area, the sensitivity and specificity of operational classification based on number of patches was studied, using skin smear as the gold standard. The sensitivity of classifying five and above lesions as multi-bacillary leprosy is 97.0 % while the specificity is 52.2 %. The positive predictive value is 32.3 % and the negative predictive value is 98.6 %. The ROC curve shows that a cut-off of five lesions is the best option. The WHO criterion for operational classification of leprosy based on number of patches seems vindicated. The effect of including additional clinical signs such as size of the largest lesion or nerve trunk involvement on the sensitivity and specificity of the operational classification will be reported.

PE 98

SERO-PREVALENCE RATES OF ANTIBODIES TO PHENOLIC GLYCOLIPID-I BY ELISA AMONG WILD NINE BANDED ARMADILLOS (*Dasypus novemcinctus*) IN ESPIRITO SANTO STATE – BRAZIL

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Introduction and purpose: The human being has, for a long time, been considered the only reservoir of *Micobacterium leprae*. However, the armadillo infection, *Dasypus novemcinctus* species, was first reported in 1975 and natural transmission among armadillos in the southern parts of the United States has been described by Walsh and co-workers. Truman and co-workers found IgM antibodies to the PGL-I antigens of *M. leprae* in 16% of the armadillos from Louisiana and Texas. In the Brazil, natural infection of *M. leprae* in armadillos wasn't reported.

The enzyme-linked immunosorbent assay (ELISA) test detect PGL-I antibodies is a useful tool confirm the diagnosis of leprosy. We analysed the natural infection with *M. leprae* in wild nine-banded armadillos, *Dasypus novemcinctus*, from hyperendemic leprosy area of Brazil, Espírito Santo State.

Methods: We analysed forty-seven armadillos captured from wild by hunter. Those animals were anesthetized and collected the blood by intracardiac puncture. The ELISA was performed for IgM antibodies to PGL-I antigen of *M. leprae*. The pre-coated plates and the others reagents were given from Royal Tropical Institute in Amsterdam. The cut-off value for positivity was an OD of 0.200.

Results: Were captured armadillos from country area of 6 cities of Espírito Santo State. The weight ranged between 350-5200g. The armadillo's sex, 24 were male and 23 were female. In 47 animals, antibodies anti PGL-I were detected in 5 (10,6%) animals by ELISA method.

Conclusion: It is known now that about 10,6% of the armadillos from Espírito Santo State were *M. leprae* carrier. The discovery of *M. leprae* in the wild armadillo has not only raised many question about the transmission and host range of leprosy, but identified a possible public health risk.

PE 99

SERUM ZINC LEVEL AND ZINC INTAKE IN NON-REACTIONAL LEPROSY PATIENTS

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A case control study was performed on 56 leprosy patients and 56 controls, aged 15-59 years, during January until August 1999. The objectives were to describe variability of serum zinc level and dietary zinc intake in nonreactional leprosy patients compared with the controls, and to find out whether there was a correlation between serum zinc level and dietary zinc intake by nonreactional leprosy patients.

Serum zinc level was estimated by *Atomic Absorption Spectrophotometry* and dietary zinc intake was estimated by *Food Frequency Questionnaire*. The mean of zinc serum level in nonreactional leprosy patients was significantly lower than the controls and the mean of zinc serum level in multibacillary leprosy patients was also lower than paucibacillary which was statistically significant. Dietary zinc intake of nonreactional leprosy patients appeared lower than their controls ($p = 0.008$). There was no correlation between zinc serum level and dietary zinc intake on nonreactional leprosy patients.

PE 100

SITUAÇÃO DA CICATRIZ VACINAL DE BCG-ID EM PACIENTES DE HANSENÍASE

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No período 2000-2001 a Gerência do Programa de Controle de Hanseníase da Secretaria Municipal de Saúde do Rio de Janeiro implantou na ficha de investigação de casos novos a inclusão do dado: presença/ausência de cicatriz vacinal BCG-ID.

Foram analisadas as notificações de 2001 em relação ao registro de presença ou ausência de cicatriz vacinal considerando faixas etárias e formas paucibacilares (PB) e multibacilares (MB).

Registros de presença de cicatriz vacinal foram detectados em 213 casos PB e em 114 casos MB e registros de ausência de cicatriz em 222 casos PB e 251 casos MB. Efeito protetor da vacinação contra formas multibacilares foi evidenciada na análise multivariada: OR= 2,11(IC:1,56-2,86).

PE 101

SITUAÇÃO DE CONTROLE DA HANSENÍASE EM ÁREA URBANA DE DESCENTRALIZAÇÃO DAS ATIVIDADES DE CONTROLE

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São avaliados resultados de intervenção na Área de Planejamento 5.3 do município do Rio de Janeiro, a partir do final de 1995, realizadas com o objetivo de melhorar o acesso da população ao diagnóstico e tratamento da hanseníase. Com população estimada de 313 390 habitantes em 2001, o nível sócio-econômico da população situa-se entre os mais baixos do município. Até 1995, apenas uma das 14 UBS realizava o Programa. Registra-se como principais investimentos, o aumento da oferta de consultas, a descentralização das atividades de diagnóstico e tratamento, alcançando 9 UBS em 2001, capacitação continuada de profissionais, inquérito sobre mancha na pele aos que demandam as UBS, e divulgação periódica de informação sobre hanseníase para a população. O déficit e a rotatividade de pessoal representam sérios obstáculos à expansão das atividades de controle.

Comparando-se os períodos de 1990 a 1995, anterior à intervenção, com o período de 1996 a 2001, observou-se um aumento do total de novos casos detectados, com variação proporcional relativa de 89,5 %; a razão H/M variou de 1,12 a 0,82; a proporção de casos MB, de 53 a 46%, sem redução significativa entre os homens; a média dos coeficientes de detecção e em menores de 15 anos variou de 2,63 a 4,73 /10 000 habitantes, e de 0,84 a 1,94/10 000 habitantes, respectivamente; a proporção de novos casos sem incapacidades físicas permaneceu praticamente inalterada, variando de 88,7 a 88,3%, enquanto a proporção de deformidades físicas caiu de 5,2 para 3,5%. Entre os homens, esta proporção caiu de 8,3 para 5,6% e entre as mulheres, de 1,9 para 1,8%. Os coeficientes de prevalência mostraram queda progressiva, alcançando 3,66/ 10 000 habitantes em 2000; neste ano o abandono na prevalência do período foi de 6,4%.

Conclui-se que é necessário intensificar investimentos na área, ressaltando-se a importância de se aplicar estratégias visando ao aumento da oportunidade diagnóstica para os homens.

PE 102

SITUAÇÃO EPIDEMIOLÓGICA E CLÍNICA DA HANSENÍASE EM MENORES DE 15 ANOS EM TRÊS MUNICÍPIOS DE MINAS GERAIS - BRASIL DE 1996 A 2000

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Introdução: Foram estudados os aspectos epidemiológicos e clínicos dos casos de Hanseníase menores de 15 anos diagnosticados de 1996 a 2000, em 3 municípios hiperendêmicos, de diferentes portes em Minas Gerais. Foram identificados os casos de Governador Valadares (231.875 Hab.), Paracatu (74.637 Hab.) e Itamogi (10.238 Hab.) e levantados aspectos relacionados a sexo, idade, forma clínica, grau de incapacidade, reações e/ou neurites durante o tratamento e vigilância de contatos.

Resultados: Foram estudados 174 casos de Hanseníase < 15 anos, 56% do sexo feminino, a menor idade foi 2 anos, 68% entre 9 e 14 anos e, 54% Paucibacilares. Moravam com os pais 99% das crianças; 90% estudavam e 2 crianças trabalhavam fora. O Grau de incapacidade foi avaliado no diagnóstico em 99% dos casos (92% grau 0) e na alta em 94% (89% grau 0). Reações e/ou neurites durante o tratamento foram observadas em 12 crianças (7%) e a ocorrência pós-alta em 6 (3%). Exame de Contato foi o principal modo de descoberta (43%). A fonte provável de Contágio foi identificada em apenas 53%.

Conclusão: Um caso de Hanseníase em criança deve ser considerado um evento sentinela capaz de desencadear ações efetivas de investigação da fonte de contágio, como também ações educativas intensivas incluindo as escolas, como veículo de informação para os familiares.

PE 103

SITUAÇÃO EPIDEMIOLÓGICA E ESTIMATIVA DA PREVALÊNCIA OCULTA DE HANSENÍASE NO DISTRITO FEDERAL EM 2000

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Durante os anos de 1996 a 2000 foram desenvolvidas várias atividades de capacitação em ações básicas de controle da hanseníase e sensibilizações com o objetivo de atingir a taxa de prevalência de 1 caso por 10.000 habitantes em 2002.

Em 2001 realizou-se um estudo retrospectivo comparativo de 1996 a 2000 para avaliar a situação epidemiológica do DF. Neste estudo foi observado um índice de detecção de 323 casos novos e uma prevalência oculta de 119 casos.

Concluindo, foi proposto uma intensificação das ações de educação e sensibilização com o objetivo de aproximar ao máximo da taxa de prevalência estabelecida para 2002.

PE 104

SITUACIÓN EPIDEMIOLÓGICA LEPRO 2 MUNICIPIOS DE NICARAGUA

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Se recoge la situación epidemiológica de esta enfermedad en 2 municipios de Nicaragua, San Francisco Libre y Chinandenga. Observamos la muy alta casuística entre niños menores de 14 años y la muy alta frecuencia de Formas Paucibacilares.

Destacamos el importante trabajo para el control y prevención de discapacidades de los promotores de salud.

PE 105**STRATEGIES OF LEPROSY CONTROL USED IN LOW ENDEMIC SITUATIONS IN GUANGDONG PROVINCE**

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The number of the total registered leprosy patients in Guangdong province is 94,667. It ranks the first in china. The highest annual prevalence rate is 1.14%. Guangdong was once the high endemic area FCR leprosy. In 1999, there were only 370 active patients; the prevalence rate decreased to 0.005%. Guangdong has become a low endemic area for this past five years. However, there are still about 130 active patients appeared every year and the number decreased slowly. The following measures are taken under the low endemic situations to maintain the achievement of leprosy control: to lay stress on the key points and provide different directions to different areas; to implement special action programmers in the high endemic areas; to strengthen the surveillance for the floating population and the management of leprosy patients; to establish a system of rewards for the early case-finding and the use of MDT; to strengthen the training of paramedical workers of the leprosy prevention nets; to widely launch leprosy knowledge propaganda and health education. We have gained much experience in the work and the achievements of leprosy control are solidified.

PE 106**STUDIES ON EPIDEMIOLOGY OF LEPROSY FOR 50 YEARS IN GANSU PROVINCE**Qiu Yao Wen, Wu Deqiang, Cai Junfang, *et al.*

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Objective: To study epidemiological trends of leprosy for 50 years in Gansu Province.

Methods: Epidemiological indicators and their trends were analyzed.

Results: By the end of 1998, a total of 4773 leprosy cases had been detected in Gansu province, of which 77.76% distributed in 24 counties in Longnan, Gannan and Linxia prefectures, and 3507 cases were cured and other dropped out or died. Type ratio of MB to PB was more than 60% during the period. Since the mass surveys and comprehensive control were implemented in the 1960s, prevalence and detection rates had decreased continuously and the number of endemic counties reduced from 84.88% in 1986 to 24.14% in 1998. There were 42 active cases at the end of 1998 with a prevalence rate of 0.0017 per 1000.

Conclusion: Through the efforts for 50 year running, leprosy has been successfully controlled in Gansu Province.

[Key words] Leprosy Prevalence Incidence

PE 107**STUDY ON CASE-FINDING IN A LOW EPIDEMIC SITUATION OF LEPROSY**

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Objective: To study the epidemiological feature and the strategies of leprosy control.

Methods: The new leprosy cases detected in Guangxi Autonomous Region in the last 10 years were analyzed retrospectively.

Results: 745 new leprosy cases were detected in the last 10 years. The average detection rate of this period was 0.43/100 000. The mean age at onset of the disease increased. The unknown infection source cases and MB cases increased, the period of the disease was shortened and the grade II disability rate decreased.

Conclusions: Developing health education, improving people's idea of self care, speeding up early diagnosis at country level are important.

[Key words] detection of leprosy cases; epidemiological analysis

PE 108**STUDY ON THE OTHER HEALTH SERVICES UTILIZED BY MULTI BACILLARY CASES**

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Though effective Multi Drug Treatment services are provided to leprosy patients, they are likely to get other ailments too. No doubt they need medical attention for these ailments also.

In the context of integration in Tamil Nadu, it was found necessary to find out where these leprosy patients went for medical treatment for these ailments. Since integration efforts were already on as early as 1996 in Tamil Nadu, this study was carried out in 1996-97, to find out the health seeking behaviour of leprosy patients for other ailments to incorporate the findings in deciding integration strategies.

Only Multi Bacillary (MB) cases selected to get valid and reliable information.

Objectives:

1. To find out the morbidity pattern of MB cases other than leprosy.
2. To study the pattern of other health services utilized by them if any.
3. To study the relationship between demographic and socio economic characteristics of MB cases and the type of other health services utilized by them.

Methodology: It is an exploratory study conducted in Salem district in Tamil Nadu, India. Salem had a population of 4.3 million as per projection of 1996. As of October 1995, 4694 MB cases were there in Salem who formed the universe for the sample.

By scientific sampling procedures, MB cases were selected for the study. Pre tested schedules were used for data collection and the data were collected from 204 respondents by trained investigators. They were analysed, interpreted and reported.

Highlights of the study:

- Data were collected in a systematic way on the type of other healthy services utilized by MB patients who are under treatment and cured.
- Pattern of relationship between demographic and socio-economic characteristics of MB patients and the type of other health services used by them was studied.
- Suggestions and recommendations in the context of integration of leprosy with General Health Care services in Tamil Nadu were given.

PE 109**SURVEY OF NEWLY DIAGNOSED LEPROSY PATIENTS IN JAPAN FROM 1981 TO 2000**

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We analyzed the medical and social problems of newly registered leprosy patients in the past 20 years from 1981 to 2000 in a low endemic country, Japan. There were 385 registered Japanese patients (males, 333; females, 152), and 111 registered foreign patients (males, 80; females, 31). The number of Japanese patients in each 5-year period was 187 ('81-'85), 119 ('86-'90), 48 ('91-'95), and 31 ('96-2000), and has been decreasing steadily. But the number of foreign patients in each 5-year period was 7, 10, 45, and 49, respectively, and has been increasing. The number of foreign patients was greater than that of Japanese patients in the latter half, 1991-2000. The

male/female ratio was 333/152 in Japanese patients, and 80/31 in foreign patients. Male/female ratio has decreased among the Japanese but increased among foreigners.

PE 110**TEMPO DE DEMORA PARA O INÍCIO DO TRATAMENTO DE HANSENÍASE NO MUNICÍPIO DE BETIM – MG**

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Secretaria de Saúde de Betim, Rua Prof. Osvaldo Franco, 55 – Betim – MG – Brasil

Sabe-se que a demora para o início do tratamento de hanseníase é um dos fatores de risco para o desenvolvimento de incapacidades. Realizou-se um levantamento com os pacientes em PQT no município de Betim (N=50) para determinar o tempo decorrido entre a percepção dos primeiros sintomas e o início do tratamento com PQT. Foram excluídos do estudo pacientes que já haviam feito tratamento anterior. Procurou-se determinar, separadamente, o tempo decorrido até a busca por atendimento em um serviço de saúde e o tempo decorrido dentro de serviços de saúde até o diagnóstico e início do tratamento efetivo. Buscou-se identificar razões que levam um indivíduo a finalmente buscar um serviço de saúde e fatores, dentro dos serviços, que dificultam ou aumentam o tempo de demora. Essa informação poderá ser utilizada no desenvolvimento de campanhas e ações educativas, bem como no planejamento e adequação da rede de saúde para favorecer o diagnóstico precoce da hanseníase

PE 111**THE ANALYSIS AND PROGRESS FOR LEPROSY REHABILITATION SITUATION OF HUNAN PROVINCE**

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By the end of 2000, the accumulated number of leprosy cases mounted to 16234 and healed leprosy cases mounted to 13845. There are 10000 leprosy alive cases and 4808 cases which need rehabilitation.

In the past, we had developed rehabilitation surgeon in 5 or 6 counties, however, the number of patients who receive rehabilitation is few because of funds' lacking. In march 2000, assisted by the Netherlands Leprosy Relief, we developed Hunan Leprosy Rehabilitation project in Len Shui Tan and Dao county. An approximate of 261 patients receive the rehabili-

tation. The result is satisfactory. But there are only two pilot project counties and because of funds' shortage, a lot of cases who need the rehabilitation immediately can't get access.

This article impresses us about drawing more governmental attention, support and financial input, making connection with foreign organizations, establishing the province leprosy rehabilitation center, improving skill training. As a result, the leprosy rehabilitation work in Hunan province will develop in an actual and all-round way.

PE 112

THE ANALYSIS ABOUT THE EPIDEMIOLOGY OF LEPROSY OF GUANGFENG COUNTRY, JIANGXI, CHINA

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Analyze the Leprosy epidemic trend and evaluate the effect of leprosy control this county from the station being set up in 1961, taking in leprosy to the end of 2001. We analyzed according to the material of epidemiology and found the leprosy and cured effectively by varied ways. The prevalence rate and detection rate has come down. In 1997, We passed the checking and being accepted by Jiangxi public health department and reached the standard of eliminating basically leprosy.

[**Key words**] Leprosy Incidence rate Detection rate Prevalence rate Infection control

PE 113

THE ANALYSIS OF DEATH FOR 343 LEPROSY CASES IN MOUNTAINOUS AREA OF ZHUSHAN, CHINA

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The inquiry of death causes of 343 leprosy cases in the mountain areas showed that 13.7% deaths were mainly caused by malpractices and suicides. Of all the deaths, 45.48% were the result of diseases hard to cure and the problems which are caused by aging. 21.28% were caused by illnesses that we have no idea. Another 7.87% were caused by cardiovascular diseases, urinary organs diseases, urinary organs diseases, digestive diseases, and malignant tumors. They are of the following respective statistics: 7.87%, 3.20%, 3.49%, 2.62%. From the data above, we should insist on propagating the scientific knowledge about the leprosy, strengthen the education of

the safety measures, improve the consciousness of self protection, the whole professional skills of the medical workers gradually, instruments and the conditions of medical apparatus order to reduce the death rate and avoid artificial accidents.

PE 114

THE ANALYSIS OF LEPROSY ENDEMIC IN HEBEI PROVINCE

Li Heshan, Mu Yansheng, Zhang Jinzhao, Zhang Huibin, Qie Yongtao, Wang Jianhui, Gao Tietao, Zuo Jiandong, Jia Fushou

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Objective: To analysis of Hebei province leprosy endemic for providing the bases how to conduct the leprosy control working and full of eradication of leprosy in the future.

Methods: According to the data of leprosy control in the province past years.

Results Hebei province was in low endemic area of leprosy, until to 1999 a total of cases detected was 1289. The distribution of leprosy was big different in various places. The leprosy control working was started at beginning of 1950s actively. A lot of leprosy cases had been cured in 50 years by hard working, so that the endemic indicators of prevalence, detection rates and incidence rates have been reduced under 0.5/100 000. Last decade, child cases were not found and the area of leprosy endemic was reduced.

Conclusion The leprosy endemic trends indicated continuity reduced, leprosy control represented markedly effect and but the achievement needs to do the best of continue our working.

[**Key words**] Leprosy control.

PE 115

THE ANALYSIS OF LEPROSY EPIDEMIOLOGY FOR 1950-1999 IN HUBEI PROVINCE, CHINA

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Objective: To explore the leprosy epidemic trends and evaluate the effect of leprosy control by epidemiological indicators from 1950 to 1999 in Hubei Province.

Methods: To use the retrospective study method for the analysis.

Results: By the end of 1999, 13992 of cumulated

cases were detected, total of 13862 had removed which included cases cured and other causes. There are 130 active cases in Hubei. The incidence and prevalence rates had been significantly reduced, the epidemic areas had been shorten a lot and the leprosy relapsed rate kept a low level by comprehensive control strategies in last 50 years.

Conclusion: The leprosy epidemic trends represented continuous reducing and leprosy control have taken a big achievement in Hubei Province.

PE 116

THE ANALYSIS OF LEPROSY INCIDENCE RATE FOR POPULATION EXPOSED CLOSELY TO LEPROSY DISEASE

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Leprosy is a chronic contagion while will be latent for a long time. After MDT, a lot of leprosy-patients will be cured. The incidence will decrease to a certain standard. But the epidemiological factors still exist. There will be new patients and the recurred patients. The article is about 8 patients with leprosy. Among their families, 12 were confirmed as patients with leprosy. The incidence of family member is 38.5%. Therefore, the new patients are the person who are close to the patients, especially the family members.

[Key words] Leprosy epidemiology Crowd

PE 117

THE ANALYSIS OF THERAPEUTIC EFFECT ON 174 LEPROSY PATIENTS BY MDT

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Objectives: The analysis of therapeutic effect on 174 leprosy patients cured by MDT.

Methods: WHO recommend leprosy of MDT.

Results: 149 leprosy patients cured by MDT. Among them, 108 leprosy cured belonged to MB and 41 leprosy patients cured belonged to PB. The bacteria in skin smears were turned to negative short in 6 month and long in 48 month, the average of 17.54 month.

Conclusions: The advantaged of MDT included high effect, relative short therapy course and control relapse, etc.

[Key words] leprosy MDT Therapeutic effect analysis

PE 118

THE COMPARISON OF HISTOPATHOLOGICAL PICTURES ON MULTI-BACILLARY LEPROSY PATIENTS AFTER 24 DOSES AND 12 DOSES OF MB-(WHO)-MDT REGIMENS

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In 1982 WHO recommended that MB patients should be treated with 24 doses of MB-(WHO)-MDT Regimen, but in 1997, was reduced this to 12 doses. According to WHO, the new regimen had the same effectiveness as the old one.

A cross-sectional study was conducted between December 2000 until May 2001. The subjects were 60 MB leprosy patients who had completed either the 24 or 12 doses MB-(WHO)-MDT Regimen and already more than 3 months released from treatment (RFT). Most of the patients in the group was 25-44 years old (42.5%), male: female ratio was 3: 1. Out of 80 patients there were 29 patients with still active histopathological picture. There was a significant difference of histopathological picture between 24 doses and 12 doses ($p = 0.020$). No significant difference, on the result of histopathological picture between leprosy type or length of RFT

Based on the result of histopathological examination, epithelioid granuloma was more common in 12 doses regimen than 24 doses. The leprosy type and length of RFT in patient with 24 and 12 doses MB-(WHO)-MDT Regimens did not show any significant difference in level of histopathological activity.

PE 119

THE CONSEQUENCE OF NATION LEPROSY ELIMINATION PROGRAMME (NLEP) IN GUANGDONG PROVINCE FROM 1991 TO 2000

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Guangdong province is situated in south of China covering 170,000sq.km with 73 million population (2000 year). A total of 94763 cases were registered from 1950 to 2000. There were the highest prevalence rate of 114 per 100,000 population in 1961.

After leprosy control programme (1981 to 1990) was carried out, the prevalence rate of leprosy has dropped from 13.9 to 2.7 per 100,000 population. The nation leprosy elimination programme (1991 to

2000) began conducted in the province in 1991. According to the Chinese criteria of leprosy elimination defined as prevalence rate of less than 10 per 100,000 population in terms of county/city, there were still 17 counties/cities where the criteria have not been achieved in 1990. The approach of reaching NLEP goal was done during 1991 to 2000 involving extensive leprosy health education in the community, leprosy training of primary health workers, implementation of clue survey and household contacts etc. Effective operation of MDT result in increasing the covering rate and regularity rate of therapy more than 98% and 95% respectively in last decade.

Significant consequence of NLEP was shown by the end of 2000. The overall prevalence rate declined from 2.7 to 0.48 per 1000.000 population. Of 100 counties/cities 97 achieved elimination criteria of nation. There were 11 of zero prevalence rate in 2000.

This study reveals that though there is a markedly decline in leprosy prevalence in last 10 years, the incidence of leprosy is remaining almost static which indicates that the transmission of the disease is still continuing in some counties. It means that the goal of final eradication leprosy need a long time. This study also reveals that some problem should not be neglected in the province. Example, local government reduce concern for leprosy works as low leprosy prevalence. The numbers of skilled leprosy doctor go down obviously leading to more and more misdiagnosis and delaying diagnosis of leprosy case.

PE 120

THE CORRELATION BETWEEN BCG VACCINATION AND THE PREVALENCE OF SUBCLINICAL LEPROSY ON CONTACT-CHILDREN OF LEPROMATOUS PATIENTS

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Lepromatous patients are considered to be the main source of infection, and children living in the same house are considered more susceptible for subclinical leprosy infection. The MLPA test is a practical sero-diagnostic procedure for the screening of subclinical leprosy patients. BCG vaccination is considered to protect against *M. leprae* infection.

A cross-sectional study was done in August 2000 until Desember 2000. The subjects were 100 children (aged between 2-10 years) living in the same house with a lepromatous patient. MLPA was tested and BCG scar identification was conducted in all subjects.

There were no significant differences in distribution of age, sex, nutritional status, parents/ guardian's ed-

ucational level, and BCG vaccination status. There was no statistically difference between the result of MLPA tests and the status of BCG vaccination ($p=0.385$).

PE 121

THE EFFECT AND CONTROL COUNTERMEASURE FOR BASICLY ELIMINATION IN PUNING CITY

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The purpose is to observe the prevention way and the effect of the treatments for the disease, leprosy that has been basically eliminated in puning city. Methods: Using the targets of the incidence of the disease, the suffering rate of the disease, the incidence of the disease among children, the prevalence areas which have been changing during the 41 years of prevention and cure of it to compare and analyze.

Results: In the recent 41 years in puning city 2576 people found suffer the leprosy, 1849 people (71.78%) were cured of it (including those who recovered from it by themselves), 684 people (26.55%) died of it. In 1990 the suffering rate of the disease was 0.0098/1000 and the incidence of the disease was 0.075/100,000; but in the following few years these two numbers kept falling down. In 1956 there were 14 high prevalence areas, 9 middle prevalence areas, and 6 low prevalence areas. Up to the end of 1996, the prevalence areas has been reduced to 6 low prevalence areas only. Conclusion: In the work of prevention and cure of the leprosy, carry out the policy of prevention mainly and the principle of positive cure to control the source of infection, take effective and synthetical prevention and cure measures to suit the local conditions flexibly, we'll get twice the result with half the effort and produce a marked effect, achieve the elimination of the leprosy basically and even thoroughly

PE 122

THE EPIDEMIOLOGICAL CHARACTERISTIC OF NEW INFECTION AND THE CONTROL MEASURE AFTER ELIMINATING BASICALLY LEPROSY

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Aim: Analysis the epidemiological characteristic of new infection after eliminating basically leprosy and reaching the standard to direct the leprosy control.

Way: according to new infection registration of 12 counties of Shangrao in recent years after reaching the standard. We analysis the epidemiological characteristic of new infection after eliminating basically leprosy.

Result: Some new changes have taken place in the epidemiological characteristic after eliminating basically leprosy and reaching the standard. There are more new infections in recent years after reaching the standard. Most of the infections are adult. The proportion of PB cases go up. The family infection and regular infection go up. The new epidemic disease area increases.

Conclusion: We should take the relevant control measures according to the epidemiological characteristic after eliminating basically leprosy and reaching the standard in the low epidemic with leprosy and provide the specific measures of eliminating entirely leprosy.

[Key words] Leprosy Epidemiology control Measures

PE 123

THE EVALUATION OF LEPROSY ELIMINATION PROGRAM IN THE EASTERN PART OF THAILAND 1994-2000

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The objective of this program was to evaluate the outcome of Leprosy Elimination, to examine the epidemiological situation and to assess the operational standard. Three districts in Rayong province with high incident rate, high 2^o deformed new cases and high prevalence rate were chosen. The data was collected from all new cases found during 1994-2000 and interview was conducted with administrative staff, health workers, health volunteers and the patients in that area.

During 1994-2000 seventy-five new cases of leprosy were registered with 10 cases still under treatment. Prevalence rate has declined from 0.86 per 10,000 population in the 1994 to 0.23 per 10,000 population in the 2000. Only two new cases were detected during the period. Seventy-seven percents were self-reported, ten percent were from rapid survey and four percents were contact tracing. Nine percents of children under 15 years was found in new case registered. Completion rate in MB and PB was 76% (MB = 61%, PB = 90%). Average deformity rate in new cases was 24%. Only 50% had deformity surveillance and assessment done

Although prevalence rate of leprosy decreases but

new case finding, contact tracing, early treatment, prevention of disability should receive their due attention. Leprosy is not an individual but a social problem, requiring monitoring, evaluation and databases.

PE 124

THE EVALUATION ON SCL—90 BEFORE AND AFTER INTERVENTION OF PSYCHOLOGY FOR LEPROSY CASES

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Objective: To product a case-control study of psychology intervention for leprosy cases which have mental handicap and evaluate the results.

Methods: According to the order of clinical patients, the cases were divided into case-group(11) and intervention group (9). Intervention group had been treated by training education on psychology. We used the SCL—90 form to evaluate the leprosy cases before and after treatment.

Results: The SCL—90 point of intervention group was significant reduced: from 165.3 ± 39.64 to 44.22 ± 13.21 , the difference points was 1.26 ± 0.43 ($t=8.750$, $P<0.01$) and the factors points of compulsion, sensitivity, blaths, angst, animus, terror, deliria had been changed a lot, but case group was not changed (the difference points: 0.08 ± 0.51 ($T=0.516$ $CP>0.05$)).

Conclusion: The leprosy cases in the intervention group have changed the cognizing idea, improving the badness emotion and maladjustment, and promoting the mentality health level.

PE 125

THE IMPACT OF MULTI DRUG THERAPY ON LEPROSY IN SURINAME

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Leprosy is caused by *Mycobacterium Leprae*. This chronic infectious disease is still endemic in the tropical and subtropical countries. Due to the introduction of chemotherapy, initially Dapsone (DDS) as mono therapy and from 1980 on Multi Drug Therapy (MDT), the prevalence of leprosy is strongly reduced. At present, the estimated total number of leprosy cases in the world is 800.000.

The period of mono therapy ended when the WHO introduced MDT in 1980. In 1982 MDT was available in Suriname. Because of the global application

of MDT it is possible to start the elimination of leprosy.

Leprosy in Suriname, situated in tropical South America, is also endemic. In 1980 the incidence was 4 per 10.000 inhabitants. After 1982 there was a gradual decline of the incidence. In 2000 the incidence was 0.98 per 10.000 inhabitants. These results are mainly due to the use of MDT. In Suriname there are 3 centers which provide MDT to the patients. The services they provide, according to the Suriname Leprosy Program, include: screening of patients and contacts for leprosy, therapy for leprosy patients, health education of patients and public, medical -, rehabilitation -, and social services for leprosy patients and teaching of health workers. Patients visit the centers on their own or are referred by the primary health doctors or medical assistants.

The Dermatology Services in Paramaribo coordinates the Suriname Leprosy Program. This institute is a working arm of the Ministry of Health in Suriname. The Suriname Leprosy Program is financially supported by the Dutch Leprosy Relief Fund.

PE 126

THE LEPROSY INFORMATION SYSTEM IN BRAZIL–SINAN

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Paulo Chagastelles Sabroza – ENSP/FIOCRUZ

Gerson Fernando Mendes Pereira – ATDS/Ministry of Health

The aim of this study is to analyze the potential and the present situation of the System of Information of Notifiable Diseases–SINAN–leprosy used to the accompanying and evaluation of the progress towards elimination of leprosy after the decentralization of the program activities in the municipal level. A particular analysis of the notification of new cases in the state and municipal level was conducted in the period from 1996 to 1999. The coverage of SINAN: – the areas that send notification to the national level was calculated by the comparison of the number of notified cases at SINAN and the number of cases informed by the Technical Area of Sanitary Dermatology/ATDS-MS, which is annually provided by the states. Endemic states with running programs, such as Amazonas, Amapá, Acre and Mato Grosso do Sul did not send any notification to SINAN. Furthermore, Minas Gerais, Bahia e Rio Grande do Norte have send junta not significant number. In the last 4 years, only 10 out of the 27 federated states send to SINAN a proportion of data greater than 20% of the total of new cases officially informed by the ATDS/MS. Until 1998 the leprosy cases notified to SINAN have never surpassed 43% of the new cases informed by ATDS/MS in the historical series from 1996 to 1999, showing not more than 35% of the no-

tified cases. Detection rates for 1999 are not coincident even in the states that allegedly regularly transfer data to SINAN. The coverage of municipalities that assist leprosy cases in 1999 did not exceed 25% and the notification came from, in the same year, only 35% of the municipalities in the whole country. These results shows that, until 1999, SINAN registers a limited proportion of the cases of leprosy and that the coverage of the SINAN notification on leprosy is not sufficient to a reliable analysis of the morbidity of leprosy even at the national level. In the present phase of implantation and implementation, the surveillance and accompaniment of activities and the evaluation of the objectives of the leprosy program of the Ministry of Health cannot solely be based in the SINAN. Additional support in capacitating human resources of the local level on quality of data entry and in the utilization of other software for the analysis of the profile of the disease at the municipal level can turn SINAN in a reliable and useful data bank.

PE 127

THE RELATION BETWEEN THE PREVALENCE OF ANTIBODIES TO PGL-I AMONG SCHOOL CHILDREN AND LEPROSY ENDEMICITY IN BRAZIL

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Leprosy control programs would highly benefit from an easy method to estimate the prevalence of leprosy and to assess the effect of leprosy control measures on the prevalence of leprosy. Recently, it was shown in a leprosy endemic area in Indonesia that the determination of the seroprevalence of antibodies to PGL-I through school children surveys might be a useful indicator of the leprosy prevalence at the district level.

To investigate whether seropositivity rates could be related to leprosy detection rates and whether seropositivity could be used as a proximal indicator to predict the leprosy incidence in other areas, 7073 school children in three different leprosy endemic states in Brazil were tested using the ML Dipstick and the ELISA.

Our results show a widely varying distribution of seropositivity in the communities independent of the number of leprosy cases detected. We also found that at private schools the seroprevalence was lower. No differences in the patterns of seropositivity between ELISA and dipstick were observed. No correlation between leprosy detection rate and seropositivity rates could be established.

PE 128**THE RESULTS OF PREVENTION OF LEPROSY BY RFP**

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In order to probe into a way of protecting high-risk group people of leprosy, Nandan County began to carry out a research of oral-taking rifampin(REF) by the family members of persons affected by multi-bacteria leprosy in 1991. The research targets were divided into three groups at random, i.e. REF, DDS and the group of non-taking drugs. **REF group:** The dosage for people under fifteen years old took 15mg daily per kilogram of weight. People above 16 years old took adult dose, i.e. 600mg/day, for four continuous days. **DDS group:** This group took half of treatment dose for six continuous months. The observation period was every five years to exam the skin of people by professional doctors. To summarize it after 10 years of research and find that 13 persons out of the targets groups were affected by leprosy in the first five years, in which 8 cases from the group of non-taking drugs, 1 case from DDS group and no case from REF group. In the second five years, 2 cases (total 10 cases) from non-taking drug group, 2 cases (total 2 cases) from REF group and no case (total 1 case) from DDS group. The incidence of drug-taking group was lower. The difference among groups was obvious. 3 cases, under fifteen years old, from non-taking drug were diagnosed with leprosy. No case was diagnosed in drug-taking groups. It was found during research that the cured interval times between new case and existing case in the family was longer. Four cases took 5-8 years to cure and 9 cases took more than 10 years. In which, 3 out of 9 cases were from drug-taking group.

Conclusion:

- REF and DDS have certain protection for the family members (high risk group) of leprosy people, especially during the five years of period.
- The disadvantages of using DDS to prevent leprosy are considerable due to the increase of anti-drug bacteria and long time taking. REF has strong disinfection on leprosy bacteria and has the advantages of easy-taking, economy and strong feasibility. But the times and ways of taking are still worthy of discussion and improvement.
- The effect of using drug-prevention of leprosy for people under 15 years old is obvious.
- Chemical drug prevention is effective for infected individual (sub-clinic infector). But it cannot prevent re-infection in future.
- The coming on interval times of disease is longer in the family members of leprosy people, which show that leprosy has a lasting prevalent power. It

shall take at least 10 years for preventing supervision.

PE 129**THE SITUATION AND PROGRESS OF LEPROSY CONTROL IN HAINING CITY**

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There is 642000 population in Haining, Zhejiang, up to 1997 there were 767 registered cases of leprosy. Since 1975 it has started to control leprosy, 535 persons were cured by DDS or DDS plus RFP and 10 relapsed (1.86%), after 1987 WHO-MDT was adopted, there was no relapse. Among them 224 had visible disability (29.2%) and 309 died, of which 162 before cured and 147 after that. The detection rate decreased from 5.14/100,000 (before 1975) to 0.043/100,000 (1993) and after 1994 no new cases was seen. Among 309 dead person, 48(6.26%) died of cancers, 37(4.82%) died of cor pulmonale, 32(4.17%) died of angiocardopathy, 19(2.84%) died of apoplexy, 17(2.22%) died of pneumonia or TB, 16(2.09%) died of accident and 11(1.43%) died of suicide. But the average age – span of the person cured of leprosy was 73.95 years old, near to the normal residents. In 1997, there were 405 persons alive who were cured of leprosy.

PE 130**THE STRATEGIES AFTER “BASIC ERADICATION OF LEPROSY”**

Yue Congcheng

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In 1991 at the 44th WHO Chinese government passed a resolution that by 2000 leprosy should be eliminated as a problem to public health. Under the guide of the party and the government, all the doctors have worked for nearly 40 years and controlled it in a given standard. But we shouldn't ignore the leprosy work. We should keep on: 1. provoking the leaders attention, not dismissing the leading group, not reducing the expenditure; 2. gathering the lepers, setting up hospitals in separate areas; 3. going on with the recovery work. Only doing like these can we eliminate the leprosy completely.

PE 131**TRABALHO DE PLANEJAMENTO PARA A IMPLEMENTAÇÃO DE ATIVIDADES DE CONTROLE DE HANSENÍASE NO MUNICÍPIO DE SÃO PAULO**

atura que a perda da sensibilidade consiste no principal fator fisiopatogênico das deficiências físicas nos membros superiores dos pacientes hansenianos. Os monofilamentos de Semmes-Weinstein são instrumentos confiáveis para detectar e monitorar as lesões dos nervos periféricos, sendo considerado um método subjetivo e padronizado que quantificam os diferentes limiares de tato e pressão. Substituem os

demaís testes com grande vantagem, por ser de fácil aplicação, custo acessível e por poupar tempo do examinador e reduzir a fadiga do paciente. Recomenda-se o uso dos monofilamentos de Semmes-Weinstein como rotina na prática clínica e no auxílio do diagnóstico precoce do dano neural. É um teste essencial, porém não deve ser realizado de maneira isolada durante o exame físico.

HEALTH EDUCATION

PHE 1

A ELIMINAÇÃO DA HANSENÍASE ATÉ 2005: FATO OU MERA UTOPIA?

Fernanda Luiz Pelicer; Luciana Garbelini Soares; Maria Celeste de Freitas Quintero; Vânia Del'Arco Paschoal

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A hanseníase é endêmica nos países subdesenvolvidos e em desenvolvimento, sendo que as Américas têm 219.000 pacientes dos quais o Brasil possui 173.500, ocupando o 2º lugar no mundo em número absoluto de casos, sendo superado apenas pela Índia. No Brasil, o coeficiente de prevalência da hanseníase, em 1997, era de 5,43 casos por 10.000 habitantes, com 86.741 casos em registro ativo. Vale ressaltar que a meta estabelecida pela Organização Mundial de Saúde (OMS) é eliminar a hanseníase como problema de saúde pública até o ano 2000, atingindo uma prevalência de menos de 1 caso por 10.000 habitantes. Significativos progressos foram alcançados desde a resolução da Assembléia Mundial da Saúde (1991), a prevalência diminuiu em 85%, alcançando taxa de 1,4 por 10.000 habitantes (OPS, 1995). Com o objetivo de avaliar o conhecimento da população acerca da hanseníase, seus sinais e sintomas e respectivo tratamento, realizou-se um trabalho quantitativo, utilizando um questionário estruturado, o qual foi aplicado aleatoriamente à população do município de São José do Rio Preto-SP, no segundo semestre de 2001. A amostra foi composta de 630 pessoas, sendo que os resultados revelaram que 45,4% não conhecem a doença; 53,2% do total não reconhecem seus sinais e sintomas e 51,3% não sabem se existe tratamento. Tal perfil revela que as ações implementadas não estão sendo efetivas a ponto de atingir a meta proposta para a erradicação desta doença, exigindo a adoção de novas estratégias de controle como processos educativos a serem realizados junto às unidades de atenção primária à saúde, a fim de que a erradicação seja alcançada em 2005.

PHE 2

A ENDEMIA OCULTA E O KIT EDUCATIVO

Valeriano, José Karlisson Tavares

Secretaria Municipal de Saúde/Arapiraca-AL. Rua Expedicionários Brasileiros, 1850. Arapiraca-AL.

Objetivos: Melhorar a detecção de casos de Hanseníase usando o Kit Educativo (LRA).

Materiais e Métodos: Foi escolhida uma população com a maior prevalência de Hanseníase em anos anteriores e foi aplicado o Kit educativo da LRA (Leprosy Relief Association) que é composto de folder para população, cartilha para Agentes Comunitários de Saúde, cartazes para serem distribuídos em pontos de maior visualização nas comunidades e treinamento de Equipes de Saúde da Família, Agentes Comunitários de Saúde, das lideranças comunitárias e professores, além de pesquisa junto a estas pessoas, de sua percepção sobre a doença antes e após o período de 06 meses de trabalho com os conteúdos da doença.

Resultados: Com o treinamento das equipes de saúde da família, Agentes Comunitários de Saúde, lideranças comunitárias e professores e a organização do fluxo de pacientes para a unidade de confirmação diagnóstica durante o ano de 2001, teve um incremento de 50% no número de casos, saindo da média de 25 casos nos últimos 03 anos para 39 em 2001, o que reflete o sucesso da estratégia utilizada.

PHE 3

A INTEGRAÇÃO DE SERVIÇOS DE HANSENÍASE COM SERVIÇOS GERAIS DE SAÚDE

Eunice Alves Gomes, Solange C. Tamiozo, Lurdes Dias P. Barbosa, Marlene P. Garcia

14ª Regional de Saúde, Rua Bahia nº 17, Paranavai/Paraná

Introdução: A nível regional o programa de MH sempre foi centralizado no município de Paranavai.

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Este trabalho descreve o processo de elaboração de um plano de implementação das atividades de controle de hanseníase em um município de grande porte, com uma população de 10 milhões de habitantes, considerado o maior da América Latina, a partir de um treinamento realizado para profissionais das Unidades de atendimento de pacientes com hanseníase e dos grupos responsáveis pela Vigilância Epidemiológica nas diversas regiões do município. Foram utilizados, como instrumentos didáticos, a Apostila de Treinamento Básico de Vigilância Epidemiológica – Módulo Hanseníase, elaborada pela Divisão de Hanseníase do Centro de Vigilância Epidemiológica da Secretaria de Estado da Saúde e o “Guia para Implantar/ Implementar as Atividades de Controle de Hanseníase nos Planos Estaduais e Municipais de Saúde” elaborado por grupo de trabalho coordenado pelo Departamento de Gestão de Políticas Estratégicas da Secretaria de Políticas de Saúde do Ministério de Saúde.

Este processo se torna interessante a medida que propicia aos participantes, responsáveis pela execução das ações de controle da doença, a apropriação dos instrumentos de planejamento para a elaboração das propostas visando o alcance da meta da Eliminação da Hanseníase no município, e tem como resultado o envolvimento maior desses profissionais no desenvolvimento das diversas atividades, e uma melhoria na qualidade do atendimento.

PE 132

TRANSMISSÃO E CONTROLE DA HANSENÍASE EM GOVERNADOR VALADARES / MINAS GERAIS - PERÍODO DE 1990 A 2000

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Introdução: Este estudo tem como objeto a transmissão e o controle da hanseníase em Governador Valadares, tendo em vista formular estratégias para a eliminação da hanseníase como problema de saúde pública.

Objetivos: Analisar indicadores epidemiológicos e operacionais, delimitar áreas de risco e definir estratégias de controle.

Metodologia: Estudo epidemiológico de natureza descritiva, de tipo operacional.

Resultados: Governador Valadares situa-se na categoria de município hiperendêmico (prevalência de 16,2/10.000 hab e detecção de 10,22/10.000 hab em 2000). O aumento da detecção em menores de 15 anos contraria a descendência da detecção geral verificada no período. Dos casos novos, 14% foram detectados com alguma incapacidade, indicando diagnóstico tardio e prevalência oculta. A implantação do Programa de Saúde da Família (PSF), a partir de 1998, não alterou o quadro endêmico da doença.

Conclusão: A endemia está em expansão no município. Sugerimos a intensificação das estratégias de controle através de Plano de Eliminação baseado em diretrizes políticas e epidemiológicas, tais como: construção de sustentabilidade econômica, política e social para a eliminação; descentralização das ações de controle de hanseníase através do PSF; busca ativa de casos; e investigação de eventos-sentinel para hanseníase em “áreas silenciosas”.

PE 133

UTILIZAÇÃO DOS MONOFILAMENTOS DE SEMMES-WEINSTEIN NA AVALIAÇÃO DE SENSIBILIDADE DOS MEMBROS SUPERIORES DE PACIENTES HANSENIANOS ATENDIDOS NO DISTRITO FEDERAL

Prof^o Ms. Demóstenes Moreira; Prof^a Dr^a Rosicler Rocha de Aiza Alvarez

Universidade de Brasília – UnB. Campus Darcy Ribeiro – Asa Norte – Brasília/DF – CEP. 70910-900

O presente trabalho trata-se de um estudo descritivo de delineamento transversal cujo objetivo foi identificar a incidência de alterações de sensibilidade nos membros superiores de pacientes hansenianos inscritos no Programa de Controle da Hanseníase do Distrito Federal. A amostra constou de 80 pacientes e o instrumento utilizado na coleta de dados foram os monofilamentos de Semmes-Weinstein, também conhecidos como Estesiômetro (modelo de bolso – “Sensikit”). Os resultados foram trabalhados através de análise estatística descritiva, que mostrou um predomínio das formas Virchowianas (67,5%) seguidos dos Tuberculóides (16,2%) e Dimorfos (13,8%). De uma maneira geral os pacientes concentraram-se nas faixas etárias de maior produtividade laborativa e de trabalho. A maior parte dos pacientes apresentaram grau 0 de incapacidade nos membros superiores, mostrando que o Programa Nacional de Controle e Eliminação da Hanseníase está atuando satisfatoriamente na detecção precoce e no controle das incapacidades dos pacientes. Entre os pacientes que apresentaram algum comprometimento, verificou-se o predomínio do grau 1, que se mostrou superior aos graus 2 e 3 somados. Conclui e concorda com a liter-

atura que a perda da sensibilidade consiste no principal fator fisiopatogênico das deficiências físicas nos membros superiores dos pacientes hansenianos. Os monofilamentos de Semmes-Weinstein são instrumentos confiáveis para detectar e monitorar as lesões dos nervos periféricos, sendo considerado um método subjetivo e padronizado que quantificam os diferentes limiares de tato e pressão. Substituem os

demais testes com grande vantagem, por ser de fácil aplicação, custo acessível e por poupar tempo do examinador e reduzir a fadiga do paciente. Recomenda-se o uso dos monofilamentos de Semmes-Weinstein como rotina na prática clínica e no auxílio do diagnóstico precoce do dano neural. É um teste essencial, porém não deve ser realizado de maneira isolada durante o exame físico.

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Introdução: A nível regional o programa de MH sempre foi centralizado no município de Paranavaí.

O problema é a falta de integração dos serviços de atenção básica, que não incorporam o atendimento ao paciente de hanseníase; encaminhando os casos suspeitos ao Centro Regional de Especialidades e, não desenvolvendo ações concretas na busca ativa e ou ações informativo educativos. Através da Coordenação Estadual, a 14ª RS, que abrange 238.358 habitantes, foi incluída no Programa de Eliminação apoiado pela Netherlands Leprosy Relief - NLR-Holanda

Objetivo: Propiciar a integração do serviço de atendimento em hanseníase com os serviços gerais de saúde.

Métodos: As ações executadas foram definidas a partir do estudo de quais medidas de atenção básica em hanseníase eram desenvolvidas em cada município. Visando a sensibilização e envolvimento no tratamento e acompanhamento do paciente e família, foram realizados seminários e oficinas de trabalho para treinamento das equipes de atenção básica; parcerias com escolas, faculdades e ONGs e, também, obtido o envolvimento dos pacientes e família, no processo de discussão e avaliação dos serviços ofertados.

Resultados: Em um ano de trabalho, esta região conseguiu a sensibilização e envolvimento das equipes de atenção básica - ACS e ESF, no processo de busca ativa e monitoramento da hanseníase.

Conclusão: O coeficiente de incidência em hanseníase aumentou de 2,22/10.000 habitantes em 2001, para 2,51/10.000 habitantes no ano de 2002.

PHE 4

ACÇÕES EDUCATIVAS SOBRE HANSENÍASE PARA A COMUNIDADE: APLICAÇÃO DAS TÉCNICAS DA ARTE POPULAR, TEATRO E MÚSICA

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Introdução: Atividades artísticas, lúdicas, culturais, sócio-comunitárias e outras têm sido utilizadas com bastante êxito para a obtenção de objetivos educacionais.

Objetivos: Proporcionar construção de conhecimento sobre Hanseníase; possibilitar a reelaboração de "novos" conhecimentos sem preconceito sobre a doença.

Métodos: Foi realizada apresentação de peça de teatro-musical pelos integrantes da LCHLMB em

praça pública durante período de campanha educativa organizada pelo Centro Acadêmico Rocha Lima da FMRP-USP. O texto da peça e a letra musical versavam sobre informações da doença com arranjo musical adaptado de músicas populares. Para averiguar opiniões e incorporação de informações, posteriormente à apresentação, foi entrevistada uma amostra dos expectadores, aplicando-se formulário com itens sobre avaliação da apresentação e do aproveitamento por meio de questões, corretas e incorretas, sobre transmissão da doença, aspectos clínicos e tratamento.

Resultados: Foram entrevistados 21 indivíduos, sendo que 52,4% avaliaram a apresentação como excelente e 47,6% como boa. Dos entrevistados, 81% relataram que aprenderam sobre Hanseníase. Quando foram questionados, o índice de acerto variou entre 76% a 90,5% nas questões com alternativas verdadeiras e falsas, sendo que o maior índice de acerto foi sobre comprometimento da doença na pele e nervos e distribuição gratuita do tratamento. O principal problema da apresentação foi a falta de equipamentos sonoros adequados, que poderiam auxiliar na compreensão do texto e música.

Conclusões: Nossos resultados indicam que houve relevante aproveitamento dos expectadores com a aplicação da técnica de teatro e música na construção de conhecimentos sobre Hanseníase.

PHE 5

ATIVIDADES DE EDUCAÇÃO EM SAÚDE- DETECÇÃO PRECOCE E PREVENÇÃO DA HANSENÍASE, TUBERCULOSE E AIDS

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Dando continuidade às ações do Projeto de Eliminação da Hanseníase na 5ª Regional de Saúde de Guarapuava, em parceria com a ONG holandesa Netherlands Leprosy Relief- NLR, foram realizadas, no período de setembro e outubro de 2001, com um total de 160 horas, atividades de Educação para Saúde em Hanseníase, nos 20 municípios da área de abrangência desta Regional de Saúde (Boa Ventura de São Roque, Campina do Simão, Cândói, Cantagalo, Foz do Jordão, Goioxim, Guarapuava, Laranjal, Laranjeiras do Sul, Marquinho, Nova Laranjeiras, Palmital, Pinhão, Pitanga, Porto Barreiro, Prudentópolis, Reserva do Iguaçu, Rio Bonito do Iguaçu, Turvo e Virmond).

Na oportunidade foram incluídas ações educativas sobre tuberculose e AIDS já que essas doenças têm um caráter semelhante à hanseníase no que se refere a preconceito e estigma.

As atividades desenvolvidas previam a participação de 1000 pessoas. Entretanto, a dimensão do evento superou a expectativa inicial, e dele participaram 5160 pessoas, entre lideranças comunitárias, representantes das Pastorais, representantes do MORHAN, profissionais de saúde, agentes comunitários de saúde, membros das equipes de PSF, indígenas, professores e alunos de 5.^a a 8.^a séries, portadores, ex-portadores de hanseníase.

As atividades foram financiadas através pela NLR, através do Projeto Piloto de Eliminação da Hanseníase, tendo como contrapartida estadual recursos humanos e para combustível e contrapartida municipal equipes técnicas para a organização do evento.

No decorrer do ano de 2002 o impacto das atividades deverá ser medido através dos indicadores de morbidade em cada município.

Projeto Piloto De Eliminação Da Hanseníase. 5a. Regional De Saúde Guarapuava- Paraná

Total De Casos Novos De Hanseníase E Percentual Do Grau De Incapacidades Físicas Nos Pacientes, Anos 1997 E 2001

Fonte: Programa Sinan

PHE 6

AVALIAÇÃO DA CAMPANHA DE DETECÇÃO DA HANSENÍASE NO MUNICÍPIO DE BELO HORIZONTE

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Com os objetivos de aumentar o número de diagnósticos da Hanseníase e aproximar-se, ao máximo possível, da meta de eliminação (< 1 pac/10.000), a SMSA de Belo Horizonte realizou de 27/11 a 01/12 de 2000, uma campanha de detecção e divulgação do quadro clínico e da existência de cura da Hanseníase.

Pudemos observar um aumento significativo no número de diagnósticos (2 a 3 vezes), na semana da campanha e na seguinte, com a detecção de graus de incapacidade mais baixos, não havendo portanto dúvidas quanto ao impacto da mesma nas ações de controle da Hanseníase

PHE 7

AVALIAÇÃO DO TEMA HANSENÍASE NO DISQUE SAÚDE

Maria da Conceição Cavalcanti Magalhães; Darcy de Valadares Rodrigues Ventura

ATDS/SPS/DAB/MS

O desenvolvimento de atividades educativas para a população, como forma de aumentar o conhecimento sobre as doenças e suas formas de prevenção, contribuindo para o controle das mesmas, tem sido amplamente utilizado. Entre outras atividades desenvolvidas o tema hanseníase foi incluído entre os seguimentos do Disque Saúde do Ministério da Saúde, desde outubro de 1997, visando a difusão de informações sobre a doença. O Disque Saúde (DS) é um serviço de atendimento telefônico gratuito inserido na comunicação social do Ministério da Saúde e que coloca a disposição da sociedade mais um canal de acesso a informação, com uma amplitude de ação tão extensa quanto a rede de comunicação telefônica do país.

O objetivo deste estudo é analisar a contribuição do Disque Saúde, na disseminação de informações sobre a hanseníase, no período de 1997 a 2001. Utiliza-se como fonte de dados os relatórios mensais do Disque Saúde. Os dados são estratificados por estados e macrorregiões. Analisam-se as ligações por sexo, faixa etária, grau de instrução e tipo de informação solicitada. Analisam-se também as sugestões enviadas pelos usuários.

PHE 8

AVALIAÇÃO DOS CONHECIMENTOS ADQUIRIDOS PELOS AGENTES COMUNITARIOS DE SAÚDE APÓS SENSIBILIZAÇÃO SOBRE HANSENÍASE

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A Hanseníase, antigamente designada como lepra, é uma doença infecto-contagiosa causada pelo *Mycobacterium leprae*, prevalente no Brasil, segundo país do mundo em número dessa doença, e fortemente vinculada ao preconceito, o que dificulta a reabilitação e o tratamento do portador. No entanto, a Hanseníase vem tendo sua realidade modificada, já que o tratamento ambulatorial se tornou mais eficaz com a poliquimioterapia. Esse projeto teve como objetivo avaliar o conhecimento, as dúvidas, os preconceitos e o estigma relacionados à Hanseníase entre 36 Agentes Comunitários de Saúde (ACS) do município de Cabrobó, interior de Pernambuco, pelo programa Universidade Solidária, em janeiro de 2002, local de alta prevalência (2,8 casos/novos/10.000 hab. em 2001) e incidência (6 casos/10.000 hab.) de Hanseníase. O presente estudo, quantitativo, com variáveis qualitativas e amostra do tipo intencional, utilizou como instrumentos o questionário e a técnica do desenho coletivo, visando, respectivamente, avaliar o conhecimento dos agentes e a eficácia da atividade de sensibilização sobre

Hanseníase, além do estigma relacionado ao tema. Os resultados foram discutidos através da análise estatística dos dados obtidos nos questionários e análise temática de discurso. Assim, verificou-se que os ACS da zona urbana, no pré-teste, apresentaram um percentual de acertos próximo aos da zona rural e, após a sensibilização, os primeiros demonstraram um maior grau de conhecimento, tanto nos questionários quanto durante a análise de seus discursos na dinâmica do desenho-coletivo. Entretanto, ambos os grupos apresentaram desconhecimento e estigma em relação à Hanseníase. Pode-se observar também, que o instrumento utilizado não foi adequado decorrente da baixa capacidade cognitiva da população estudada.

PHE 9

CAMPANHA ESTADUAL DE COMBATE À HANSENÍASE 2001: AÇÕES EDUCATIVAS

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Introdução: A avaliação do programa de controle da Hanseníase em Guarulhos indica problemas de organização de serviços e pedagógicos que demandam intervenções para atingir a meta de controle/eliminação da doença até 2005. Definiram-se as seguintes estratégias: parceria com Secretaria Municipal de Saúde, CHPBG e as ONGS: Sociedade Fraternal Dr. Lauro de Souza Lima e Pastoral da Saúde, visando à implementação das ações educativas junto a população em geral e preparo de recursos humanos nas Unidades de Referência para diagnóstico precoce.

Objetivo Geral: Socializar o conhecimento científico atual sobre a Hanseníase junto a lideranças comunitárias, funcionário e população para estimular o auto-exame e a procura das UBSs para diagnóstico precoce.

Metodologia: Opção pedagógica problematizadora, dialógica e participativa utilizando técnicas pedagógicas-palestras, reuniões de grupos e mutirão de saúde. Pesquisa tipo Survey para identificar os conhecimentos sobre o agravo junto a 163 famílias com orientação individual. Divulgação de sinais, sintomas, tratamento e cura e locais de atendimento. Grupos educativos nos UBSs com vídeo e distribuição de folhetos.

Resultado: Detectou-se um conhecimento fragmentado sobre a doença. No período da campanha e pós-campanha houve procura de 84 casos suspeitos sendo confirmados 13 casos.

Conclusão: O objetivo proposto está sendo atingido, foi válido o trabalho educativo com características e intervenção interpessoal como parte da ação da campanha de 2001.

PHE 10

CAMPANHAS DE BUSCA ATIVA DE CASOS NOVOS E CAPACITAÇÃO DE AGENTES DE SAÚDE

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Com o objetivo de estimar a endemia oculta dos casos de hanseníase no Estado do Acre, agentes comunitários de saúde foram treinados para reconhecer sinais e sintomas da doença. Após aulas teóricas e práticas, os agentes desenvolveram trabalho de educação em saúde junto às comunidades e busca ativa de casos através de visita casa a casa. Técnicos da Coordenação Estadual de Dermatologia Sanitária participam dessas atividades. Como resultados, campanhas realizadas no decorrer de 4 anos, 1.478 novos casos de Hanseníase foram detectados no período, se comparado com a detecção nos mesmos períodos ocorrido em anos anteriores, 1.298 casos novos, houve um incremento de 14%. Também como resultado das campanhas a demanda espontânea para exame dermatológico aumentou, em 2001 foram examinados 84.900 pessoas – 15% da população do Estado.

PHE 11

CAPACITAÇÃO DE MULTIPLICADORES EM HANSENÍASE NOS VÁRIOS SEGMENTOS SOCIAIS DO MUNICÍPIO DE UBERLÂNDIA – MG

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Introdução: A educação em saúde entendida como uma prática transformadora deve ser inerente a todas as ações de controle em Hanseníase e observadas pelas equipes de saúde, usuários, familiares e nas relações que se estabelecem entre os serviços de saúde.

Metodologia: Objetivou-se capacitar multiplicadores através da equipe interdisciplinar visando divulgar informações corretas, diminuir o preconceito e o estigma, possibilitando a detecção precoce e o controle da endemia. Foram realizadas oficinas sobre hanseníase, com a utilização de material didático e

aplicação de instrumental de avaliação nos segmentos sociais: Superintendência Regional de Ensino Estadual, Secretaria Municipal de Educação; Secretaria Municipal de Administração e Centro de Bairro. As variáveis levantadas foram: idade; sexo; grau de instrução; Conhecimento em Hanseníase; Onde obteve o conhecimento; Compreensão do conteúdo.

Resultados: Participaram das oficinas 50 professores; 138 servidores e 14 usuários do centro de bairro. Observou-se que 95,04% dos participantes eram do sexo feminino; 32,17% tinham ensino fundamental incompleto e 26,23% completo, sendo que 24,28% tinham curso superior completo. 51% conheciam a definição de hanseníase e 30,13% obtiveram conhecimento no trabalho. Quanto a compreensão do conteúdo exposto houve 94% de aproveitamento. Na educação os professores repassaram o conteúdo do treinamento para 150 salas de aula, perfazendo um total de 7200 alunos.

Conclusão: Socializar as informações sobre a doença em seus aspectos biopsicosociais, estimular a formação de agentes multiplicadores e sensibilizar quanto a desmistificação do estereótipo presente na Hanseníase é uma das estratégias para eliminar a hanseníase como problema de saúde coletiva até 2005.

PHE 12

CASE FINDING IN DISPLACED POPULATIONS IN ANGOLA

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In Angola the armed conflict led to 25 % of the population being displaced. The population migrated towards Provincial capitals and to Luanda where 673'526 people live in camps around the city (15% of total IDP).

Leprosy is a common problem in all 18 Provinces, (PR 2.86), and any displaced population is likely to include people affected by the disease. The influence of factors such as stress, malnutrition, and other diseases together with poor access to health facilities contribute to the vulnerability of this population.

Increasing awareness about Leprosy in this target group is a priority strategy for early detection and reduction of social stigma.

Visit of IDP camps around Luanda totalling 33'277 people, identification and training of traditional and religious leaders on site, involvement of these leaders in mobilisation of the community, in health education so as to detect new cases of leprosy.

In the last 2 years 70 leaders were identified and trained in 8 IDP camps.

Health education talks were given to 63'354 people.

Among skin problems examined 82 cases of leprosy were found (PR 12.9).

Involvement of the community, even when the population is displaced is a highly effective method to find new cases of leprosy. With the perspective of peace, and return to rural areas the awareness of leprosy will allow detection of new cases in areas hereto inaccessible.

PHE 13

CONTENTS OF INFORMATION REGARDING HANSEN'S DISEASE (HD) AND LEPROSY IN POPULATION OF METROPOLITAN AREA OF DO RIO DE JANEIRO-BRAZIL

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798 women residing in the adjoining areas of 08 Health Units of the metropolitan region of the State of Rio de Janeiro were interviewed and allocated into 2 groups: group H, covering 54.9%, familiarized with the term "hanseníase" (Hansen's disease) and group L, covering 45.1%, familiarized with the term "lepra" (leprosy). The results obtained following questions seeking the content of information regarding the disease were: recognition of more delayed signs in group L (25.0%) in relation to group H (18.5% of the evocations). The early clinical signs were predominant in group H (34.6%) as opposed to (9.0% L). However, only 8.7% of H group mentioned the symptom "numbness" associated to patches. "Itching" was cited in both groups. There was little mention of cure in both groups (5.1%); 32.8% referred to contagium through direct and indirect contact with sick or contaminated people. The reference to animals was associated to leprosy, but also appeared in group H, and the skin was equally cited in both groups. The results point to a quite incipient process of absorption of the term "Hansen's disease" and its relationship to initial symptoms, still with evidence of social representation of leprosy with consequence.

PHE 14

EDUCAÇÃO EM SAÚDE: PREVENÇÃO DO MAL PERFORANTE PLANTAR PELAS EQUIPES DA SAÚDE DA FAMÍLIA

Maria Nelci Bezerra Lopes, Maria Helena Oliveira Bottona, Sandra Solange Leite Campos, Andréa Bezerra Lopes. Secretaria Estadual de Saúde do Ceara em parceria com The Leprosy Relief Association - LRA

As autoras elaboraram um modelo de álbum seriado para utilização das equipes de Saúde da Família no Ceará, nas orientações de prevenção e ou tratamento do mal perfurante plantar em consequência da Hanseníase. Todas as orientações teóricas prática que os profissionais deveram abordar vêm descritas na parte anterior das ilustrações do álbum.

O trabalho apresenta os resultados testados quanto ao entendimento sob o ponto de vista do paciente em relação às orientações e a visualização das ilustrações

PHE 15

ESPELHO DA ALMA POR MEIO DAS CORES: A AVALIAÇÃO DA HANSENÍASE REACIONAL

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A questão deste estudo é a preocupação com a problemática relacionada à assistência de enfermagem ao portador de hanseníase reacional. Objetivos foram caracterizar os portadores de hanseníase reacional e investigar, por meio de um sistema de cores, as principais mudanças ocorridas no âmbito biopsicossocial. Trata-se de um estudo descritivo-exploratório realizado em um hospital-escola, no Programa de Controle da Hanseníase, com 28 pacientes adultos de ambos os sexos, em estado reacional. Foram utilizados dois instrumentos de coleta de dados: uma entrevista, contendo questões a serem respondidas oralmente pelos pacientes e um roteiro sobre as mudanças por eles experimentadas em decorrência à crise reacional, onde o mesmo fazia uma síntese, através de um sistema de cores. A coleta de dados foi de outubro de 1997 a março de 1998. As crises reacionais ocorrem em portador de hanseníase de ambos os sexos, independente da idade e do tipo de forma clínica da doença, permanecendo aos cuidados dos serviços de saúde em até cinco anos após a alta quimioterápica. Verificou-se que as crises reacionais alteram consideravelmente a qualidade de vida do seu portador, sinalizadas pelas anotações das cores verde, amarela e vermelha, denotando as dificuldades encontradas para lidar com determinados problemas levantados, como a convivência com a dor, as expectativas do sonho de futuro, a alimentação, o sono, entre outros, no seu cotidiano de vida. O sistema de cores facilitou a anamnese e a análise do comprometimento, oferecendo subsídios para uma assistência de enfermagem mais eficaz e voltada para as necessidades individuais deste paciente.

PHE 16

ESTRATÉGIA DE EDUCAÇÃO PERMANENTE PARA TRABALHADORES DE SAÚDE: "ELIMINANDO A HANSENÍASE"

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O interesse na realização desse trabalho é o quadro que a região de abrangência da DIR XXII vem apresentando em relação à Hanseníase: metade dos municípios não detectou casos da doença no ano de 2000 e os que detectaram o fizeram tardiamente. 61,08% foram detectados nas formas D e V apesar da quantidade de atividades docentes que vêm sendo desenvolvidas na década de 90 principalmente nos últimos cinco anos. O trabalho se presta a contribuir para a capacitação de profissionais de nível universitário das equipes de saúde municipais, preparando-as para o desempenho de suas funções nas questões relacionadas à eliminação da Hanseníase. Trata-se de um estudo misto, com visão integracionista, combinando métodos quantitativos e qualitativos através de uma investigação exploratória e descritiva que se propôs avaliar conhecimentos, habilidades, atitudes, valores e concepções. Para isso foram utilizados dois questionários fechados estruturados e dirigidos: um para médicos e enfermeiros e outro para os demais profissionais. Os dados foram apresentados em variáveis quantitativas discretas e qualitativas, cuja análise dos mesmos foram cruzadas com bibliografias, materiais e técnicas didático-pedagógicas utilizadas anteriormente em cursos, treinamentos e capacitações. É um trabalho de desenvolvimento que teve como resultado uma proposta de Educação Permanente que constitui num sistema de superação profissional na área da Hanseníase. A ênfase desse processo está na condição de que o profissional se converta em aprendiz estratégico utilizando-se de métodos ativos que proporcionam estreita relação entre educador e educando e onde o professor é um facilitador que cria oportunidades para que os alunos construam seus conhecimentos. O trabalho contribui para a eliminação da Hanseníase.

PHE 17

ESTRATÉGIAS PARA ELIMINAÇÃO DA HANSENÍASE NO ESTADO DO PARANÁ

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Introdução: Para facilitar o trabalho no Estado do Paraná, que possui várias áreas endêmicas, estabelecemos prioridades por regiões, onde possamos atuar com maior intensidade.

Objetivo:

- Eliminar a hanseníase como problema de saúde pública, baixando o coeficiente de prevalência de 1/10.000 hab. ou < 1/10.000 hab. que hoje é de 2.75/10.000 hab.
- Detectar a doença nas suas formas iniciais.

Métodos: A definição das regiões prioritárias se deu a partir de um estudo da tendência da hanseníase no Estado.

Definidas as áreas (Guarapuava, Ponta Grossa, União da Vitória, Cianorte, Paranavaí, Apucarana e Campo Mourão), intensificou-se as campanhas (treinamentos e supervisões), com um maior envolvimento por parte de todos os níveis (municipal, estadual, federal, ONGs).

Resultados: Com este trabalho, notamos um maior envolvimento por parte de todos os segmentos da comunidade, que juntos passaram a administrar os recursos financeiros, os quais foram alocados de acordo com as necessidades locais. Tendo como resultado não só a diminuição dos índices da doença nestas áreas, como também um maior conhecimento por parte da população sobre a hanseníase.

Conclusão: Até o ano de 2002, teremos o resultado da execução do trabalho com algumas áreas já atingindo a meta da eliminação.

PHE 18

HANSENÍASE ZERO x AGÁ = SONHAR O CONHECER

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Introdução: O município de Areias da DIR XXIV-Taubaté-SP com características rurais, com dificuldade de acesso, por questões geográficas, socioeconômicas e culturais, apresenta conhecimento fragmentado sobre agravos de saúde em especial Hanseníase, não havendo nenhum caso registrado do referido agravo.

Objetivo Geral: Socializar o conhecimento científico atual sobre Hanseníase, visando o diagnóstico precoce. Identificar os motivos da inexistência de casos.

Objetivos Específicos: Identificar os conhecimentos, opiniões e práticas da população sobre Hanseníase,

com o subsídio para intervenção educativa discutindo sinais, sintomas, tratamento, cura e diagnóstico precoce.

Metodologia: O diagnóstico educativo realizado antes e após a semana de intervenção educativa em abril de 2001, através de pesquisa tipo SURVEY, com formulário semi-estruturado.

Variáveis: Sexo, idade, escolaridade, frequência à Unidade de Saúde. Análise qualitativa realizada com a metodologia do Discurso do Sujeito Coletivo.

Resultados: Entrevistados 40 moradores de zona rural e 64 da zona urbana, 14,12% conheciam o termo Hanseníase, e na pós-campanha com a intervenção educativa 61,22% responderam afirmativamente. A ligação cultural com a Lepra é presente, o conhecimento ainda é fragmentado. Compareceram à Unidade de Saúde 25 casos suspeitos sem confirmação de diagnóstico. O município permanece com coeficiente zero.

Conclusão: É imprescindível planejar atividades educativas de acordo com as características culturais locais para a procura de diagnóstico precoce se necessário, mantendo o município nas condições atuais em relação ao controle da Hanseníase.

PHE 19

HEALTH CARE EDUCATION AND TREATMENT OF JOINT STIFFNESS

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Joint stiffness that is a secondary complication of peripheral neuropathy in Hansen's disease can be treated, and sometimes prevented, with health education and specific techniques. Range-of-motion measurements of the joints give repeatable information regarding joint stiffness provided the measurements are objective. Along with other health care information given to the patient, use of a goniometer and a commonly available force measurement gauge (Haldex) can be used to objectively evaluate early signs of joint stiffness, follow clinical changes, and evaluate treatment. Recognition and prevention of joint stiffness can lessen disability in Hansen's disease and give important information to health care workers. Goniometric measurements alone do not provide the controlled force necessary for the measurement to be repeatable or objective. Torque range-of-motion measurements, as originally developed by Brand and therapists at the NHDP (Carville), are well described, but not frequently used. This presentation will provide both qualitative and quantitative information about joint stiffness and its role in health care management of the hand and disability prevention.

PHE 20

IMPACTO DAS AÇÕES EDUCATIVAS NO CONTROLE DA HANSENÍASE

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Introdução: a avaliação do programa de hanseníase nos municípios que integram a região, indica problemas de caráter de organização de serviços e pedagógicos que requerem intervenções para se atingir a meta de controle/eliminação da doença. Definiram-se as seguintes estratégias: parceria entre as diferentes instâncias do Controle da Hanseníase, estadual, regional e municipal, responsáveis pelas ações de controle e supervisão das questões organizacionais e capacitação de recursos humanos para a implementação das ações educativas através de oficinas pedagógicas.

Objetivo geral: instrumentalizar profissionais das secretarias municipais de saúde para planejar e avaliar intervenções educativas visando o controle da hanseníase.

Metodologia: opção pedagógica problematizadora, dialógica e participativa com períodos de concentração e dispersão; teoria e prática; com coleta de dados para diagnóstico epidemiológico, de organização de serviços e educativo da realidade municipal, planejamento e avaliação de projetos educativos envolvendo população e profissionais de saúde.

Resultados: Identificação dos conhecimentos, opiniões e práticas da população relacionados à hanseníase; mudanças na organização de serviços, revisão de prontuários, com a melhor definição da situação epidemiológica municipal; estudo epidemiológico e social dos 33 casos descobertos na campanha.

Conclusão: o objetivo proposto está sendo atingido. Com a expansão do PSF e as transformações gerenciais e políticas municipais faz-se necessário consolidar ações de intervenção educativa para o controle/eliminação da hanseníase até 2005.

PHE 21

INCREMENTO NA DETECÇÃO DE CASOS NOVOS DE HANSENÍASE APÓS MOBILIZAÇÃO DA COMUNIDADE NO MUNICÍPIO DE REMANSO – BA

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1.-15ª DIRES – Ba.; 2.- Sec. Municipal de Saúde – Remanso

Neste trabalho procuramos mostrar os resultados

obtidos na estratégia de aceleração de eliminação da hanseníase do município de Remanso Bahia. Acreditando que um dos obstáculos para a eliminação da hanseníase fosse a falta de conhecimento sobre a doença por parte dos profissionais de saúde e da comunidade e na urgência de revertermos tal realidade, foram realizados treinamentos aos profissionais de saúde e professores da rede pública e privada como também mobilização de lideranças da comunidade que pudessem atuar como multiplicadores da informação. Contamos também com o apoio do GT/HANSEN/CONASEMS na veiculação de informação pela mídia e material educativo cartazes, panfletos e cartilhas. Como resultado do esforço o município apresentou, no final do ano de 2001, coeficiente detecção de 25/10.000 habitantes.

PHE 22

INFORMAÇÃO, EDUCAÇÃO E COMUNICAÇÃO (IEC) EM HANSENÍASE: OPORTUNIDADES PERDIDAS EM UNIDADES BÁSICAS DO RIO DE JANEIRO

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Este estudo busca investigar o status da comunicação da informação sobre hanseníase com o objetivo de identificar e selecionar aspectos relevantes da interação entre população adscrita e Unidades Básicas de Saúde (US) de áreas prevalentes de hanseníase.

Com esta finalidade, no período de julho a dezembro de 2001, foram entrevistados 219 profissionais de saúde atuantes em 8 US dos municípios de Duque de Caxias e Rio de Janeiro, e 798 mulheres residentes em áreas adscritas a estas US, sendo 4 delas sem e 4 com atividades de controle da hanseníase.

A proporção de entrevistadas da amostra população conhecedora do nome hanseníase foi de 54,9 %, sendo que 45,1% conheciam o termo lepra, apenas. Os resultados indicativos da comunicação entre as US e a população, mostram que a lepra é transmitida oralmente, na rua e em casa, ao passo que a informação sobre hanseníase, mesmo que adquirida nas US, parece ser mais acessível a quem tem escolaridade correspondente ao nível médio e superior, extrato este que corresponde a 13,8% das entrevistadas. Enquanto que 63,4% da amostra população referiram ser usuárias das US, apenas 31,5% declararam ter recebido alguma informação nestes locais. Isto é cor-

roborado pelo fato de que somente 29,7% dos profissionais informaram participação em atividades educativas, sem diferença entre US com e sem atividades de controle. Considera-se ainda que 47,4% das entrevistadas usuárias destes serviços ignoram o termo hanseníase, enquanto que proporção semelhante valoriza atividades educativas passíveis de realização na rotina das US.

PHE 23

INVESTIGAÇÃO DO CONHECIMENTO DA POPULAÇÃO SOBRE HANSENÍASE

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Introdução: Ações educativas integradas às atividades acadêmicas foram incorporadas nas campanhas anuais de combate à Hanseníase realizadas no Município de Ribeirão Preto.

Objetivos:

1. Investigar o conhecimento da população sobre sinais e sintomas da Hanseníase e fontes de informações que veicularam estes conceitos;
2. Avaliar a credibilidade da população sobre o tratamento da Hanseníase;
3. Inquirir sobre os receios a respeito da doença.

Casística E Métodos: Foram entrevistados 117 indivíduos em praça pública, durante campanha educativa realizada pela LCHLMB do Centro Acadêmico Rocha Lima, FMRP-USP. Durante o período de 8 horas, acadêmicos da LCHLMB aplicaram entrevista em indivíduos que circulavam no local e se dispuseram à entrevista. Utilizou-se formulário padrão de 5 questões aplicado em 5 a 10 minutos, sendo posteriormente entregue folheto explicativo com orientações complementares sobre a doença.

Resultados: Dos 117 indivíduos entrevistados, 52% (53) conheciam a palavra a Hanseníase, sendo que a maioria (62,7%) obteve informações veiculadas por televisão e 17,6% em Serviços de Saúde. Dos que relataram conhecimento, 88,6% (47) associou corretamente os sinais e/ou sintomas à doença, entretanto 11,3% apresentavam dúvidas ou conhecimentos incorretos. Ainda neste grupo, 98% possuíam credibilidade sobre cura da Hanseníase e 47,2% apresentavam receio de contato com o doente.

Conclusões: Concluiu-se que metade da população tem conhecimento da palavra Hanseníase, sendo que na divulgação de informações, destacou-se a mídia eletrônica como importante meio de comunicação. Grande parte destes indivíduos associou corretamente os sinais e sintomas à doença e acreditava na cura e eficácia do tratamento. Constatou-se, no entanto, que o receio do contato com o doente seria um dos fatores indicativos que influiriam na persistência do preconceito.

mente os sinais e sintomas à doença e acreditava na cura e eficácia do tratamento. Constatou-se, no entanto, que o receio do contato com o doente seria um dos fatores indicativos que influiriam na persistência do preconceito.

PHE 24

INVOLVEMENT OF THE SCHOOL STUDENTS IN NAME OF PRESENTING LEPROSY ELIMINATION WORK

U.H.Thakar, Haribhau Damle, Pratibha Kathe

Kushtarog Niwaran Samiti, Shantivan, Taluka Panvel,

Kushtarog Niwaran Samiti, Shantivan-Panvel is situated 55 Km from Mumbai runs 8 S.E.T. centres and 1 Urban Leprosy Centre. School students are main force if their strength is properly used. Shantivan has started organising Shram Sanskar Shibirs since 1981. Special three and half day programme was prepared. Students stay at Shantivan for three and half day. They are given scientific orientation in leprosy with the help of slides and film shows. Students are involving in other activities at Kushtarog Niwaran Samiti. During last 21 years 595 schools, 52 colleges in this programme through 78045 students and 3247 teachers. The project is economically self-sufficient as the students bear their expenses. Maharashtra State Road Transport Corporation is giving special concession for the students. Outcome of the Programme: -

- a) The message that leprosy is curable has reached to ten lacs of people.
- b) 53 students who have participated in such camps now fully devoted their time for the eradication programme.
- c) Awareness generation in the society has become easier with the help of students.
- d) Schools around Mamba were motivated and participation of the people becomes easy and in real sense it has become people's programme.
- e) Principals and School Teachers willing to accept the responsibility of the treatment of the school patients.
- f) The School students are very helpful in Fund Collection Programme.

PHE 25

LEPROSY X HANSEN'S DISEASE: CURRENT STATUS ON SOCIAL REPRESENTATIONS (SR) OF POPULATION IN THE METROPOLITAN REGION OF RIO DE JANEIRO-BRAZIL

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⁸ Municipal Secretariat of Health of R. Janeiro

⁹ Municipal Secretariat of Health of D. Caxias

⁵ Prof. Federal University of RJ/UFRJ

The term "leprosy" and its adjectives have been replaced by "hanseníase" - Hansen's disease (HD) - in official documents of the Ministry of Health (MoH) as part of the Brazilian policy for leprosy control, since the '70s. This research was conducted in order to find out the impact of this neologism among the population of two municipalities of Rio De Janeiro State (RJ). Using the test of "free-word-association", 436 persons (54%) promptly associated to the word "hanseníase" (H group) and 358 (45,1%) to the word leprosy (L group). Education seems to be a determinant factor for HD knowledge. Based on Social Representation (SR) complemented by Central Core (CC) theory and utilizing an EVOC software for analysis, interesting differences between HD and leprosy SR in the population studied were seen. The central core of the SR is composed by the words skin, disease, leprosy, for the H group, while in the L group it comprises disease, dog and skin. Many of the interviewed affirm: "leprosy is a dog's disease" or "HD is a skin disease."

These results point out that the category leprosy reached the central system of HD as well as a patch is close to central system of leprosy. The localization on the skin is a link factor of the two categories focused in this research, despite its function as an aggregate evocation being more pronounced in the H group. It seems that the absence of formal information on leprosy from the health sector and the national media, after HD introduction in the last 30 YEARS, is one of the things responsible for moving leprosy from a human to an animal (dog) disease. This co-existence of new scientific notions and traditional knowledge and attitudes is observed in many studies and confirms that HD is in a transitional process of popularization but was not yet incorporated into common-sense. It should be considered in the planning and execution information, education and communications strategies, especially considering the association of leprosy and low level of education in their specific population

PHE 26

MEMÓRIA E HISTÓRIA DA HANSENÍASE NO BRASIL ATRAVÉS DE SEUS DEPOENTES (1960-2000)

Gallo, M.E.N.; Oliveira, M.L.W.; Maciel, L.R.; Damasco, M.S.

Fundação Oswaldo Cruz/UFRJ - RJ

A história da hanseníase no Brasil encontra-se bem documentada até o início da década de 40 por vários

autores. A partir dos anos 50 até o presente momento, este universo médico, social, econômico e político relativo a doença, não se encontra analisado devidamente tornando-se relevante um estudo que resgate este período. O IOC (Instituto Oswaldo Cruz) e a COC (Casa de Oswaldo Cruz) em parceria com a UFRJ desenvolvem um projeto de pesquisa que prioriza a constituição de um acervo de depoimentos com personagens que fizeram parte desta história na última metade do século XX. A coleta dos depoimentos com profissionais da área da saúde e ex-pacientes, através da metodologia da história oral possibilitará a percepção das variadas nuances tais como as disputas presentes no universo político, análise das políticas de controle, localização de fontes documentais importantes para a reconstrução da evolução da doença, identificação das diferentes concepções e propostas em disputa e os *lôcus* privilegiados de produção e de divulgação de idéias e estudos, tais como periódicos e congressos. Os depoimentos são gravados a partir de um roteiro previamente elaborado levando em consideração a trajetória do entrevistado, sua vida profissional e familiar e em que medida se deu o contato com a doença: a seguir a entrevista é transcrita e conferida e são elaborados sumários das mesmas e um perfil biográfico do entrevistado. Ao término da pesquisa, o acervo ficará sob a guarda da COC e teremos o produto final que é o próprio acervo com os depoimentos (fonte primária para a pesquisa) e um catálogo impresso que será um instrumento para consulta, reunindo as informações necessárias ao pesquisador interessado no tema trabalhado.

PHE 27

PATIENT- AND HEALTH SERVICES DELAY IN THE DIAGNOSIS OF LEPROSY IN KADUNA STATE, NIGERIA

Erik Post

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The objective of the study was to determine patient- and health system delay before reaching modern leprosy services, and to obtain an insight in the kind of health providers that were consulted by leprosy patients in that process. The study was carried out in 1998, Kaduna State, Northern Nigeria. A modified questionnaire on health seeking behaviour was used (ILEP 1996).

About half of all interviewees (48%) went to traditional healers to present the first signs of leprosy. Only 11% of the patients went to the public health sector, and 17% went straight to (public) leprosy services. Private practitioners were consulted in 13% of the cases. They visited 2-3 health providers before leprosy was diagnosed. Family and friends were,

however, the most important group to first suspect leprosy (46% of the cases). Median patient delay was found to be 4.5 months, and the median health system delay 10 months.

The study indicates the challenge that traditional health providers poses to conventional case finding strategies. At the same time patients' social networks, important for health seeking decisions, can be reached through mass health education.

PHE 28

PROPOSTA DE UM MANUAL DE ORIENTAÇÃO DE PREVENÇÃO DE ÚLCERAS PLANTARES

Rita De Cássia Gabos Martins; Cristiane Scarpellini Mello; Heloísa C.Q.C.P. Guimarães

Instituto Lauro De Souza Lima. Rod. Cte. João Ribeiro De Barros 225/226. Bauru-SP- 17034971 Cxp.3021.

A Hanseníase é uma doença infecto-contagiosa, que assume uma grande importância devido ao comprometimento dos nervos periféricos que ocasionam deformidades nas mãos, pés e face. Por isso é uma doença incapacitante e a sua prevenção é um desafio a ser vencido. A enfermeira, fazendo parte da equipe multiprofissional deve contribuir para a melhoria na qualidade de assistência destes pacientes e foi pensando nisso que sentimos a necessidade de elaborar um manual aos pacientes portadores de hanseníase, em tratamento ambulatorial do Instituto Lauro de Souza Lima, com risco para úlcera plantar. O manual foi elaborado contendo técnicas, redigidas em linguagem simples e ilustradas com uma sequência de fotografias, que atingirão a população analfabeta. Este será entregue aos pacientes com risco de úlceras plantares, facilitando o entendimento e a assimilação por estar em fácil acesso, possibilitando ao paciente sua manipulação tantas vezes quanto for necessário, durante o seu autocuidado. Consideramos importante avaliar, se após o recebimento e a manipulação do manual os pacientes alteraram o seu autocuidado e para tanto aplicaremos um questionário que será motivo do nosso próximo estudo.

PHE 29

RESUMO DO PROJETO EDUCATIVO "SEMENTES EM AÇÃO"

Ana Cláudia Gomes de Rocha e equipe da Área de Educação em Saúde

Prefeitura Municipal De Araçatuba - Secretaria de Saúde e Higiene Pública

Caracterização Do Município

População: 169.240 habitantes – 97% dessa popu-

lação vive na área urbana e 3% na área rural do município.

Situação Geográfica:

Localização: Região Centro Oeste do Estado de São Paulo, com 1.167,3 Km² de área. Distante cerca de 530 Km da capital, é sede da 9ª Região Administrativa do Estado.

Densidade Demográfica: 144.98 (hab/Km²)

Limites:

Ao Norte: Aurifloma, General Salgado, Guzolândia e Nova Luzitânia.

Ao Sul: Bilac e Gabriel Monteiro.

Ao Leste: Birigui, Buritama, Turiúba.

Ao Oeste: Guararapes, Valparaíso, Lavínia, Mirandópolis e Sud Minucci.

Condição de Gestão: Gestão Plena de Sistema Municipal de Saúde. Data de Habilitação: maio de 1998

Principal atividade econômica:

- a – agropecuária
- b – Indústria textil
- c – comércio informal
- d – as destilarias de álcool ocupam 10% do território.

Aspectos Ambientais:

Água: 100% de abastecimento

Esgoto: 100% esgoto tratado

Lixo: o destino final ainda é lixão, sendo que até janeiro de 2.003, está previsto a utilização do sistema de aterro sanitário.

Resumo da Experiência

Justificativa: Considerando-se

- O compromisso da Secretaria Municipal e Saúde junto ao Ministério da Saúde em eliminar a Hanseníase como problema de Saúde Pública.
- A necessidade implementação das ações educativas continuadas em Hanseníase.
- A necessidade de formar multiplicadores entre os profissionais de Saúde, educação e lideranças do município, nas ações educativas continuadas em Hanseníase.
- A fundamental participação comunitária nas ações inerentes à eliminação da respectiva doença.
- A possibilidade de, através dessas ações, formar os grupos de "Sementes em Ação".

Objetivos:

Geral: Eliminação a Hanseníase

Específicos:

- Socializar conhecimentos sobre Hanseníase.
- Desenvolver educação continuada com profissionais da saúde e comunidade em geral.
- Estimular a comunidade a participar das ações que visam a eliminação da doença.
- Formar multiplicadores entre os profissionais da saúde, educação, lideranças do município.
- Formar o grupo de voluntários na luta contra Hanseníase: "Sementes em Ação".

Ações Implementares/Atividades Realizadas:**Educação continuada:**

- Treinamento continuado referente as Ações Educativas em Hanseníase para profissionais da saúde.
- Avaliação periódica aos profissionais da Saúde e comunidade em geral: conhecimentos e práticas sobre Hanseníase.
- Avaliação periódica junto à comunidade. Impacto dos meios de comunicação no conhecimento e prática em Hanseníase junto à comunidade.
- Formação do grupo de voluntárias "Sementes em Ação".
- Inserção do projeto "Prevenção também se ensina Hanseníase, da rede de Ensino Estadual, integrando a rede municipal de Educação e particular.
- Semeando o fim da Hanseníase entre os moradores da Zona Rural.
- Oficinas de educação continuada em Hanseníase para "grupo Interinstitucional" – periodicamente: Quinzenal, com objetivo de formar multiplicadores/voluntários juntos às entidades/grupos organizados/empresas/comunidade em geral.
- Implementação das ações educativas em Hanseníase – "Araçatuba em Alerta".
- Implantação da programação Show "Xô Hanseníase" entre a rede de Ensino Estadual, Municipal e particular.
- Implantação do grupo teatral de profissionais da Área de Educação em Saúde, tendo como Dramatização do programa: Com Zé Limpinho na parada, a Hanseníase está fora da jogada.
- Fim da Hanseníase na mídia.

Atividades Pontuais:

- Dia Estadual de luta contra Hanseníase.
- Semana de luta contra Hanseníase.
- "Fim da Hanseníase na Praça".
- Saúde na Praça.

- Saúde na Zona Rural.
- Semana da Saúde – é o fim da Hanseníase.
- Montagem de Stande em feiras, exposições agropecuárias, calçadão, praças, etc.
- Show – Xô Hanseníase.
- Caminhada: "Passo a passo para o fim da Hanseníase".
- Inserção da montagem de Stande sobre Hanseníase em todos os eventos em que a área de Educação em Saúde participa.

Recursos Utilizados

- Humanos: Profissionais da Área de Educação em Saúde; Educadores de Saúde: 02; Área de enfermagem: 02; Agentes de Educação em Saúde: 07; Médicos: 02;
- Multiplicadores: Funcionários das Unidades Básicas de Saúde e o Programa de Hanseníase.
- Materiais: Equipamentos educativos; folhetos, cartazes, felipetas, fitas de vídeo; fantados, banners; fantasias; equipamentos de som; camisetas; sucatas.

Parcerias/População Envolvida:

- Base da Polícia Comunitária.
- Aglomerados da Zona Rural.
- Trabalhadores da Zona Rural.
- Sindicatos – rurais e do comércio.
- Sociedade Amigos de Bairros.
- Empresas.
- Rede de Ensino Estadual, Municipal e particular.
- Pastoral da Saúde.
- Entidades Religiosas.
- Grupo de voluntários: "Sementes em ação".
- Comunidade em geral.
- Centro de Ressocialização
- Febém.

Produtos E Resultados Alcançados:

- Implantação da Educação continuada em Hanseníase com profissionais de saúde e comunidade.
- Mais utilização dos meios de comunidade para socialização de conhecimento sobre Hanseníase.
- Formação de multiplicadores entre os profissionais da saúde, educação e lideranças do município.
- Formação do grupo de voluntários na luta contra Hanseníase: "Sementes em Ação".
- Aumento da demanda voluntária para diagnóstico precoce de Hanseníase.

- De acordo com a última pesquisa de avaliação de conhecimentos e práticas em Hanseníase – Fev/2000 junto a comunidade, comprovamos o impacto positivo das ações educativas na comunidade.

Número de entrevistados: 604

Algumas situações apresentadas:

- Já ouviu falar em Hanseníase?

Resposta:	n. ^o	%
Sim:	580	96%
Não:	24	4%

- O que as pessoas apresentam quando estão com essa doença?

Resposta:	n. ^o	%
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- Qual a forma de transmissão?

Resposta:	n. ^o	%
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- Essa doença tem tratamento?

Resposta:	n. ^o	%
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- Essa doença tem cura?

Resposta:	n. ^o	%
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Resposta:	n. ^o	%
Correcto:	503	83.2%
Incorrecto	101	16.8%

Promoção de conhecimentos e práticas preconizadas para eliminação de Hanseníase, de forma interativa, junto à comunidade através de Dramatização interativa: "Com Zé Limpinho na parada," a Hanseníase está fora da jogada." "Diga adeus à senhora Bactéria." Artistas por um dia no Sho Xô Hanseníase. Voluntário Solidário

Perspectivas de Atuação:

Comunidade:

Processo educativo continuado

Reorientação

Intervenções necessárias durante a avaliação do processo educativo.

PHE 30

STREET THEATRE – A POWERFUL MEDIUM OF COMMUNICATION IN THE FIGHT AGAINST LEPROSY

This presentation will present the processes and experiences of the Danish Assisted Leprosy Elimination Programme (DANLEP) in using street theatre as a powerful IEC tool.

Youth NGO groups enacting a mélange of roles in crowded market places and street-corners have become a familiar sight in even the remotest villages of Orissa. These young women and men are part of the street theatre movement, a folk-media vehicle, which

has proved effective in spreading awareness on leprosy and finding solutions to combat its social evils. In fact, IEC programmes on leprosy elimination are now relying increasingly on this traditional media vehicle. Street theatre's major advantage lies in the instant intimacy it establishes with the target audience. Interactive in its approach, street theatre strikes a responsive chord with the people for whom the message is meant.

Usually based on everyday practical experiences, the local actors seek to involve the audience in finding solutions to a local problem and convey the message in an idiom that is easily recognized and understood. This theatre form avoids an ending as people within the audience are initiated to join the actors and become part of the play to take a final decision. Apart from spreading technical and social messages, this folk-media goes a long way in developing a rational and scientific attitude among the spectators. Street theatre also helps in the initiation of proper social action and social change by exposing the existing human problems relating to leprosy in its socio-cultural milieu. Street theatre is presently seen as a useful tool for the penetration of mass media into rural and tribal communities.

PHE 31

TRABALHO COM GRUPOS DE HANSENIANOS E COMUNICANTES COMO RECURSO EDUCATIVO NA LIGA DE COMBATE À HANSENÍASE "LUIZ MARINO BECHELLI"

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Liga de Combate à Hanseníase "Luiz Marino Bechelli" (LCHLMB), Faculdade de Medicina de Ribeirão Preto, Universidade de São Paulo.

Introdução: Dinâmica de Grupo é uma das técnicas que pode ser aplicada para desenvolver discussões, estimular participação dos integrantes, transmitir informações e clarificar situações.

Objetivos:

- 1) Melhorar a compreensão de pacientes e comunicantes sobre Hanseníase;
- 2) Promover integração da equipe de saúde e o grupo de trabalho.

Métodos: Trabalhos com grupos foram realizados mensalmente pelos integrantes da LCHLMB. Os grupos foram constituídos por cerca de 12 doentes, seus acompanhantes e monitores, acadêmicos e profissionais da saúde. Na visita mensal do doente ao serviço de saúde, durante dose supervisionada da poliquimioterapia, os monitores organizaram discussões e aplicaram técnicas de dinâmica de grupo ou exibiram sessão de filmes educativos. A dis-

cussão interativa contemplou informações sobre a doença, preconceito, estados reacionais, tratamento, prevenção de incapacidade, assim como suspeição precoce. Assuntos gerais de promoção em saúde foram abordados na sessão dos filmes educativos. O período total de duração da reunião do grupo foi de duas horas, sendo uma hora utilizada para estas atividades educativas e o restante para atividades assistenciais, como verificação dos sinais vitais nos períodos pré e pós-dose supervisionada, averiguação de queixas existentes e entrega da medicação domiciliar.

Conclusão: O trabalho com grupos realizado pelos integrantes da LCHLMB pode proporcionar maior integração entre todos os participantes, doentes, comunicantes e equipe de saúde, além de resultar em relevante ação educativa.

PHE 32

UM NOVO OLHAR NA QUALIDADE DO ATENDIMENTO AOS USUÁRIOS DO PROGRAMA DE CONTROLE DA HANSENÍASE

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Secretaria de Estado da Saúde de São Paulo - Centro de Vigilância Epidemiológica/Programa de Controle da Hanseníase e Núcleo de Educação de Saúde. Prefeitura do Município de São Paulo - Ambulatório de Especialidades Céci.

Introdução: O diagnóstico precoce e o atendimento humanizado, ético, eficiente e resolutivo implica na atualização e instrumentalização constante dos profissionais que prestam serviços nas Unidades de Saúde. Os mesmos tem tido pouco acesso a momentos de reflexão sobre seu trabalho, necessitando de estímulo e reconhecimento no dia a dia de sua prática e valorização para construção de um serviço digno.

Objetivo: Sensibilizar os profissionais de saúde de nível médio envolvidos no atendimento ao usuário do programa de controle da hanseníase para um novo olhar na qualidade do atendimento.

Pop. Alvo: 38 auxiliares de enfermagem e visitantes sanitários das U.B.S. dos 04 municípios da Grande São Paulo.

Metodologia: Atividade desenvolvida em forma de curso teórico e prático com a opção pedagógica problematizadora, dialógica e participativa; utilizando técnicas pedagógicas e ludopedagógicas: exposição dialogada, dramatização com congelamento e teatro de bonecos.

Conteúdo: Relações interpessoais no dia a dia; Qualidade no atendimento; O cotidiano na unidade de saúde; a percepção dos usuários (depoimentos); Morhan e o direito à cidadania; Hanseníase: conceitos básicos, situação epidemiológica e prevenção

de incapacidades; Hanseníase: um novo tempo...um novo conceito.

Resultados: Os objetivos foram alcançados. Avaliaram-se as emoções do grupo, através de técnica projetiva: quero mais 79%; satisfeito 47,4%; surpreso 23,6%. Comentários: "É muito bom quando uma luz brilha no fundo do túnel, a esperança renasce em nossos corações e a certeza de que as coisas vão melhorar"; "Ótimo me deu mais entusiasmo"; "Passar para todas as categorias da Unidade".

Conclusão: Os resultados preliminares apontam para um impacto do curso no atendimento aos usuários. Foi observada mudança no desempenho de alguns profissionais participantes do curso, através de relato de usuários sobre o atendimento mais acolhedor e humano melhorando a relação entre o usuário e o profissional.

PHE 33

VALORIZAÇÃO PROFISSIONAL NA PERSPECTIVA DA EDUCAÇÃO POPULAR EM SAÚDE

Brasil, Rogen Weaver Noronha; Soares, Iranyr Maria

Associação dos servidores de nível médio e elementar da Secretária da Saúde do Ceará - ASENDESC / Conselho Estadual de Saúde - CESAUC/CE

Devemos construir espaços comunicativos que possibilitem a produção do saber e de práticas emancipatórias, dentro dessa perspectiva é que se devem pensar nas necessárias mudanças de produção do conhecimento em saúde e na formação profissional, é o ponto de partida: o objetivo principal é a educação popular em saúde, que deverá propor a mudança do comportamento humano e de estrutura social em que os profissionais de saúde e a sociedade estejam envolvidos, se faz necessário trabalhar de maneira articulada os vários aspectos da construção da saúde, a mudança da atitude e de valores profissionais/sociedade que dentro e fora das unidades de saúde junto a população desenvolvem novas maneiras de aprender com o cotidiano, novas práticas de saúde, e começam a recuperar os valores da solidariedade e da construção democrática.

A construção dos espaços coletivos: conselhos de saúde, conselhos populares, associações, entre outros, constitui-se momentos de ação, reflexão, prática e a democratização dos saberes, dando-se o envolvimento e a participação do trabalhador/sociedade na conquista do direito cidadão com uma nova concepção de como organizar o trabalho e a sociedade, com a tentativa de conseguir respostas a complexidade dos problemas sociais, como um desejo coletivo de intervir na realidade, contribuir para que se constituam como sujeitos sociais, iniciativas de integração entre os serviços de saúde e a população.

A busca por valorização profissional dos trabalhadores de nível médio e elementar, a capacitação

continuada para atuar conjuntamente com os diferentes profissionais nos serviços de saúde, podendo assim desenvolver novas habilidades, tanto no trabalho em equipe, na informação da assistência ao usuário do SUS e no agir comunicativo, possibilitando maior segurança e autonomia no desempenho de suas funções junto a população, que passa a ter nova compreensão do saber/conhecer sobre saúde, portanto mais instrumentalizado, adquirindo maior capacidade de intervenção sobre a realidade, passando a exercer o controle social de modo mais representativo e efetivo fortalecendo a organização dos conselhos de saúde garantindo mobilização e autonomia para suas lutas. Configurando-se um processo real de transformação, tanto na educação popular na saúde, quanto no processo profissional, significa provocar e enfrentar conflitos, exercitar a paciência e perseverança. O trabalhador deve ser tornado sujeito da aprendizagem, criador de condições para que se possa adquirir liberdade com responsabilidade, neste processo de construção de práticas em educação popular em saúde, o objetivo é a transformação social do sujeito. Conclui-se que o processo de mudança é imperativo, a coragem de ousar e a determinação são fatores que determinam o avançar, ou limitam a realização de mudanças neste processo de educação popular em saúde continuada.

ando-se um processo real de transformação, tanto na educação popular na saúde, quanto no processo profissional, significa provocar e enfrentar conflitos, exercitar a paciência e perseverança. O trabalhador deve ser tornado sujeito da aprendizagem, criador de condições para que se possa adquirir liberdade com responsabilidade, neste processo de construção de práticas em educação popular em saúde, o objetivo é a transformação social do sujeito. Conclui-se que o processo de mudança é imperativo, a coragem de ousar e a determinação são fatores que determinam o avançar, ou limitam a realização de mudanças neste processo de educação popular em saúde continuada.

IMMUNOLOGY

PI 1

A NOVEL 33 KD LIPOPROTEIN ANTIGEN FROM *Mycobacterium leprae*

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A novel *Mycobacterium leprae* lipoprotein LpK was identified from the genomic database. The 1116 base pair open reading frame (ORF) encodes a 371 amino acid precursor protein with a N-terminal signal sequence and a consensus motif for lipid conjugation. BLAST search of the gene bank database revealed an 80% homologous gene in *M. tuberculosis* but having no N-terminal consensus lipid modification sequence.

The ORF of the lipoprotein was expressed in *Escherichia coli* under the *lac* promoter and with a histidine tag at the C-terminus of the protein. Expression of the LpK protein in *Escherichia coli*, and detection with anti-His antibody, revealed a 33 kD protein. Metabolic labeling experiments with [¹⁴C] glycerol and treatment with peptidase II inhibitor, globomycin, proved that the protein was lipidated. Furthermore, to search for the native protein in *M. leprae*, polyclonal antibodies against the lipoprotein was raised in rabbit. Western blot data with different fractions of *M. leprae*, revealed that this lipoprotein was present in the membrane fraction of *M. leprae*.

Since IL-12 is one of the cytokines induced by mycobacteria and its products and has a function of biasing CD4⁺ T cells towards Th1 differentiation which is closely associated with host defense, we have measured the cytokine level induced by LpK in human blood peripheral monocytes. The purified lipoprotein was found to induce significant production of IL-12p40. The studies imply that *M. leprae* LpK is involved in protective immunity against leprosy and may be a candidate for vaccine design.

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PI 2

A PHASE II FIELD TRIAL OF NEW LEPROSY SKIN TEST ANTIGENS

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Aim: To undertake a Phase II field trial of two new leprosy skin tests in Nepal, a population endemic for both leprosy and tuberculosis.

Methods: Two new skin test reagents, MLSA-LAM (*M. leprae* soluble antigen depleted of LAM) and MLCwA (*M. leprae* cell wall antigen), are protein fractions of *Mycobacterium leprae*, and are expected to give an *M. leprae* specific response in test subjects. This study is designed to assess the safety and immunogenicity of these reagents and measure the sensitivity and specificity of the reagents relative to PPD in detecting exposure to leprosy in a population endemic for both leprosy and tuberculosis.

Subjects will be tested by intradermal injection with two concentrations (1 and 0.1 g/ml) of each test antigen, and induration measured at 48 and 72 hours and at 28 days following injection. Subjects will be recruited from the following groups: healthy non-con-

tacts, active leprosy patients, leprosy household contacts and tuberculosis patients. Volunteers will also be tested with tuberculin PPD.

Results: This trial is scheduled to begin in March/April 2002, and is designed to proceed in three parts. In part A, 10 healthy non-leprosy contacts will be tested with only one antigen each. Following the establishment of the safety of these antigens in this group, a further 90 non-contacts will be tested. In the third part, larger numbers of volunteers from each group will be tested with both antigens.

Conclusion: Details of the issues relating to the implementation of such a study will be presented. Some preliminary observations will be discussed.

PI 3

A POLYMORPHISM IN THE TOLL-LIKE RECEPTOR-2 GENE AND ITS ASSOCIATION WITH LEPROMATOUS LEPROSY

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TLR2 is critical in the immune response to mycobacterial infections and the mutations in the TLR2 have been shown to confer the susceptibility to severe infection with mycobacteria. To define this, we screened the intracellular domain of TLR2 in 131 subjects. Ten subjects among lepromatous leprosy (LL) patients had a band variant detected by SSCP (Single-Strand Conformational Polymorphism). DNA sequencing detected a C to T substitution at nucleotide 2029 from the start codon of the TLR2. The mutation would substitute Arg to Trp at amino acid residue 677, one of the conserved regions of TLR2. The mutation was involved in only lepromatous leprosy, not tuberculoid leprosy and control. We also performed the functional study on TLR2 by measurement of IL-12 production in serum and monocytes from leprosy patients with TLR2 mutation (Arg677Trp). The monocytes obtained from patients with the TLR2 mutation, in comparison to the wild-type TLR2, is significantly less responsive to MLL. It was also confirmed that patients with TLR2 mutation showed significantly lower serum levels of IL-12, in comparing with wild-type TLR2.

Our results provide the first genetic evidence that mutation in TLR2 is associated with leprosy. Thus, we suggest that the mutation (Arg677Trp) in the intracellular domain of TLR2 has a role in susceptibility to lepromatous leprosy.

PI 4

A PRELIMINARY STUDY ON LEPROSY SUBCLINICAL INFECTION AND ITS IMMUNO-EPIDEMOLOGY

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In this article, We reported the results of study on leprosy subclinical infection and its immuno-epidemiology by using PGL-1-ELISA. The blood samples were collected from 116 leprosy patients (LL30, BL30, BB16, BT20, TT20), 130 normal subjects from a non-endemic area of leprosy, 291 household contacts (HC) and 1023 random contacts (RC). In leprosy patients, blood samples were from veins; in HC and RC, blood samples were from ear lobes and absorbed onto a filter paper strip (FPS), 0.025ml or 0.05 ml for each spot. The results indicate that PGL-1-ELISA is highly sensitive and specific for detecting antibody against PGL-1 specific for *M. leprae*. Its Youden's Index (YI) is greater than 90%, and the positive and negative predicative values are more than 90%. The detected results agreed with immuno-epidemiological studies: 1. The positive rate using PGL-1-ELISA increased gradually from TT to LL leprosy patients (in HC, The positive rate of PGL-1-ELISA was much higher in contacts of multibacillary patients than those in contacts of paucibacillary patients); 2. Among RC, the positive rate detected by PGL-1-ELISA were similar in each district and in concordance with the general prevalence rates. The significance of the PGL-1-ELISA for detecting leprosy subclinical infection and studying on immuno-epidemiology for leprosy, including use of FPS, was discussed in detail.

PI 5

A SYNTHETICAL STUDY ON POSSIBILITY OF PREDICTING EARLY RELAPSE IN LEPROSY USING A ND-O-BSA BASED ELISA

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In order to investigate whether the immuno-serological method for detecting infection with *M. leprae* may be applied to predict relapse in leprosy or not, it was used that an indirect enzyme-linked immunosorbent assay (ELISA) with natural disaccharide octyl bovine serum albumin (ND-O-BSA) as antigen (i.e. ND-IgM-ELISA or ND-ELISA) to detect antibody against ND in sera from normal controls, active cases of leprosy, cases cured and relapsed for determining the relations of antibody level to types of leprosy, the relation of Bacteriological Index (BI) and changes of antibody level in sera from leprosy patients cured to relapse of leprosy. The results evaluating ND-ELISA for screening infection with *M. leprae* indicated that, in ND-ELISA, the sensitivity, specificity, PPR and NPR were all 0.96, YI was 0.92, FPR and FNR were all 0.04, LR+ was 24.0, LR- was 0.041; the titers of antibody against ND in sera of leprosy patients showed a gradual increase from the TT to the LL end of leprosy spectrum, and decrease in leprosy cured year by year, and the correlation between BI and MOD in ND-ELISA was also demonstrated by Spearman's method; when a total of 666 sera from leprosy patients cured with DDS monotherapy, was periodically determined the IgM-AbL by using above ND-ELISA. The results showed that, ? In P-MB of post-DDS, of whom 95 were Ab+, 12 of them were diagnosed as relapse in leprosy; additional 335 cases were Ab-, only 1 of them was diagnosed as relapse in leprosy; ? In PB of post-DDS, of whom 44 were Ab+ and 192 cases Ab-; one case of relapse of leprosy in both to be found; ? The risk of relapse was higher 6.7 times in MB of post-DDS than that in PB of post-DDS; ? In group of Ab+, its CRR was 13.68%, in group of Ab-, the CRR was 0.35%, RR=36.7 (RR>1), AR=13.33%; ? Even though the samples were from PB of post-DDS, the Ab would be positive at that time of relapse in the majority of them, usually the relapse did not develop until consistence positivity of IgM-AbL or gradual increase, and appearance of relapse 1-2 years (2 years in the majority) after Ab+. The period of time for relapse was 12-33 years, and change of type might be developed, although it was rare; ? IgM-AbL were gradually decreased in all of relapsed leprosy after effective treatment except one case whose IgM-AbL was consistent.. The above results indicated that the ND-ELISA was useful in screening for early infection with *M. leprae* and in predicting and monitoring relapse in leprosy, especially in multibacillary leprosy.

PI 6

ALLELE FREQUENCIES FOR AN IFN- γ MICROSATELLITE IN A POPULATION OF BRAZILIAN LEPROSY PATIENT

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Leprosy is a chronic infectious disease affecting the skin and nerves. The clinical manifestations and the severity of its symptoms may vary widely in those who develop the disease. The immune response to the causative bacterium *Mycobacterium leprae* may be predominantly cellular giving rise to the tuberculoid form of the disease or it may be biased to a more humoral reaction that leads to the development of lepromatous leprosy. Borderline leprosy falls into the middle of the spectrum but often it develops towards either one of these two dichotomous forms eventually. Interferon- γ , a T_H1 cytokine with a critical role in cell-mediated immune responses, seems to be vital in the control of mycobacterial infection. We genotyped a group of Brazilian control samples and leprosy patients for a CA-repeat microsatellite polymorphism within the IFN- γ gene, which has previously been shown to influence IFN- γ production. The tuberculoid patient subgroup, in which the disease is known to be controlled by a Th1 response, had a significantly different allele distribution when compared to the control group (p=0.013). These results indicate that IFN- γ gene polymorphism may contribute to the course of leprosy post infection.

PI 7

AN ASSOCIATION STUDY BETWEEN BORDERLINE LEPROSY AND THE HLA SYSTEM ANTIGENS – PRELIMINARY RESULTS

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Leprosy is an infectious disease with chronic evolution whose etiological agent is the *Mycobacterium leprae*. The clinical forms classification was done according to the VI Hansen's Disease Congress in Madri (1953), where two clinical and immunologically distinct polar types were described: the tuberculoid (T), the lepromatous (V), and two intermediate groups that are the borderline (D) and the intermediate (I).

Because of its immunological involvement and the few studies related specifically to the immunogenetics of the borderline group, our objective was to investigate the possible association between HLA antigens in the borderline leprosy patients and compare it with normal individuals of the same ethnic group.

Our study showed a decreased frequency of the HLA-DR5 ($P=0.03$), which suggests protection against the disease. ABC antigen frequencies were not significantly altered in the patients. These findings further support the involvement of the HLA system in the pathogenesis of this clinical form of leprosy.

PI 8

ANALYSIS OF THE IN VITRO IMMUNE RESPONSE TO *Mycobacterium tuberculosis* ESAT-6 RECOMBINANT ANTIGEN IN BRAZILIAN TB PATIENTS

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Tuberculosis (TB) remains an important health problem worldwide. ESAT-6, a secreted highly specific antigen of *Mtb*, is a major target for potent IFN- γ secreting CD4+ T cells in humans. However, few *Mtb* antigens (Ag) that induce CD8+ T cells are recently recognized, whereas those for CD4+ T cells have been partly defined. Since ESAT-6 usage as a diagnostic tool for TB has been proposed, the immune response to rESAT-6 and its peptide mixture (PeptMix) was assessed in Brazilian TB patients and controls from an endemic area for leprosy and TB.

PBMC were stimulated with rESAT-6 and PPD, and IFN- γ was detected by ELISA and RT-PCR. High IFN- γ levels were observed in pulmonary (mean 1576pg/ml) and also in pleural (mean 1279pg/ml) TB patients ($p < 0.05$) when compared to control individuals (mean 491pg/ml). In addition, the rESAT-6 (untreated = 646 196pg/ml; treated = 2342 728pg/ml) and PeptMix (untreated = 1464 \pm 361pg/ml; treated = 1177 352pg/ml) PBMC stimulated obtained from 39 (20 untreated and 19 treated) Brazilian TB patients was highly correlated in the IFN- γ ELISA. The expression of activation markers induced by ESAT-6 (%CD25/CD4 = 7.8 1.5; %CD69/CD8 = 6.4 2.0) and PeptMix (%CD25/CD4 = 8.4 1.3; %CD69/CD8 = 7.2 1.7) was also observed. The source of IFN- γ and TNF- α secreting T cells were investigated in order to identify PBMC-primed ESAT-6- and PeptMix-specific T cells. Both CD4 and CD8 T cells were responsive to this antigen in vitro. In conclusion, TB patients were able to recognize ESAT-6 and PeptMix by inducing higher IFN- γ

titers, activation molecules, and both T cell subsets cytokine secretion. Nevertheless, the proposed potential use of ESAT-6 for early TB diagnosis has to be better investigated in endemic areas

PI 9

ANTI DIABETIC AUTOANTIBODIES IN LEP-ROSY – AN OBSERVATION

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A number of leprosy patients attending th OPD at CLT and RI,Chengalpattu were found to be having hyperglycaemia or confirmed Diabetes. A thorough investigation of these patients showed that they were found to be having autoantibodies like GAD-65, IA-12 and ICA-512 in their serum samples. Further probe showed that these autoantibodies were present in leprosy patients without diabetes. Results are analysed and the significance of the autoantibodies in leprosy patients and their role with reference to Th-1 and Th-2 mediated immune responses is presented and discussed.

PI 10

ASSOCIATION OF AUTOANTIBODIES TO LEP-ROSY PERIPHERAL NEUROPATHY

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High titers of serum antibodies to neural antigens occur in several forms of neuropathy. These antibodies frequently react with glycosylated cell surface molecules, including glycolipids, glycoproteins and glycosaminoglycans. There are several correlations between antibody specificity and clinical symptoms. By extrapolation, in other neural diseases that may be of an autoimmune nature, suggestions have been made that antibodies to gangliosides may have a pathogenic significance. The ganglioside composition of the motor and sensory fibres from the human peripheral nervous system includes a wide range of glycolipids including GM1, GD1a and GD1b gangliosides. As one of the hallmarks of leprosy and leprosy reactions is neuropathy involving peripheral nerve, we decided to test serum samples from leprosy patients for the presence of antibodies to these components.

Thirty-nine serum samples from 15 leprosy patients were studied, including 5 PB and 10 MB patients. Samples were collected during and after treatment and include samples from the 5 patients that developed RR or ENL. The control group was composed of 5 contacts of leprosy patients, 5 healthy persons from the same endemic area and 10 other controls. IgG and IgM antibodies to GA1, GM1, GD1a, GD1b ganglioside and sulphatides were assayed by ELISA.

Alterations in antibody levels were not observed. Our study fails to support an enhancing role for autoimmune antibodies to gangliosides and sulphatides in leprosy neuropathy.

PI 11

ATIVIDADE DA ADENOSINA DEAMINASE NO SURTO REACIONAL

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Introdução: A adenosina deaminase (ADA), enzima - chave no metabolismo das purinas, possui importante papel no sistema imune. A atividade aumentada desta enzima ocorre tanto em afecções linfoproliferativas como em processos infecciosos, a exemplo da tuberculose. Suas isoenzimas, ADA1 e ADA2, refletem respectivamente, a atividade de linfócitos e macrófagos. Na hanseníase, a atividade linfocitária e macrofágica se relaciona com mecanismos de resistência e patogênese. Muitos pacientes com hanseníase desenvolvem periodicamente episódios inflamatórios de surto reacional, associados a lesão tecidual. O objetivo deste estudo foi investigar a atividade da ADA antes e durante a ocorrência destes episódios na hanseníase.

Material e Métodos: 44 pacientes com diagnóstico de hanseníase e apresentando surto reacional tipo 1 ou 2 foram incluídos no estudo. No grupo controle, 8 pacientes que não apresentavam surto reacional e 32 indivíduos saudáveis foram avaliados. Os valores da ADA total e de suas isoenzimas (ADA1 e ADA2) foram dosados no soro, antes e durante o surto, por método espectrofotométrico.

Resultados: Os valores da ADA total, ADA1 e ADA2 se encontram mais elevados em pacientes com hanseníase, em comparação com indivíduos saudáveis. Os pacientes em surto reacional apresentam uma tendência a mostrar uma maior atividade desta enzima, quando comparados aos pacientes sem surto. A maioria dos pacientes com surto tipo 2 apresenta um aumento da atividade da ADA, precedendo este surto em cerca de 30 dias.

PI 12

CORRELAÇÃO ENTRE BCG INTRADÉRMICO E LINFOPROLIFERAÇÃO E PRODUÇÃO DAS CITOCINAS IFN- γ , IL-12, IL-10 E IL-4 EM PACIENTES COM HANSENÍASE E EM SEUS COMUNICANTES

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O BCGid é preconizado para a imunoprofilaxia da hanseníase. Apesar de frequentemente utilizado, especialmente em comunicantes de doentes de áreas endêmicas, os seus mecanismos imunológicos de estimulação protetora são ainda pouco conhecidos para a doença. Como o desenvolvimento da hanseníase correlaciona-se diretamente com a resposta imune celular, avaliou-se a relação entre a aplicação de uma dose de BCGid em doentes e comunicantes, associando com alterações imune celulares. A avaliação foi através da linfoproliferação e da quantificação das citocinas IFN- γ , IL-12, IL-10 e IL-4. Verificou-se ainda se houve diferença entre a resposta imune celular induzida pelo BCGid em doentes e comunicantes. Foram avaliados 34 indivíduos, antes e após o BCGid, sendo 15 doentes e 19 comunicantes saudáveis. A linfoproliferação foi desenvolvida na presença de Con-A, BCG e HSP-65, durante 96 horas. Os sobrenadantes foram coletados e estocados a -70°C para dosagem de citocinas, e a proliferação foi avaliada pela incorporação de 3H-timidina. Linfócitos de doentes e comunicantes apresentaram maior proliferação na presença de Con-A e BCG. Comparando-se os resultados antes e após a aplicação de BCGid, foram notadas maiores respostas nos indivíduos submetidos ao BCGid ($p < 0,05$). Foi observado também que as células dos comunicantes pós BCGid apresentaram maior capacidade de estimulação na presença dos antígenos do BCG, quando comparadas às dos doentes ($p = 0,004$). Os resultados da quantificação das citocinas (através do Elisa) mostraram que a aplicação de BCGid leva à maior produção de IFN- γ ($p < 0,05$), sendo essa produção significativamente maior na presença do BCG em células de comunicantes que de doentes TT ($p = 0,004$). IL-12, pós BCGid, apresentou níveis equivalentes em células de doentes e comunicantes ($p = 0,1713$), frente ao estímulo BCG. Entretanto, a produção de IL-12 em comunicantes foi significativamente maior pré BCGid, na presença do BCG ($p = 0,0029$), o que não se observou entre os doentes ($p = 0,4648$). Além de IFN- γ e IL-12, BCG induziu a produção de IL-10, detectada em sobrenadantes de comunicantes em níveis significativamente maiores após o BCGid ($p = 0,0098$), frente ao BCG. Esses resultados sugerem que a resposta imune predominante induzida pelo BCGid foi do tipo protetora, associando-se à detecção de IFN- γ .

Assim, foi possível concluir que a aplicação do BCGid é útil em áreas endêmicas, pois pode induzir a resposta imune celular específica das células do hospedeiro. A capacidade do BCGid induzir a ativação da resposta imunológica de doentes e comunicantes está associada à maior produção IFN- γ em ambos os grupos.

PI 13

CORRELAÇÃO ENTRE BCG INTRADÉRMICO E NÍVEIS DE ANTI-PGL-1 EM PACIENTES COM HANSENÍASE E EM SEUS COMUNICANTES

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O BCG intradérmico é preconizado para a imunoprofilaxia da hanseníase. Apesar de frequentemente utilizado, especialmente em contatos de doentes de áreas endêmicas, os seus mecanismos imunológicos de estimulação protetora são ainda pouco conhecidos para a doença. Como o desenvolvimento da hanseníase correlaciona-se diretamente com a resposta imune celular, avaliou-se a relação entre a aplicação de uma dose de BCGid em doentes e comunicantes, associando com alterações imune celulares. Um dos métodos usados para a avaliação foi através da produção de anticorpos específicos do *M. leprae* (Anti-PGL-1). Verificou-se ainda se houve diferença entre a resposta imune celular induzida pelo BCGid em doentes e comunicantes. Foram avaliados 34 indivíduos, antes e após o BCGid, sendo 15 doentes e 19 comunicantes sadios.

Foi utilizado o ensaio enzimático para detecção de anticorpos Anti-PGL-1 (Elisa Anti-PGL-1). Os níveis dos anticorpos Anti-PGL-1 no soro de pacientes e comunicantes foram avaliados antes e após uma dose de BCGid, sendo observados baixos níveis de anticorpos Anti-PGL-1 em tuberculóides (= 1,86), médios em borderlines (= 4,56) e elevados em virchovianos (= 15,75), correlacionando-se com as baciloscopias. Os níveis dos anticorpos Anti-PGL-1 no soro dos comunicantes foram menores do que aqueles encontrados nos doentes ($p < 0,05$). Após a aplicação do BCGid, houve diminuição significativa dos níveis de Anti-PGL-1 em doentes e comunicantes ($p < 0,0001$), o que pode sugerir que o BCG induz a ativação da resposta imune celular (tipo Th1), potencializando a destruição dos bacilos pelos macrófagos e capacitando a defesa específica dos doentes. Os resultados tornam-se relevantes, porque até a avaliação pós BCGid, os doentes permaneceram sem tratamento específico. A redução dos níveis dos anticorpos específicos ocorreu nos pacientes, independentemente de nível baixo ou mais elevado e de forma clínica da doença.

Portanto, a capacidade do BCGid induzir a ativação da resposta imunológica de doentes e comunicantes pode estar associada à queda dos níveis dos anticorpos Anti-PGL-1, em ambos os grupos.

PI 14

CRIPTOCOCOSE EM PACIENTE DE HANSENÍASE: RELATO DE CASO

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Introdução: Doença infecciosa causada por leve-dura de distribuição universal, o *Cryptococcus neoformans*, disseminada através de dejetos de pássaros e adquirida através de inalação. A infecção cutânea em indivíduos sadios é rara. No entanto, sua frequência aumenta em adultos com doenças sistêmicas como lupus eritematoso, linfomas, em estados de imunossupressão de origem infecciosa ou medicamentosa.

Relato do caso: Os autores apresentam caso clínico ocorrendo em paciente de 39 anos de idade, pedreiro, portador de hanseníase virchoviana tratada, mas apresentando surtos frequentes de eritema nodoso hanseniano controlados há cerca de 6 anos com doses variadas de corticosteróides sistêmicos que há 6 meses apresentou lesão cutânea ulcerada diagnosticada como criptococose e tratada com fluconazol, tendo evoluído com cicatrização da lesão. Os autores discutem e chamam a atenção sobre a ocorrência de imunossupressão iatrogênica na tentativa de se controlar complicação importante da hanseníase que é o ENH.

Considerações finais: Trata-se de patologia cutânea incomum ocorrida por imunossupressão iatrogênica.

PI 15

CYTOKINE LEVELS CORRELATE WITH MULTIDRUG-RESISTANT PULMONARY TUBERCULOSIS IN RIO DE JANEIRO

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Introduction: Resistance of *M. tuberculosis* to antimycobacterial agents has recently received increased attention worldwide. The participation of T cell response in multidrug resistant TB is not yet

clearly understood. In addition, progression to fatal outcome in these patients might be related to enhanced inflammatory response *in vivo*.

Aim: To evaluate T cell and inflammatory response in MDR patients in comparison to TB patients not MDR.

Methods: MDR TB cases were defined as resistant to at least INH e RMP. The immune response was evaluated in 12 MDR patients who were tested negative (ELISA) for HIV. Peripheral blood was collected before the initial specific MDR treatment. For detection of cytokines, IFN γ , sTNF-RII (p75), and IL-6 were measured in PBMC cultures stimulated or not with PPD and the recombinant antigens ESAT-6 and 85B. Supernatants were harvested either after 20 or 72h (IL-6, TNF-RII) and after 5 days (IFN γ) of culture and were assayed by specific ELISA.

Results: Preliminary immunological analysis showed lower IFN levels in response to ESAT-6 in MDR patients (mean SEM = 590 223pg/ml) when compared to pulmonary TB patients (n = 50; mean = 1553 420pg/ml), and similar to the response of PPD negative healthy donors (491 74pg/ml). More interestingly, IFN γ in response to PPD in the MDR group (mean = 431 260pg/ml) was also lower when compared to both groups, TB patients (1564 110pg/ml) and controls (1332 \pm 411pg/ml). Evaluation of the inflammatory response in MDR was showed to be up-regulated, since values of soluble TNF-R in these cultures were 753 384pg/ml (72h culture) vs. 2067 923pg/ml in the TB group. In addition, for IL-6, constitutive cytokine levels were 4744 832pg/ml in the TB patients vs. 1468 878pg/ml in the MDR.

Conclusion: The data indicate that T cells from MDR patients respond to mycobacterial antigens *in vitro* at a lower extent when compared to TB patients and that inflammatory responses are also exacerbated. Follow-up studies are still necessary to determine whether worsening of clinical conditions in MDR are related to such immunological parameters.

PI 16

CYTOKINE mRNA EXPRESSION IN THE EPIDERMIS OF LEPROSY PATIENTS: DIFFERENTIAL TNF α mRNA REGULATION DURING INFLAMMATION

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Introduction: The epidermis can represent an important site of immuno-inflammatory response in the skin. In leprosy, histopathological alterations are described both in the dermis and epidermis, mainly during the reactional states (reversal reaction, RR and erythema nodosum leprosum, ENL).

Objective: To evaluate the expression of cytokines and ICAM-1 genes by RT-PCR in the epidermis of reactional leprosy patients.

Methodology: Skin biopsies were collected of the 25 reactional leprosy patients, RNA was extracted from the dermis and epidermis and RT-PCR was performed to β -actin, TNF α , IL-6, IL-8, IL-12 and ICAM-1. The amplified products were analyzed through electrophoresis in agarose gel and the radioactive hybridization was performed with specific probes to all molecules.

Results: Detection of TNF α and IL-6 mRNA in the epidermis was evidenced in all individuals during ENL and RR, IL-8 message was detected in 66.6 and 62.5% of the patients, IL-12 mRNA was present in 91.6 and 62.5% and ICAM-1 in 100 and 71.4%, respectively. In addition, when skin biopsies were obtained from the same patients before and during the reactional episode, an enhancement in cytokine mRNA, but not of ICAM-1, was noted. Seven patients were also evaluated at the onset of reaction and during anti-inflammatory treatment. In contrast to a preferential decrease in the TNF α gene detected in the dermis, during the treatment phase, a persistent/enhanced TNF α mRNA expression was detected in the epidermis in 6 out of the 7 patients assessed.

Conclusion: The present data indicate that the epidermis has an important participation in the local inflammatory response in leprosy and it seems to parallel the histological changes observed *in situ*.

PI 17

CYTOKINES QUANTIFICATION IN SUPERNATANT OF MONONUCLEAR CELL CULTURE OF PATIENTS WITH LEPROSY: PRELIMINARY RESULTS

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Objective: to evaluate the cytokine profile in the supernatant of a mononuclear cell culture of patients with leprosy, at the moment of diagnosis and six months after multidrugtherapy.

Methods: mononuclear cells from peripheral blood from 15 patients (5 LL, 7 B, 3 TT) were cultivated, in 37°C and 5% CO₂, for 24 and 48 hours in the pres-

ence and absence of PHA (8g/ml), LPS (10g/ml) and integral *M. leprae* (10 bacilli/cell). The supernatants were collected and the cytokines IL-2 and IFN γ (Th1,) IL-4 and IL-10 (Th2), IL-1 and TNF α were quantified by the ELISA technique (R&D Systems).

Results: multibacillary patients (12) produced greater levels of IL-4 before treatment (PHA= 80 ± 72 pg/ml; *M. leprae*= 4 ± 7 pg/ml; spontaneously= 10 ± 18 pg/ml) than six months after the treatment (PHA= 37 ± 55 pg/ml; *M. leprae*= 2 ± 2 pg/ml; spontaneously= 3 ± 2 pg/ml) and high levels of IL-10 before and after multidrugtherapy (PHA= 2392 ± 1673 pg/ml; *M. leprae*= 430 ± 623 pg/ml; spontaneously= 790 ± 1030 pg/ml; PHA= 2489 ± 1332 pg/ml; *M. leprae*= 564 ± 331 pg/ml; spontaneously= 811 ± 613 pg/ml, respectively).

Conclusion: the results obtained suggest that multibacillary patients produce high levels of cytokines of the Th2 pattern (IL-4 and IL-10) at the moment of disease diagnosis.

PI 18

DETECTION OF TNF α mRNA EXPRESSION BY DIRECT *IN SITU* RT-PCR IN THE PBMC OF PATIENTS WITH LEPROSY

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Introduction: TNF α is an important cytokine in leprosy pathogenesis and it has been shown to be involved in the immuno-inflammatory processes during this infectious disease.

Objective: To standardize the method of the direct *in situ* RT-PCR for evaluation of TNF α mRNA expression induced by *M. leprae* *in vitro*.

Methodology: PBMC of 7 leprosy patients were isolated by Ficoll-hypaque density centrifugation, plated on Teflon beakers and stimulated or not with LPS (10ng/ml) or *M. leprae* (1g/ml) for 1 and 3 hours. Amplification for TNF α was performed by direct *in situ* RT-PCR, using digoxigenin-dUTP.

Results: Detection of TNF α mRNA positive cells (blue-black staining) was higher in the LPS-stimulated cultures when compared with the unstimulated cells in all experiments. Similar results were found using *M. leprae* stimulated cells. TNF α mRNA expression in the PBMC from one BT patient was detected by direct *in situ* RT-PCR in the unstimulated, *M. leprae*- and LPS- stimulated cultures. It was possible to detect a qualitative difference between unstimulated and stimulated cells, which contain a higher number of positive cells (blue-black staining) as compared to the former one. Moreover, after 1 hour of stimulation, the number of positive cells was

higher than after 3 hours. The same kinetic response for TNF α mRNA expression was obtained in both, solution RT-PCR and *in situ* RT-PCR. *M. leprae*-stimulated PBMC showed higher amount of TNF mRNA 1 hour after the stimulus.

Conclusion: The *in situ* RT-PCR method will allow the more precise determination of the amount of cells that actively express cytokine message. Current experiments are being developed to determine the differential profile of TNF α synthesis by monocytes and T-lymphocytes *in vitro*.

PI 19

DIFFERENTIAL SERODIAGNOSIS OF LEPROSY AND TUBERCULOSIS BY IMMUNOBLOT BAR READING AND ELISA USING SHARED MYCOBACTERIAL ANTIGENS

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Mycobacteria are composed of complex mixture of antigens and many of them are shared by all mycobacterial species. Owing to the ubiquitous nature of mycobacteria, human sera always show serum antibody activities to shared mycobacterial (Smyc) antigens. Studies on the sero-antibody responses to Smyc antigens by immunoblot assay showed that hosts recognise different antigenic bands in the fashion of "bar" as disease specific manner. This is an important basis for discriminating leprosy patients from tuberculosis patients and patients with other types of inflammation. The group of leprosy patients were histopathologically and clinically classified. The present report is the analysis of a total of 200 patients (130 leprosy, 75 tuberculosis and 75 patients with non-mycobacterial inflammation by immunoblot 'BAR' reading (ImBBR) method). The results show that 99% of LL and 77% of BL patients' sera reacted with a doublet 29/33 KD antigens whereas TT and BT sera (94% and 63% respectively) reacted to a 64/65 KD singlet Smyc antigen. Interestingly, sera of BB patients did not show any clear cut reactivity pattern rather a smeartype pattern. In contrast sera from tuberculosis patients, that were clinically and microbiologically defined, reacted with a group of Smyc antigenic bands. e.g. 58-60 KD, 38-40 KD, 18-22 KD, 14-16 KD regions. In parallel, enzyme linked immunosorbent assay (ELISA) for measuring IgG, IgM and IgA antibodies using gel purified 29/33 KD

doublet, 64/65 KD singlet and a subcellular pellet fraction (P90) Smyc antigens was used. The ELISA results show that different types of leprosy can be discriminated distinctly from each other and from tuberculosis as well as from control patients. Moreover, since the immunoblots and antigen coated microtitre plates are stable at room temperature such combined assays can be used for screening population in the countries endemic for both of these pathogenic mycobacterial infection. In conclusion it appears that the combination of ImBBR and ELISA using either antigen mixtures or a panel of isolated Smyc antigens will be a valuable tool for identification of potential leprosy and tuberculosis patients in endemic population.

PI 20

DIFFERENTIAL TRAFFICKING OF *Mycobacterium tuberculosis* AND *Mycobacterium leprae* IN HUMAN MONOCYTIC THP-1 CELLS

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Supra vital dye -labelled *Mycobacterium tuberculosis* and *Mycobacterium leprae* and vacuolar markers were used to study the phagosomal biogenesis in host cells (THP-1, a human monocytic cell line) by Laser Scanning Confocal microscopy (LSCM) and Electron Microscopy. Fluorescein (green), or PKH26 (red)-labeled mycobacteria and two acidotropic probes Lysotracker Red DND-99 and Lysotracker Green-26 were used to monitor the events by LSCM while Rab5 and Cathepsin D were used to identify phagosomes and lysosomes by immunoelectron microscopy. Lysotracker probes localised preferentially within lysosomal compartments whereas phagosomes were identified by transferrin receptors. Live *M. tuberculosis* co-localised with transferrin-labeled organelles upto 48hrs. Whereas *M. leprae* co-localisation with transferrin was restricted to 6 hours only. The phagolysosomal fusion event also differed with both organisms, with viability of the organisms being the pre-disposing factor during this phenomenon. Interestingly, *M. leprae* co-localised with acidic organelles up to 48 hours while *M. tuberculosis* containing phagosomes resisted fusion with lysosomes. Results indicate that although cultivable and non-cultivable mycobacteria have evolved ways to circumvent the hostile environment of the macrophage, the mechanisms employed by them are varied.

PI 21

DISTRIBUTION OF HLA CLASS II ALLELES IN LEPROSY PATIENTS OF KAZAKH POPULATION

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Genetic factors play a significant role in susceptibility to infectious diseases. A great number of investigations to study HLA-antigenic distribution in leprosy were carried out mainly on Orientals and Hindu. In Russia leprosy patients of Kazakh nationality are next to Russian patients. Meanwhile, HLA-genetic profile in leprosy patients of Kazakh population has not been studied. Our work is aimed at studying distribution of class II HLA-antigens in Kazakh population. Distribution of class II HLA-antigens of DRB1, DQA1 and DQB1 loci was defined in 52 leprosy patients and 60 healthy non-relatives of Kazakh nationality. HLA-genotyping was carried out by means of PCR. It was stated that in leprosy patients DRB1-01 and DRB1-17 antigens occurred more frequently ($P < 0.05$). Frequency of DRB1-10, -09 and DQA1-601-alleles was considerably low as compared with healthy persons. Relative risk (RR) of the disease was 2,8 and 3,6 for DRB1-01 and -17, correspondingly. The data obtained permit to consider HLA-DRB1-01 and DRB1-17 antigens as genetic markers of susceptibility to leprosy in Kazakh population. Having regard to the fact that HLA-DRB1-17 allele enters into serologically defined HLA-DR3-specificity that is defined as a marker of leprosy susceptibility in different ethnic populations, one might suggest that the highest risk of leprosy is associated with increased frequency of haplotypes with above allele. Thus, the observed peculiarities of distribution of alleles of HLA-loci strongly necessitate investigations on HLA markers of diseases in different ethnic populations. It will permit a more accurate identification of risk groups, on the one hand, and target searches for universal markers of leprosy susceptibility, on the other.

PI 22

DISTRIBUTION OF II CLASS HLA ALLELES IN RUSSIAN LEPROSY PATIENTS

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Distribution of DRB1, DQA1 and DQB1-antigens of

II class HLA was studied in 55 leprosy patients and 50 healthy non-relatives of Russian nationality. HLA-genotyping was carried out in PCR. Leprosy patients showed antigens DRB1-15, DRB1-16, DQA1-102, DQB1-602/8 and DQB1-502/4 with more high frequency ($P < 0.05$). Frequency of HLA-DQA1-301 allele was significantly low in leprosy patients as compared with healthy subjects. With correction for the number of test-antigens significant differences maintained for alleles of HLA-DQA1-102 and -DRB1-15 genes. A study of distribution of haplotypes in leprosy patients showed increased frequency of DRB1-15-DQA1-102-DQB1-602/8 and -DRB1-16-DQA1-102-DQB1-502/4 as compared with control. At the same time frequency of DRB1-11-DQA1-501-DQB1-301-haplotype was low in leprosy patients. Taking into account that HLA-DR1-15 and 16 alleles are a part of serologically detectable specificity of HLA-DR2 which was earlier defined by us as indicating leprosy susceptibility in Russian population, one might suggest that the highest risk of leprosy disease in Russian population should be associated with high frequency of haplotypes of the above alleles. The results obtained permit to consider HLA-DRB1-15 and DQA1-102 molecules as genetic markers of susceptibility to leprosy in Russian population. Thus, investigation of distribution of allelic loci of HLA-system when identifying specific haplotypes significantly increase the effectiveness of defining their associations with leprosy and, hence, permit a more accurate identification of risk groups based on genetic analysis.

PI 23

ESTUDO COMPARATIVO ENTRE REAÇÃO DE MITSUDA E FENOTIPAGEM HLA EM PACIENTES HANSENIANOS: RESULTADOS PRELIMINARES

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Sabe-se que na hanseníase as respostas imunológicas do hospedeiro determinam as formas clínicas da doença, verificadas pela reação de Mitsuda (teste incorporado como auxílio diagnóstico, principalmente, dos grupos indeterminado e dimorfo). Do ponto de vista genético, há evidências de que o complexo HLA seja o responsável pelas diferentes formas da doença, mas não existem relatos de trabalhos que descrevam tal comparação.

Desta forma, temos por objetivo verificar se existe relação entre os resultados da reação de Mitsuda, formas clínicas da doença e fenótipos HLA encontrados nos pacientes que compõe o estudo.

Realizamos, até o momento, tipagem HLA classe II

por PCR-SSP, em 75 hansenianos caucasoídes (21HT; 26 HV; 28 HD) e comparamos os dados (frequência HLA) com amostra da população caucasoíde do estado de São Paulo (n=142).

Dos 21 pacientes HT, 20 são Mitsuda positivo e apresentam frequência elevada do HLA-DR2 (52,4% \times 19%); dos 26 pacientes HV, 24 são Mitsuda negativo e apresentam frequência elevada do HLA-DQ1 (73% \times 50%); e dos 28 HD, 11 são Mitsuda positivo e 17 negativo, contudo, não observamos frequência elevada de qualquer fenótipo HLA.

Outro dado verificado nos pacientes hansenianos, independentemente das formas clínicas, é a diminuição do HLA-DR5 e DQ7. Acreditamos que se aumentando o tamanho da amostra, poderemos confirmar as associações observadas nesses pacientes.

PI 24

EVALUATION OF ADRENAL AND GONADAL FUNCTIONS IN LEPROSY: COMPARISON TO IMMUNE RESPONSE

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Leprosy is a chronic inflammatory disease which not only involves skin and peripheryc nerves but also endocrine organs. This disease has a clinical and pathologic spectral nature associated with distinct immunologic response. In the present study an attempt has been made to assess the functional integrity of the hypothalamic-pituitary-adrenal (HPA) and gonadal (HPG) axis and their relationships with the immune systems in leprosy. Ten multibacillary (MB, 40 3yr) and 8 paucibacillary (PB, 44 3yr) male untreated patients and 10 healthy controls (31 2yr) were evaluated. Day 1 at 9:00am: baseline plasma samples were taken for cortisol, DHEA-S, LH, FSH, testosterone, TNF α , IL1 β , IL6 and human CRH test (1g/Kg iv) was then performed. Day 2-9am, synthetic ACTH (1-24,250g) was given IV and plasma samples were collected at 60 minutes. After stimulation with hCRH the plasma ACTH and cortisol area under the curve (AUC, 15-120min) did not differ between controls and patients. Compared to controls, total and net ACTH (1-24)- stimulated cortisol levels were not different. TNF and IL6 were significantly elevated in MB and PB patients compared to controls (p0.01). IL1 beta was not different between controls and patients. Plasma DHEA-S levels were significantly lower in patients than in controls, but there was no difference between MB and PB patients. A negative correlation between DHEA-S and IL6 was observed (r-0.48; p0.01). Although plasma testosterone levels did not differ between controls and patients, LH and FSH were significantly higher in MB than in controls and PB patients. It was observed no correla-

tion between plasma ACTH or cortisol AUC and Interleukins. Regarding the HPG axis, LH and FSH levels were significantly correlated with IL6 ($r=0.46$ and $r=0.64$, respectively; $p<0.01$) and TNF ($r=0.49$ and $r=0.67$, respectively; $p<0.01$). These data suggest that DHEA-S, LH and FSH are best indicators of HPA and HPG axis function in leprosy and may be influenced by IL6 and TNF α .

PI 25

EVALUATION OF T CELL IMMUNE RESPONSE TO THE ESAT-6 HOMOLOGUE OF *Mycobacterium leprae* IN LEPROSY

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In contrast to the highly homologous mycobacterial heat shock proteins, the ESAT-6 of *M. leprae* (L-ESAT) only shows 35% identity with its homologue in *M. tuberculosis* (T-ESAT). Based on the high specificity of the T-ESAT for immunodiagnosis of tuberculosis (TB), even in BCG-vaccinated individuals, it is argued whether the ESAT homologue in *M. leprae* could provide such a diagnostic reagent for the detection of leprosy. Thus, the T cell response against the recombinant protein L-ESAT was analyzed in Brazilian leprosy patients ($n=23$), TB patients ($n=22$), and healthy controls ($n=15$). Leprosy patients were 5LL, 6BL, 6BT, and 6 reactional (RR). PBMC derived from most *M. leprae* responding patients produced IFN following in vitro stimulation with 10g/ml of L-ESAT (mean SEM = 384 ± 125). A total of 40% lepromatous patients did respond to L-ESAT as compared to 83.3% tuberculoid, and 66.6% of the RR. Concordant responses between L-ESAT and whole *M. leprae* was found in 80% of the cases. However, TB patients (57.1%) and healthy controls either positive (62.5%) or negative (71.4%) tuberculin skin test responded equally well to L-ESAT. Among the untreated TB patients ($n=9$), 66.6% responded to this antigen as did 50% of the treated TB ($n=12$). In addition, no striking differences in IFN levels induced by L-ESAT were found between patients and healthy controls derived from a tuberculosis/leprosy-endemic area, which excludes the use of L-ESAT as a diagnostic tool for leprosy

PI 26

EVALUATION OF THE 10 MINUTES ML FLOW ASSAY USING WHOLE BLOOD

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We describe a further simplification of the ML Flow assay for the detection of antibodies to phenolic glycolipid I (PGL-I) of *Mycobacterium leprae* by using whole blood and evaluated the assay performance in the leprosy endemic area of Belem in Brazil. The agreement between results of the test performed using whole blood and sera was 85.9% (value = 0.7, SE = 0.042). This simple assay is proposed for classification of leprosy patients after clinical diagnosis and identification of high-risk contacts of leprosy patients. Identifying and monitoring the contacts of leprosy patients with higher risk of developing leprosy may be a tool for the interruption of transmission of leprosy, one of the main challenges for leprosy control.

The ML Flow assay is a fast and easy-to-perform method for the detection of IgM antibodies to PGL-I of *M. leprae*; it does not require any special equipment and the highly stable reagents make the test robust and suitable for use in tropical countries.

PI 27

EXPRESSION OF ANTI-INFLAMMATORY AND INFLAMMATORY CYTOKINES IN THE LESIONS OF T1R PATIENTS DURING PREDNISOLONE TREATMENT

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This study investigates effect of prednisolone (30mg daily) on the expression of the cytokines in the lesions of patients with Type 1 reactions (T1R). The hypothesis that the inflammatory cytokines observed in T1R patients decrease with treatment and that the anti-inflammatory cytokines are concurrently increased has been tested.

Study: Skin biopsies were taken from 15 patients (6 BL and 9 BT) at time points (weeks 0, 1, 4 and 24) during depleting prednisolone treatment. Immunohistochemical analysis of the expression of the cytokines IFN- γ , TNF- α , TGF-1, IL-6, IL-12, IL-13, IL-10 and iNOS were determined.

Results: The inflammatory cytokines (TNF- α , IFN- γ , IL-12) levels were found to decrease with treat-

ment (significantly by 4 weeks). This study also demonstrates that the levels of the anti-inflammatory cytokines IL-10 and IL-13 decrease (significantly by 4 weeks).

Conclusion: This work suggests that prednisolone non-specifically down regulates the whole spectrum of inflammatory cytokines rather than altering the pro-/anti-inflammatory cytokine balance and that this effect is not observed in skin lesions until 4 weeks after the start of treatment.

PI 28

EXPRESSION OF PERFORIN MRNA AT THE LESION SITE IN LEPROSY REACTION

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Introduction: Perforin is a cytolytic pore-forming protein that colocalizes with granulysin in cytotoxic granules, and is responsible for the cytolytic activity of CD8⁺T cells. Perforin mRNA was detected in leprosy lesions and enhanced expression of perforin in the blood of patients with reaction (erythema nodosum leprosum, ENL and reversal reaction, RR) was also described.

Objective: To investigate the expression of perforin mRNA at the site of the leprosy lesion in patients with reaction and its induction following *M. leprae* stimulation *in vitro*.

Methods: Skin biopsies of 12 leprosy patients (10 BL and 2 LL) were collected and total RNA was extracted. For the *in vitro* experiments, PBMC was obtained from 5 patients, and kinetic cultures were established. Following RNA isolation, RT-PCR for perforin was performed, and the amplified products analyzed through electrophoresis in agarose gel.

Results: When comparing patients with reaction, ENL patients are likely to show higher relative amounts of perforin mRNA in the lesion than patients with RR. In addition, around 50% of the RR patients (n=7) expressed perforin message in the dermis, whereas, 100% of the ENL (n=3) were positive for this cytolytic mediator. Four of these patients were also evaluated during treatment for reaction and down-regulation of perforin mRNA was noted in 2 individuals. Kinetic evaluation of perforin mRNA following *M. leprae* stimulation showed to be similar for that of TNF- α as it peaks around 3h after adding the stimulus.

Conclusions: Perforin mRNA is expressed in the dermis of the reactional leprosy lesion. The present data suggest that cytotoxic mechanisms may play a role in the pathogenesis of reaction in leprosy.

PI 29

GANGLIOSIDE IMMUNO ASSAY EVALUATION FOR LEPROSY PATHOLOGICAL DAMAGE

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In some forms of motor neuron diseases and peripheral neuropathy the occurrence of high titers of antibody against Gm1 ganglioside has been described. Gm1 is an acid glycolipids composed of lipid and carbohydrate moieties. The carbohydrate portion of ganglioside contains sugars (gal and gluc) and sialic acid. The carbohydrate portion of the ganglioside could be the epitope in autoimmune reactions caused after nervous damage. Leprous neuritis caused by *Mycobacterium leprosy* is the most common peripheral neuropathy in developing countries. Since lipids such as gangliosides, cerebroside and sulfatides are known to be immunogenic and are present in peripheral nerve and perhaps the nerves are the first system to be attacked by *M. leprae* presenting along of the time irreversible damage, we investigate the existence of an auto antibody response to ganglioside in leprosy patients using Gm1 antigen (monosialoganglioside). Elisa Anti-Gm1 antibodies (IgG, IgM and IgA) were measured in sera from leprosy patients, household contacts and healthy individuals. Comparison of anti-Gm1 IgG, IgM and IgA rates between leprosy patients and healthy individuals did not show significant statistical difference ($p>0.05$). Antibodies levels were very low, 84% (85/101) of leprosy sera showed $\Delta E<0.1$ and only 3% (03/101) presented $\Delta E>0.1$. With Household contacts and Normal results were similar: 43% (21/49) showed $\Delta E<0.1$ and 8% presented $\Delta E>0.1$. Most of the sera presented high background; this could be, perhaps, by the use of detergent tween 20 in the block and washing solution. In fact Anti-Gm1 antibodies do not have value for evaluate pathological damage in leprosy.

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PI 30

HEPATITIS B AND C INFECTION AMONG LEPROSY PATIENTS ATTENDING THE SANATORIUM OF FONTILLES (SPAIN)

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A possible association between infection by hepatitis viruses B (HBV) and C (HCV) and leprosy has been

proposed. Hepatitis B (HBV) and hepatitis C (HCV) viruses are transmitted by blood (transfusions, par-enteral injections) possibly sexual contacts and probably other unknown routes. They can cause chronic liver disease. Populations with increased risk of these viral infections, specially patients with hemophilia and on hemodialysis have been identified. Patients with leprosy possibly also form a high risk group because of skin lesions, blood transfusions and confinement in institutions during prolonged periods of time. Some consider that the 2 polar forms of leprosy (tuberculoid and lepromatous) provide a model of interaction between cellular immunity and the hepatitis viruses.

In this study, the distribution of HBV and HCV virus markers were evaluated in 214 leprosy patients mostly long term institutionalised in the Sanatorium of Fontilles and compared with matched controls, using the same protocols required for screening of blood donors. Initially, two third generation microparticle enzyme immunoassays and positive results were confirmed by PCR methods.

The HBsAg and HCV positivity rates were 6% and 35% respectively, significantly higher than in the corresponding control groups (2% and 3.5%). The influence of possible risk factors (blood transfusion, confinement in leprosaria during prolonged periods of time, open skin lesions etc.) on this group of patients is discussed.

PI 31

HUMAN T CELL RESPONSES TO PEPTIDES OF THE *Mycobacterium leprae* 45-KDA SERINE-RICH ANTIGEN

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In order to identify T cell epitopes within the *Mycobacterium leprae* 45-kDa serine-rich antigen, T cell responses to overlapping 17-mer peptides encompassing the whole antigen were analysed in non-exposed UK controls, Pakistani leprosy patients and tuberculosis patients in both the UK and Pakistan. This antigen has been described as *M. leprae*-specific, although it has a hypothetical homologue in *Mycobacterium tuberculosis*. Peripheral blood mononuclear cells were stimulated with peptide for 5 days and

IFN- γ measured in supernatants by ELISA. Some peptides were more frequently recognised by T cells from tuberculoid leprosy patients than those from UK controls, suggesting that such T cell epitopes might have diagnostic potential. Short-term cell lines and flow cytometry confirmed specific T cell recognition of these peptides. However, T cells from many tuberculosis patients also recognised these potentially specific peptides suggesting that there could be a true 45-kDa homologue present in *M. tuberculosis*, or that tuberculosis patients living in a leprosy-endemic area have also been exposed to *M. leprae*.

PI 32

IDENTIFICATION AND CHARACTERIZATION OF THE ESAT-6 HOMOLOGUE OF *M. leprae* AND T CELL CROSSREACTIVITY WITH *M. tuberculosis*

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The present study describes the identification and characterization of *M. leprae* ESAT-6 (L-ESAT), the homologue of *M. tuberculosis* ESAT-6 (T-ESAT). T-ESAT-6 is expressed by all pathogenic strains belonging to the *M. tuberculosis* complex, but absent from virtually all other mycobacterial species, and is a promising antigen for immunodiagnosis of TB. Therefore, we have analyzed whether L-ESAT-6 represents a similarly powerful tool in leprosy, by examining T cell responses against L-ESAT-6 in leprosy patients, TB patients and exposed or non-exposed healthy controls from leprosy/TB endemic and -nonendemic areas. L-ESAT-6 was recognized by T cells from leprosy patients, TB patients, TB patients' contacts and healthy individuals from a TB/leprosy endemic area, but not by non-*M. tuberculosis*, non-*M. leprae*-exposed individuals. Moreover, *M. leprae*-unresponsive leprosy patients failed to respond to L-ESAT-6. A very similar pattern was seen in case of T-ESAT-6. These results show that L-ESAT is a potent *M. leprae* antigen that stimulates T cell-dependent IFN- γ production in a large proportion of *M. leprae*-exposed individuals. Moreover, our results suggest the existence of significant cross reactivity between T- and L-ESAT-6, which has implications for the use of ESAT-6 as diagnostic tool for diagnosis of leprosy and TB in areas endemic for both diseases.

PI 33

IMMUNE SERIC PARAMETERS IN LEPROSY REVERSAL REACTION

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Introduction: It is well known that reactions are commonplace occurrences during the course of leprosy disease representing a clinical challenge in view of the immune response involved. In terms of immunology, the acute clinical episodes taking place in some chronic diseases are attributed to an exacerbation of the immune-inflammatory response expressed through seric and cellular markers, which are clinically evaluated, for example, by way of the erythrocyte sedimentation rate (ESR), reactive protein C, and nuclear activity factor. Other markers, like Neopterin, β 2-microglobulin, and tumor necrosis factor (TNF) have recently been shown to also be significant in this context. In leprosy, however, while the Lepromin test and the linfoproliferative assay are capable of confirming exacerbation of the immune response, no clinical or laboratory evidence has yet been reported to uphold this claim.

Objective: To evaluate the serum markers used to assess immunological activity during and after reversal reaction (RR).

Material and Methods: The first reactional episodes of 21 multibacillary (MB) leprosy patients who developed RR during specific MDT treatment were studied. The patients were classified according to the Ridley and Jopling criteria, having been submitted to routine clinical, histopathological, bacteriological, and immunological tests at diagnosis and then at the onset of a reactional episode. Neopterin and β 2-microglobulin levels, tumor necrosis factor, and soluble TNF- α receptors 1 and 2 were likewise assessed at the beginning of the RR episode and after treatment.

Results: Slightly over 90% (90.5%) of the first reactional episodes occurred during the first year of treatment; and the great majority of the patients (71.4%) experienced only one. During reaction, increased levels of the studied markers, which declined after treatment, were observed. Increased values of neopterin (66.6%) were seen more frequently during RR than were other markers, such as β 2-microglobulin (62%). The levels of these two markers showed a statistically significant ($p=0.007$ and $p=0.01$, respectively) regression pattern subsequent to RR treatment.

PI 34

IMMUNOEPIDEMIOLOGICAL MONITORING OF LEPROSY

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Identification of risk groups for leprosy disease among contacts and population of regions with sporadic cases of leprosy is rather topical. Survey was carried out of 316 household contacts with leprosy cases and 516 inhabitants of Astrakhan region where sporadic cases of leprosy are registered. Epidemiological monitoring involves specific serological diagnosis (ELISA) and skin tests. In DIS-BSA-based ELISA anti-PGL-1 antibodies and antibodies against *M. leprae* sonicates were determined. DTH response to lepronin (Leprosy Research Institute, Astrakhan, Russia) and leprosin A (WHO Bank) was determined. As controls 150 volunteers out of inhabitants of non-endemic for leprosy regions of Russia were used. Among 316 contacts 39 subjects showed positive serological results (12.3%), and among 516 inhabitants anti-*M. leprae* antibodies were observed in 9 cases (1.7%). Levels of anti-PGL-1 antibodies (0.23 ± 0.05) and anti-*M. leprae* antibodies (0.27 ± 0.12) in contacts significantly differed from indices in control subjects (0.08 ± 0.04 and 0.13 ± 0.01 , respectively). Serologically positive contacts were investigated each 6 months during 2 – 2.5 years. Contacts with permanently high titers of antibodies against *M. leprae* were given additional 6-months' course of preventive therapy resulting in serological conversion in some of them. Among 138 contacts 28% gave a positive reaction to lepronin and 35% – to leprosin A (coincidence for the two antigens – 81%). Whereas among 419 inhabitants positive reactions to lepronin were observed in 21% and to leprosin A – in 18% (coincidence for the two antigens – 88%). Thus, the data of serological monitoring and skin testing of household contacts and general population of leprosy endemic regions favor for identification of risk groups and might serve as additional characteristic of epidemiological situation in a region.

PI 35

IMMUNOLOGICAL PROPERTIES OF THE *Mycobacterium leprae* HLP PROTEIN

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Mycobacterium leprae Hlp (histone-like protein) is a cationic protein that is able to bind the laminin α 2 and other extracellular matrix proteins present on the surface of Schwann cells (Marques *et al.*, Microbes and Infection. 2:1407, 2000). Besides its potential role as a *M. leprae* adhesin, it has been reported that

a Hlp found in a number of *Streptococcus* species may play a role in the pathogenesis of bacterial-induced tissue inflammation (Choi *et al.*, Clin. Immunopathol. 76:68, 1995). In this context, it has been speculated that Hlp can accumulate within the basal lamina of infected nerves inducing tissue damage in leprosy. To elucidate its potential role in the immunopathogenesis of leprosy, the present study investigated the immunological properties of Hlp and its expression in infected tissues. Hlp was able to elicit high levels of IFN- γ secretion in mononuclear cells isolated from borderline tuberculoid leprosy patients. Experiments are under way to determine the capacity of Hlp to induce TNF- α secretion in the same cultures. Additionally, the presence of antibodies specific to Hlp was detected in leprosy patient's sera, indicating that this protein is able to induce both cellular and humoral immune responses in *M. leprae* infected individuals. Immunohistochemical analysis using a specific antibody anti-Hlp showed that the protein is expressed in the cutaneous infiltrates of leprosy lesions as Hlp-positive phagocytosed materials inside macrophages. These data indicate that Hlp is immunogenic and could contribute to tissue inflammation in leprosy. Currently, we are analysing the presence of Hlp in nerve biopsies to define its potential role on the persistent inflammation and delayed sequelae observed following *M. leprae* endoneural infection.

Supported by CNPq and NIH.

PI 36

IMPORTÂNCIA DAS PROVAS INFLAMATÓRIAS INESPECÍFICAS NA EVOLUÇÃO DO TRATAMENTO DA HANSENÍASE MULTIBACILAR

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O sistema imune responde geralmente a agentes lesivos animados, microorganismos, com a produção de anticorpos e células sensíveis. Anticorpos são proteínas originadas na progênie dos linfócitos B, os plasmócitos, caracterizados como globulinas, e portanto pela alteração dos seus níveis plasmáticos podem caracterizar a presença de infecção, embora se compreenda de forma inespecífica.

Uma infecção pode ser rastreada quanto à sua evolução através da repetição destes exames que podem evidenciar a melhora ou não do processo infeccioso, no caso a hanseníase multibacilar.

Nosso serviço pela simplicidade do armamentário diagnóstico laboratorial disponível tem lançado mão

daquilo que chamamos de "provas funcionais de proteínas inflamatórias", acrescidas do leucograma para evidenciar leucocitose.

Os resultados obtidos mostram que de uma forma mais simples, em serviços mais periféricos de controle da Hanseníase, este rastreamento pode ser uma forma a mais de consolidar a alta clínica.

O estudo foi realizado na Unidade Básica de Saúde de Itapevi, estado de São Paulo, onde foram acompanhados 23 pacientes multibacilares. Foram solicitadas provas inflamatórias durante o curso de tratamento. De acordo com o estudo podemos evidenciar que os únicos exames que parecem estar relacionados com critérios para alta de multibacilares são proteína C reativa (positiva em 40% dos casos) e VHS (positiva em 60%)

PI 37

INDUCTION OF CELL DEATH (APOPTOSIS) BY TNF α AND TGF β IN A HUMAN SCHWANN CELL LINE *IN VITRO*

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A major complication in leprosy is the development of deformities along the chronic course of disease. In the present study, we used a human malignant Schwann cell line to characterize mechanisms of cell death *in vitro*. The ST88-14 tumor cell line was established from malignant schwannoma of neurofibromatosis (NF1) patient. The cells (SC) were grown in complete RPMI medium. The purity of Schwann cells was assessed by morphologic examination through Wright Giemsa, toluidine blue staining and S-100 protein. In the present study, we investigated physiological and morphological characteristics of ST8814. Cytokine gene expression and secretion was assessed by RT-PCR and ELISA respectively. Constitutive mRNA (for TNF α , TNF-R1, TNF-R2, IL-8, ICAM-1 and *c-fos*) was present in these cultured cells. Albeit TNF α gene expression was detected, no TNF α protein was observed in culture supernatants. However, soluble TNF-R1 and TNF-R2 were released in the culture medium. FACS analysis demonstrate, for the first time, expression of both TNF-R on the human SC surface. When SC were cultured in the presence of TNF α (10ng/ml) and TGF β (40ng/ml), around 30% of cell death was detected *in vitro*, a 3 fold enhancement when compared to the unstimulated cultures. No significant effect was noted when either TNF or TGF β were used as the stimulus. In order to determine whether the synergistic effect of TNF and TGF β leads to apoptosis *in vitro*, adherent and free cells in the culture medium were stained with propidium iodide and analyzed by flow cytometry.

etry. Preliminary results demonstrate an increase in the subdiploid peak in cells cultured in the presence of TNF/TGF as compared to the controls. The present data indicate that expression of the TNF and TNF-R genes in the SC may have implications in the pathogenesis of nerve damage in leprosy and induction of cytokine-mediated SC death *in vivo*.

PI 38

INHIBITION OF *M. leprae*-INDUCED APOPTOSIS AND CYTOKINES PRODUCTION BY THALIDOMIDE AND ANALOGUES

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One of the clinical manifestations of leprosy is the erythema nodosum leprosum (ENL) characterized by enhanced TNF levels. IFN and IL-12 were shown to be up-regulated during the reactions and are likely to be involved in the high TNF production in response to *M. leprae* *in vivo*. The use of thalidomide (THAL) in the treatment of several pathologies has been described by several authors. The search for new stable analogues with increased effectiveness and lower side effects has been requested. In order to conceive the mechanisms of THAL action, the *M. leprae*-induced production of IL-12 and TNF (secretion and mRNA synthesis), and its impact on cell death was investigated in cells culture. PBMC was stimulated with irradiated *M. leprae* (10g/ml) in the presence of THAL and analogues (25g/ml). RT-PCR performed of cultured cells 3h after stimulation displayed a decreased TNF and IL-12 mRNA by effects of THAL and N-hydroxyphthalimide (NH). After 20h of culture, TNF α production (2306 190pg/ml, n=5) was decreased by THAL (64 \pm 12%), NH (81 \pm 8.7%) and N-butylphthalimide (NB, 48 \pm 4.4%). N-methyl-ethylketonephthalimide (NK) showed no effect so far. Analysis of intracellular cytokine staining demonstrated an enhancement in TNF positive cells for both CD4⁺ and CD8⁺ T subsets induced by *M. leprae*, which was higher in the former group (3.7 \pm 0.8% Vs. 1.3 \pm 0.3%). In the presence of THAL, CD8⁺ T cells seem to be more affected than CD4⁺ T cells. When incubated with THAL, analysis of the rate of apoptosis induced by *M. leprae* in monocytes showed a reduction of 58,3%. Our preliminary data indicate that THAL, NB and NH lead to inhibition of pro-inflammatory cytokines on both monocytes and T cells, and the potential role to modulate *M. leprae*-induced features is evidenced.

PI 39

INVOLVEMENT OF B CELLS IN LOCAL IMMUNITY OF LEPROSY PATHOLOGY

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Mycobacterium leprae responsive T cell subsets are regarded to control the clinical and immunological spectrum in leprosy. On the otherhand, the longlasting *m.leprae* specific antibodies are diagnostically important, despite approximately 60% of paucibacillary (PB) patients can not be diagnosed by sero antibody assays. Low level of systemic antibody in PB patients can be due to the absence of optimal antigenic load in circulation that is needed for stimulating circulating B cells. Moreover, it is not understood why the PB lesions show continued clinical activity long after stopping the treatment. Since it is believed that appropriate quantum of immunologically defined both Th1 and Th2 cells exist in these PB patients, it is not known whether subsets of B cells are locally present. Further it remains unknown whether these also present B cells can be activated by the *in situ* persistence of *m.leprae* antigens and thus causing reactivation of the disease. Interestingly role of specific T cells in skin inflammation is studied exclusively but the participation of B cells in skin has not been studied.

In this study, we report the presence of B cell subsets as identified immunohistochemically by means of monoclonal antibodies e.g. CD20, CD79 and Syndican-1(CD138), that are involved in local interaction with residual *m.leprae* antigens and other immune cells e.g. T cells and subsets of antigen presenting cells (APC). We analysed the immune infiltrates and antigen expressions in both skin and nerve biopsies of leprosy patients originating from Brazil, India and The Netherlands. Our results show that all the subsets of B cells e.g. CD20⁺/CD79⁺/CD138⁺, CD20⁺/CD79⁺/CD138⁻, CD20⁺/CD79⁻/CD138⁺ and CD20⁺/CD79⁻/CD138⁻ cells are present in varying proportion and distribution in both skin and nerve lesions. The often presence of these B cells and persistent presence of *m.leprae* antigens are seen microscopically interacting with T cells and APC in both nerve and skin. We hypothesise that locally produced antibodies by these B cells may play an important effector role together with T cells and APC in the dynamicity of leprosy pathology.

PI 40***M. leprae* INDUCED APOPTOSIS PARALLELS A DOWN REGULATION OF CD14**

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Until very recently, the function of CD14 was thought to be limited to innate immunity, as the major endotoxin receptor. Nowadays, a role for CD14 in the regulation of monocyte apoptosis is being reported. It has been shown that down regulation of CD14 or its removal triggers apoptosis, whereas up-regulation promotes survival. Since our previous results indicate that *M. leprae* induces monocyte-derived macrophages (MDM) apoptosis in a dose dependent manner, the expression of CD14 in MDM stimulated with increasing concentrations of *M. leprae* or LPS was monitored by flow cytometry. When dead *M. leprae* (1g/ml) or LPS were added to cultures for 2 days an up-regulation of CD14 and an increase in cell viability was observed. However, when higher amounts of the bacteria (10 or 20g/ml), reported to induce apoptosis, were used, a down regulation of CD14 expression was noted after the same period of culture. When live *M. leprae* was used a similar profile in CD14 expression was detected. Our results indicate a selective and progressive CD14 down regulation, which parallels apoptosis induced by dead *M. leprae* in MDM, suggesting that CD14 down regulation is an early signal of cell death, as previously reported for MTB.

PI 41**MATURE DENDRITIC CELLS INFLUENCE TH1/TH2 CYTOKINE PROFILES IN STABLE LEPROMATOUS LEPROSY PATIENTS**

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The role of dendritic cells (DC) in immune response to *M. leprae* antigen was investigated in lepromatous leprosy patients. Dendritic cells (DC) are unique antigen presenting cells specialised in antigen capture and triggering adaptive immune responses. Immature DCs act mainly to capture antigens whereas mature DCs acquire high levels of MHC class I/II

and co-stimulatory molecules, present antigens and initiate T cell and B cell responses. The role of both populations of DCs in Th cell differentiation in leprosy was evaluated. Co-expression of Th cytokines IFN γ and IL4 and regulatory cytokines IL10 and IL12p40 was compared in antigen stimulated peripheral blood mononuclear cells (PBMCs), T-cells reconstituted with autologous monocytes (Mo), T-cells reconstituted with immature DC (high intracellular MHC II, low CD83 and p55) and T-cells reconstituted with mature DC (CD11C+, high surface MHC II, high CD83 and p55) by conventional and Real Time fluorogenic based RT-PCR (Reverse Transcription Polymerase Chain Reaction) and by ELISA. Reconstitution of purified T-cells with autologous Mo and immature DC resulted in down regulation of IL4 and IL10. On the other hand reconstitution of purified T cells with mature DC resulted in upregulation of IFN γ and dysregulation of IL4. The fact that stimulation of different populations of DCs could alter the cytokine profile in reconstituted cultures, suggests that they may have a varied influence on the immunological stability of this disease.

PI 42**MODULATION OF CYTOKINE RESPONSE TO POLYCLONAL AND MYCOBACTERIAL STIMULI BY THE PHENOLIC GLYCOLIPID-I (PGLI)**

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Previously, PGLI has been shown to inhibit T cell activation parameters and to enhance TNF- α production by *M. leprae*-engulfing mononuclear phagocytes. In order to further assess the role of PGLI in cytokine production, peripheral blood leukocytes from healthy volunteers, tuberculoid and lepromatous leprosy patients were stimulated *in vitro* (ConA, *M. Leprae*, PPD), in the presence of PGLI, and the levels of 6 cytokines (IFN- α , TNF- α , IL-2, IL-4, IL-5 and IL-10) were evaluated in the culture supernatants, using the cytokine bead array flow cytometric method and ELISA. In the presence of PGLI, IFN- γ levels were reduced/absent in ConA and *M. Leprae*-stimulated wells, but unaffected or increased with PPD. PGLI reduced TNF- α in response to ConA, but markedly enhanced this cytokine concentration when added to *M. Leprae*-stimulated wells. PGLI inhibitory actions were not associated to increase in IL-10 levels. The observed effects of PGLI were seen in the patients and healthy volunteers. Taken together these observations show that PGLI effects change with different stimuli, perhaps reflect-

ing a different sensitivity to PGLI by the leukocyte subsets and/or pathways involved in cytokine production induced by ConA and these mycobacterial stimuli.

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PI 43

NÍVEIS DE ÓXIDO NÍTRICO EM PLASMAS DE PACIENTES HANSENIANOS

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As infecções causadas por parasitos intracelulares obrigatórios tais como o *Mycobacterium leprae* são contidas pela imunidade celular. Os pacientes portadores desta infecção apresentam um variado espectro de manifestações clínicas, o que reflete o estado imunológico em que se encontram. Pacientes multibacilares podem apresentar alta bacteremia em virtude de uma resposta imune celular deficiente. Por sua vez, pacientes paucibacilares apresentam baixa bacteremia associado a uma resposta imune celular eficiente. A produção de reativos intermediários do oxigênio e do nitrogênio por macrófagos ativados é crucial para o desenvolvimento da imunidade contra microrganismos intracelulares. Este estudo tem por objetivo quantificar os níveis de óxido nítrico (NO) em plasmas de pacientes portadores das diferentes formas clínicas da Hanseníase. A quantificação de NO será realizada indiretamente através da medida de nitritos e nitratos. Metodologia: 50 L das amostras de plasmas diluídos em água foram incubados overnight com uma mistura contendo FAD, NADPH e nitrato redutase. As amostras foram desproteinadas por ZnSO₄. A seguir, 100 L das amostras em duplicatas foram misturadas com 100 L do reagente de Griess e a absorbância determinada em leitor de ELISA. Os resultados expressos em M/mL foram obtidos pela extrapolação de uma curva padrão com NaNO₂. Resultados: os níveis de NO encontrados nos plasmas dos pacientes foram: paucibacilares: 218,8 M/mL (n=3), multibacilares: 183,4 M/mL (n=10) e controles saudáveis: 217,7 M/mL

(n=10) respectivamente. Conclusão: os resultados sugerem não haver diferenças significativas nos níveis séricos de NO entre pacientes hansenianos e controles saudáveis.

Apoio Financeiro: FAPEMIG

PI 44

PARACOCIDIOIDOMICOSE E HANSENÍASE: RELATO DE CASO

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Paciente masculino, negro, 44 anos, natural de Teófilo Otoni- MG, procedente de São Paulo.

Procurou nosso serviço em Dezembro de 1999 apresentando dermatose localizada em ângulo esquerdo da boca e língua caracterizada por exulceração com cerca de 2 cm de diâmetro, de limites irregulares, mal delimitadas em cuja superfície se observava exsudato seropurulento e crostas hemáticas.

O diagnóstico de Paracoccidiodomicose foi confirmado pelo exame micológico direto e cultura para fungos.

Foi introduzido o tratamento com cetoconazol, porém o paciente abandonou o tratamento.

Em Julho de 2001 procurou o serviço de Otorrinolaringologia com queixa de rouquidão progressiva e perda ponderal de 5 kg. Na mucosa nasal foi observado lesão ulcerosa infiltrativa e exsudativa.

Na mesma época retornou ao nosso serviço.

Ao exame dermatológico observou-se: dermatose disseminada caracterizada por nódulos e placas que variavam de 2 a 7 cm de diâmetro. Face infiltrada, nódulos em pavilhões auriculares e madarose.

Na região de sulco nasogeniano e axila direita nódulos ulcerados com cerca de 2 cm de diâmetro.

Baciloscopia com bacilos álcool ácido resistentes isolados e em globias.

Exame micológico direto e cultura para fungos positivos para Paracoccidiodomicose.

Exame anti-HIV negativo.

Iniciou-se tratamento com poliquimioterapia esquema multibacilar para Hanseníase Virchowiana e Itraconazol 100 mg ao dia para Paracoccidiodomicose.

Trata-se de uma associação rara de duas doenças infecto contagiosas, com mecanismos imunológicos distintos, onde o paciente apresenta a forma crônica multifocal da Paracoccidiodomicose com resposta Th1 e Hanseníase Virchowiana com resposta Th2.

PI 45

PREVALÊNCIA DE ANTICORPO ANTICARDIOLIPINA NAS DIFERENTES FORMAS CLÍNICAS DE HANSENÍASE

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Os Anticorpos Anticardiolipina (AA) são autoanticorpos associados com trombose vascular e aborto de repetição, porém vários relatos têm associado com doenças infecciosas como a Hanseníase. O objetivo deste estudo foi avaliar a prevalência dos AA nas diferentes formas clínicas de Hanseníase. Foram estudados 42 pacientes, sendo 26 do sexo masculino e 16 do sexo feminino, com idades entre 17 e 77 anos com média de 48 anos. Todos pacientes eram portadores de Hanseníase confirmados pela clínica, baciloscopia e biópsia de pele. As manifestações clínicas da Síndrome do Anticorpo Antifosfolípide (SAF) não foram encontradas. Os pacientes foram submetidos a classificação de Ridley-Jopling: 9,5% indeterminado(I), 16,6% tuberculóide(T), 16,6% dimorfo tuberculóide(DT), 7,1% dimorfo dimorfo(DD), 4,7% dimorfo virchowiano(DV) e 45,2% virchowiano (V). A avaliação dos níveis de AA no soro foi realizada pelo método ELISA (Enzyme-linked Immunosorbent Assay). Foi utilizado na análise estatística o teste exato de Fisher com $p < 0,05$ e IC 95%. Os dados obtidos foram comparados com grupo controle formado por 100 doadores do banco de sangue de estudo prévio da instituição. A prevalência global dos AA foi de 47%, sendo significante $p < 0,0001$ em relação ao grupo controle, sendo encontrado positividade na forma I (25%), T (28,5%), DT (28,5%), DD (33,3%), DV (50%) e na forma V (68,4%). Os pacientes com baciloscopia positiva apresentaram significância estatística quando comparados com os negativos $p < 0,01$. Conclui-se que os pacientes com Hanseníase apresentam alta prevalência de AA, sendo as formas com baciloscopia positiva mais prevalente que as formas com baciloscopia negativa.

PI 46

REAÇÃO DO GRANULOMA *IN VITRO* COM ANTÍGENOS DO *Mycobacterium leprae* E CÉLULAS MONONUCLEARES DO SANGUE PERIFÉRICO DE DOENTES COM HANSENÍASE

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As razões para diversidade da resposta imune nas formas polares da doença frente ao mesmo agente agressor, *Mycobacterium leprae*, não estão completamente elucidadas. Buscamos desenvolver um modelo de granuloma *in vitro* com antígenos do *M. leprae* e células mononucleares do sangue periférico de doentes com as formas polares da hanseníase e avaliar as diferenças na produção de citocinas e de óxido nítrico em culturas de células. Foram selecionados, 10 doentes com hanseníase sem tratamento, atendidos no HC-FMRPUSP: Grupo V (virchowianos polares e borderline-lepromatosos) e Grupo T (tuberculóides polares e borderline-tuberculóides). Procedeu-se o isolamento de células mononucleares do sangue periférico utilizando-se centrifugação sob gradiente de Ficoll-Hypaque. Foram realizadas culturas duplicatas (2×10^6 linfócitos/ml): controles, com meio de cultura ou *beads* isolados; com antígenos de 28kD ou de 36kD do *M. leprae* conjugados a *beads* de poliacrilamida e com a presença ou ausência de aminoguanidina. As placas foram incubadas a 37° C em atmosfera úmida contendo 5% de CO₂, durante 21 dias e, colhidas amostras do sobrenadante no 7° e 21° dias. A pesquisa das citocinas IL1, IL6, IL10, IL8, TNF, IFN no sobrenadante foi feita pelo método ELISA e a atividade da enzima NO sintase foi avaliada pelo ensaio modificado da citrulina. Ao 7° dia, observou-se aumento significativo da produção de IL-6 e IL10 nas culturas controles e com antígenos no grupo V, comparada à do grupo T. Não se detectou produção de TNF em nenhum grupo neste período. Ao 21°, os grupos V e T produziram IL6 de modo similar, na presença ou ausência de antígenos nas culturas. Entretanto, no grupo V, observou-se redução da produção de IL10 nas culturas com antígenos. A produção de TNF tende a ser mais acentuada no grupo T e reduzida com a presença de qualquer um dos antígenos testados, em ambos os grupos. Com a presença de antígenos, a produção de IL1 foi reduzida no 21° dia. Não se detectou a atividade da enzima NO sintase nas culturas. A IL6 atua preferencialmente em células B, proporcionando a produção de

anticorpos, e a IL10 exerceria efeitos imunossupressores. No modelo desenvolvido, o aumento destas citocinas no grupo V e a inibição da produção de TNF e IL1, na presença de antígenos, são indicadores da imunomodulação. Vale ressaltar, que o modelo de granuloma *in vitro* mostrou-se útil no estudo da imunomodulação na hanseníase com amplas perspectivas de aplicação experimental

PI 47

REGULATION OF MACROPHAGE BCL-2 GENE FAMILY EXPRESSION DURING *M. leprae*-INDUCED APOPTOSIS: INVOLVEMENT OF BAX AND BAK

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Bcl-2 protein family regulates cell death. This family has antiapoptotic (Bcl-2 and Bcl-xL) and proapoptotic (Bad, Bax and Bak) proteins. These proteins form homo and heterocomplexes that can, among other functions, regulate mitochondria release of the cytochrome C. Mycobacterias were described to induce apoptosis in mononuclear phagocytes *in vivo* and *in vitro*. Our previous results demonstrate that *M. leprae* can also induce apoptosis in leprosy patients monocytes in a dose dependent manner *in vitro*. In order to investigate the molecular mechanisms underlying the apoptotic pathway in this model, RT-PCR was used to evaluate the expression of some members of the Bcl-2 family, namely Bax- α and Bak. Initial experiments demonstrated that *M. leprae* could modulate the mRNA expression of some proapoptotic genes. Cells stimulated with low concentration of *M. leprae* (1g/ml), not able to induce macrophages apoptosis, also did not induce expression of Bak or Bax. However, cells stimulated with 10 or 20g/ml of *M. leprae* showed increased expression of both genes and exhibited a significant enhancement in the rate of apoptosis. LPS, an inhibitor of macrophage cell death, did not induce large amounts of these genes. Bad expression was not detected in either culture. These results suggest that Bcl-2 family proteins may be involved in *M. leprae*-induced cell death *in vitro*.

PI 48

SELECTIVE INCREASE IN THE CD4+ T CELL ACTIVATION THRESHOLD AS A POTENTIAL MECHANISM FOR THE BIOLOGICAL ROLE OF THE PHENOLIC GLYCOLIPID-I (PGL-I) IN LEPROSY

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Pathogens frequently synthesize immune response modifiers to enhance their survival in the host microenvironment. In order to evaluate the role of PGL-I, a *M. leprae* (ML) glycolipid, as a T cell function modifier, PBLs from healthy volunteers and leprosy patients were stimulated *in vitro* in the presence of PGL-I. Flow cytometry of the cultured PBLs demonstrated PGL-I inhibition of CD28 expression in CD4+, but not CD8+T cells. The induction of CD69 and CD25 in ConA or anti-CD3 stimulated T cells was markedly reduced by PGL-I. The proliferative responses, IL-2/TCGF and TNF bioactivities, as well as IFN- γ levels (ELISA) were also reduced by PGL-I. All the effects of PGL-I were seen in healthy volunteers and in patients across the spectrum of leprosy. PGL-I actions occurred only at suboptimal levels of stimulation, being reversed by increasing the stimulus. This observation suggests that this glycolipid increases the threshold for T cell activation. The inhibition of CD28 expression/function in CD4+ T cells and, as a consequence, less effective sorting of activation-associated molecules in the immunological synapses is a potential mechanism for PGL-I action on T cell activation. These effects of PGL-I can lead to pathogen-specific anergy and defective effector function against ML, if associated to conditions allowing the initial survival of ML in an infected individual.

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PI 49

SERODIAGNOSIS OF *Mycobacterium leprae* INFECTED INDIVIDUALS IN HIGHLY ENDEMIC AREAS OF MYANMAR

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This study was carried out on serodiagnosis of *M. leprae*-infection in highly endemic areas of Myan-

mar. It was studied on the residents of Kyanbokone (A-village) and Konethandin (B-village) in Bago Division and NTP-BSA ELISA was done on their sera. The IgM and IgG seropositives in A-villages were 59/263 (22.43%) and 34/263 (12.93%) in the first year, 41/223 (19.21%) and 46/223 (20.63%) in the second year. The same in B-village is 41/115 (35.65%) and 9/115 (7.82%) in the 1st year. The age group of 10-19 year-old was the commonest one in age specific distribution of anti IgM and IgG antibodies to NTP-BSA antigen. Some villagers who presented with high titre of antibodies should be followed up considering the indication of chemoprophylaxis. Through the follow up study of *M. leprae*-infection in particular populations, some valuable information about the process from infection to development of disease can be expected.

PI 50

SERUM CYTOKINES AND MONOKINES IN LEPROSY AS A MARKER FOR MONITORING REVERSAL REACTIONS

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During the course of leprosy episodes, two types of "reactions", classified either type-I (reversal reaction: RR) or type II (erythema nodosum leprosum: ENL) occur among 30-40% of the patients. The immunopathology of leprosy is primarily due to immune interaction between subsets of T cells, macrophages/relevant antigen presenting cells and *M.leprae* antigens. Such interactions produce Th1/Th2 cytokines, activated macrophage products and monokines, which act as molecular signals for communication between immune cells and the organ specific cells, which play a pivotal role in the dynamics of host immune response and tissue damage. The latter, in case of leprosy, is the destruction or dysfunction of peripheral nerves and deformity. *In vitro* and *in vivo* studies have been used to delineate the immunologic aspects of leprosy and the reactional states. In this respects serum cytokine and monokine levels had been considered as useful markers for monitoring the leprosy patients during the course of the disease. In this study we measured, by either ELISA or radioimmunoassay, serum levels of T cell cytokines: IFN- γ , TNF- α , TNF- α R (p75, p55), IL-4, IL-5 and neopterin in seven leprosy patients from Phillipines before treatment and thereafter for 1-6 months when patients developed clinical signs of RR with the expectation that serum cytokine

and monokine profile at the onset of reaction may provide a clue for early prediction of reactions to be experienced by the patients. The results show that at the onset of RR and/or one month after, 6/7 patients showed significantly increased levels of neopterin and in some cases remained high even after being treated with immunosuppressive drugs. On the other hand serum IFN- γ , IL-4, IL-5 showed inconsistent increase in not more than 2/7 patients. Interestingly, levels of TNF- γ , TNF-R were increased in 6/7 patients either at the onset or after 1 month of the onset and remained high above the normal value. It appears from this pilot study that measurement of serum neopterin and TNF- α , TNF- α R could be valuable in monitoring the RR patients during the treatment.

PI 51

SPECIFICITY OF PGL-I SEMI- SYNTHETIC ANTIGENS IN LEPROSY SEROLOGY

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Several serological tests to detect *M. leprae* infection have been developed using PGL-I, a cell wall component specific for *M.leprae*. Semi-synthetic derivatives were produced by either directly linking a disaccharide group to BSA, leading to disaccharide BSA (DBSA), or by linking the synthesised sugar groups (natural di- or tri-saccharides [ND or NT]) to BSA with an octyl (O) or a phenolic linker (P).

We evaluated whether the antibody response to PGL-I was specific for *M.leprae* and determined whether serum samples gave similar results with different PGL-I-based semi-synthetic antigens.

143 serum samples from different groups were tested using the native PGL-I and three semi-synthetic antigens (ND-O-BSA, DBSA and NT-P-BSA). ND-O-BSA was more often positive than the others. All antigens were compared with ND-O-BSA. DBSA gave the highest agreement and PGL-I the lowest. There was no disagreement in the patients group with OD values above 1.5 and the groups formed by contacts and non contacts of leprosy patients with negative ND-O-BSA. The group composed of non-contacts with positive ND-O-BSA results gave the lowest agreement between antigens, namely 62, 83 and 94% when compared with DBSA, NT-P-BSA and PGL-I, respectively.

Comparison between different batches of ND-O-BSA gave a strong suggestion that non-specific binding in a particular batch could be occurring. This re-

sults indicate that a rigorous quality control of the antigen should be performed.

PI 52

SPINDLE CELLS AND MACROPHAGES IN HISTOID LEPROSY

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Purpose: Histoid form of leprosy is a rare manifestation of lepromatous form. The histological aspect is the presence of a pseudocapsule, with fusiform cells surrounding this structure. The aim of this study was to demonstrate that this spindle cells express the same antigen as the foam cell and that this form are related to high positivity of acid fast bacilli.

Methods: We have performed an histological (HE and Fite-Faraco stain) and immunohistochemical study (anti-CD4, anti-CD8, anti-CD68 and anti-BCG) in 8 patients, presenting clinical criteria for histoid leprosy.

Results: In HE stain, the infiltrate was mainly constituted by Virchow's cells. The spindle cells were present in four patients. In only two cases, we could distinguish pseudocapsule in peripheral localization of the macrophagic granuloma. We observed a relationship between globi and presence of spindle cells, by Fite-Faraco stain. Virchow's cells were related to isolated and granular bacilli. The expression for BCG antigen was also strong in every patients. CD4+ and CD8+ cells were diffusely distributed in the infiltrate, without any typical pattern. CD68 antigen expression was strong in Virchow's and spindle cells. The expression for BCG and CD68 antigen was positive in the cytoplasm of fusiform cells, constituting the pseudocapsule.

Conclusion: Spindle cells are typical of this resistant form of leprosy. Expressing the same antigen (CD68+) in Virchow's and spindle cells, we could consider that these spindle cells have macrophagic function.

PI 53

STUDIES ON REGIONAL IMMUNITY USING EX-VIVO EXPLANT CULTURES OF SKIN LESIONS IN RELATION TO LEPROSY PATHOLOGY

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Prevention of acute reactions in leprosy is the principal goal to be tackled for the containment of leprosy in foreseeing future. Understanding the local immunity on skin lesions is therefore, a pre-requisite so that a more direct approach for early diagnosis of leprosy lesions can be developed. At present, several serodiagnostic tests using antibody titres are used for leprosy diagnosis. Although these tests can diagnose 90-100% of multibacillary (MB) leprosy, they failed to detect 40-60% cases of paucibacillary (PB) patients, but 40% of these PB patients show serum antibody to *m.leprae* antigens. In addition, several investigators used serum cytokine levels as the marker for disease activity but with limited value, particularly in the context of discriminating leprosy from other inflammatory skin diseases.

We established organotypic cultures of full thickness skin to study the local production of anti-*m.leprae* antibodies and cytokines in the lesions of paucibacillary (PB), multibacillary (MB) patients with and without leprosy reaction. These presently studied PB and MB patients were histopathologically classified as BT/TT and BL/LL respectively. Kinetics of antibody production and cytokines in the culture supernatants were analysed.

Results: show that production of antibody peaked at 48 hours in all leprosy lesions but negative in all control specimens. Such antibody production could not be seen when the biopsies were autoclaved before culturing. On the otherhand kinetics of IFN-, TNF- in the same supernatants that peaked at 24 hours were significantly more pronounced in PB lesions and lesions with reversal reactions than those in MB and control specimens. However, there was no difference in the local production of IL-4 and IL-10 among the specimens. Interestingly, IL-6 production peaked at 48 hours that was variable but pronounced in the lesions of PB patients although statistically not different from those in MB lesions.

Conclusion: The present data taken together with the phenotypes of *in situ* immune-infiltrates in PB lesions suggest that a combined role of locally produced antibody and T cell response is important in leprosy pathology.

PI 54

T- AND B-CELL RESPONSES TO *Mycobacterium leprae* HOMOLOGUE OF ESAT-6 IN LEPROSY PATIENTS AND CONTROL INDIVIDUALS

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ESAT-6 (early secreted antigen target 6 kDa protein) has been described as an immunodominant antigen in the context of *Mycobacterium tuberculosis* infection in animal models and humans. ESAT-6 generates CD4+ Th1 cells and antibody production, thus showing promise as a specific diagnostic tool for active tuberculosis. It was recently demonstrated that *M. leprae* expresses *in vivo* an ESAT-6 homologue sharing only 36% identity with its *M. tuberculosis* counterpart. The present study investigated the specific T- (IFN- γ secretion) and B- (IgG antibody) cell responses to *M. leprae* ESAT-6 in the context of leprosy. T-cell response to *M. leprae* ESAT-6 was measured in peripheral blood mononuclear cells (PBMC) from leprosy patients, *M. leprae*-exposed individuals, tuberculosis patients, and healthy individuals from an endemic area. Cells were stimulated with the antigen and secreted IFN- γ levels were quantified by standard ELISA in cultured supernatants. Initial results show that *M. leprae* ESAT-6 was recognized by cells from leprosy patients (6/9), exposed individuals (8/12), tuberculosis patients (1/2), and healthy individuals (2/2) from an endemic area. IgG antibody response was observed in lepromatous leprosy patients (11/13), tuberculoid leprosy patients (6/8), TB patients (1/10), and exposed individuals (14/18). Currently, *M. leprae* ESAT-6 peptides are being analyzed for IFN- γ induction in PBMC. These preliminary results indicate that ESAT-6 induces T- and B-cell responses in most leprosy patients and healthy exposed individuals. The potential cross-reactivity with *M. tuberculosis* ESAT-6 together with the positive responses observed in individuals from an endemic area suggest limitations on the use of *M. leprae* ESAT-6 in a specific diagnostic test for leprosy.

(Research supported by the NIAID, NIH).

PI 55

THALIDOMIDE CAN CO-STIMULATE OR SUPPRESS CD4+ CELLS' ABILITY TO INCORPORATE [H³]-THYMIDINE – A DEPENDENCE ON THE PRIMARY STIMULANT

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Thalidomide is the treatment of choice for erythema nodosum leprosum and has immunomodulatory properties. To assess if the stimulant and/or thalido-

midide could modify the synthesis of IL-2, IFN- γ and incorporation of [H³]-thymidine, peripheral blood mononuclear cells (PBMC) were incubated for three days in the presence or absence of thalidomide and Staphylococcal enterotoxin A (SEA), anti-CD3, Con-A or PHA.

Regardless of the mitogen used to stimulate the PBMC, the thalidomide-treated-PBMC produced more IL-2 than controls. Thalidomide enhanced IFN- γ synthesis in the Con-A and anti-CD3-stimulated PBMC. It suppressed the ability of SEA and PHA stimulated PBMC to incorporate [H³]-thymidine; whereas it enhanced incorporation of [H³]-thymidine in PBMC's stimulated with anti-CD3.

When the PBMC were enriched for CD4+ or CD8+ cells, the SEA-stimulated CD4+ cells responded far better than the CD8+ cells in the synthesis of IL-2 and incorporation of [H³]-thymidine. In CD4+ cells thalidomide acted as a co-stimulant with SEA to enhance the synthesis of IL-2, but it suppressed incorporation of [H³]-thymidine. In the anti-CD3-stimulated-thalidomide treated cultures of PBMC enriched for CD4+ or CD8+ cells, thalidomide acted as a co-stimulant to enhance the synthesis of IL-2 and incorporation of [H³]-thymidine.

Thalidomide cooperated with all of the mitogens to enhance T-cell synthesis of

IL-2; however, depending on the stimulant, thalidomide could suppress or enhance cellular incorporation of [H³]-thymidine. The SEA-stimulated cell targeted by thalidomide to suppress incorporation of [H³]-thymidine was CD4+. CD4+ and CD8+ cells stimulated with anti-CD3 were enhanced by thalidomide in their ability to synthesize IL-2 and to incorporate [H³]-thymidine.

PI 56

THALIDOMIDE DID NOT MODIFY LEPROSY PATIENTS' CELLS' ABILITY TO PROLIFERATE IN RESPONSE TO *M. leprae* ANTIGENS

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The immune response in reversal reaction, (RR) and in erythema nodosum leprosum (ENL) is characterized *in vitro* by an enhancement in lymphocyte blast transformation to *M. leprae*. As thalidomide is effec-

tive treatment for ENL, this study assessed the effect of thalidomide on these phenomena. Mononuclear cells from patients attending the clinic at ALERT and healthy staff were exposed for 5 days to integral *M. leprae*, or a modified Dharmendra antigen, or a preparation of PPD from *M. tuberculosis*. The cultures were treated with thalidomide. In one set, thalidomide was added once at the initiation of the culture, and in another set it was added for a second time (2x), 24 hr prior to harvesting the cells.

The mononuclear cells, in the absence of thalidomide, from the healthy staff (N=11), borderline tuberculoid patients (BT, N= 14) and the BT patients in RR (BT/RR, N=11) responded best to PPD > Dharmendra > *M. leprae*. The cells from patients who were being treated with prednisone to suppress ENL (N=7) did not respond well to the *M. leprae* antigens. Thalidomide (2x) enhanced proliferation to PPD in the ENL group (paired t-test, $p=0.02$). No significant changes occurred for the other groups. Comparing PPD-stimulated cells treated with thalidomide once to those treated with thalidomide twice, thalidomide (2x) suppressed incorporation of [^3H]-thymidine by the PPD-stimulated cells in the healthy staff group ($p=0.04$). In the Dharmendra-stimulated cells from the healthy staff thalidomide significantly suppressed TNF- α ($p=0.01$). A mixed effect was seen within and between the other groups, but there was a trend for thalidomide to suppress of TNF- induce by the *M. leprae* and PPD antigens.

PI 57

THE EFFECT OF THE ACTIVITY OF MICROSO-MAL ENZYMES AND ACETILATION ON METHEMOGLOBIN RATE IN LEPROSY PATIENTS

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As it is known, dapsone at certain doses may induce hemolysis, especially in persons with glucose-6-phosphate dehydrogenase (G6PDH) deficiency, occurring in about 10% of leprosy patients. However, DDS-induced hemolysis might be due to other factors among which peculiarities and intensity of drug metabolism, including rate of sulphone acetylating and hydroxylation, play an important role. Patients with lepromatous leprosy were given various schemes of MDT with dapsone 100 mg daily as a main component. Activity of microsomal enzymes by the time of antipyrine half-secretion (T1/2) and acetylation rate of sulfadimazine was studied. All the patients studied had no G6PDH-deficiency. It was observed that in patients showing rather high activity of microsomal enzymes (T1/2 =12,5 h in average) blood methemoglobin rate was significantly higher

($P<0,05$) than in those with low activity of these enzymes (T1/2=23,5 h in average). Though methemoglobin rate in the most patients did not exceed 1,5%, it approached 2,5-3,9% in persons with a combination of low acetylating rate and high activity of microsomal enzymes. It might be a consequence of increase in derivatives of N-hydroxylation of dapsone with methemoglobin-forming properties in persons with predominance of oxydative phenotype of xenobiotic biological transfor.

PI 58

THE REPORT FOR THE SKIN SMEARS QUALITY CONTROL ON LEPRESY IN SICHUAL PROVINCE IN THE PAST 15 YEARS

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The skin smears quality control on leprosy was implemented in the leprosy epidemic counties in Sichuan Province, in order to improve the quality of skin smears and implementation of MDT. 10% of skin smears, came from the leprosy epidemic counties, were selected randomly with double-blind method and evaluated in smears, stain and diagnosis in Sichuan Leprosy Laboratory on the basic of the criterion of the skin smears quality on leprosy in the Handbook of MDT on Leprosy. Meanwhile, the skin smears came from Sichuan Leprosy Laboratory were also checked and contrasted by the paramedical workers. In the past 15 years, the skin smears quality control was implemented and the quality of skin smears was improved between 17 and 97 leprosy epidemic counties in Sichuan. 4529 pieced of skin smears were checked. The average qualified rate of smears, stain and diagnosis was 96.88%, which was 86.97% in 1986. The implementation of skin smears quality control could improve professional level of paramedical workers and the quality of leprosy control

PI 59

TOLL-LIKE RECEPTOR 2 ON HUMAN SCHWANN CELLS.

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Nerve damage is a characteristic clinical feature of leprosy. We investigated the ability of human

Schwann cells to participate in microbial recognition according to their expression of Toll-like receptor 2 (TLR2). In this paper, FACS analysis of a human Schwann cell line ST88-14 and immunohistochemistry of leprosy skin lesions demonstrate expression of TLR2 on the surface of human SC (double-fluorescence labeling showed colocalization of a Schwann cell marker, neural cell adhesion molecule (NCAM) and TLR2). Given that TLR2 mediates recognition of microbial lipopeptides, we engineered a synthetic lipopeptide comprising the first six amino acids of the putative *M. leprae* 19 kD antigen. Acti-

vation of the human Schwann cell line with the *M. leprae* lipopeptide triggered an increase in the number of cells with condensed nuclei and evidence of DNA fragmentation, characteristics consistent with cell death. Hoescht stain and 7-AAD showed a 2 or 3 fold enhancement in the cell death when compared to the unstimulated cultures. The ability of *M. leprae* components to induce apoptosis of Schwann cells through Toll receptors might provide a mechanism for nerve damage in leprosy in the absence of inflammation.

MICROBIOLOGY & MOLECULAR BIOLOGY

PM & BM 1

A HISTOLOGICAL AND BACTERIOLOGICAL ASSESSMENT OF LEPROSY PATIENTS WITH < 5 LESION

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Aim: To study the histological and bacteriological features of leprosy patients with 5 or less than 5 lesions and relate it to clinical features.

Methods: 76 consecutive leprosy patients (M 57 F 19) who had 5 lesions were included in the study. Clinical features were recorded, slit skin smears and skin biopsies were done on all patients. A nerve biopsy was performed (radial cutaneous or Sural nerve) in 18 patients who had a clinically thickened cutaneous nerve.

Results: Out of the 76 patients, 28 patients had single skin lesions, 17 had 2 lesions, 13 had 3 lesions, 5 had 4 lesions and 2 had 5 lesions. The clinical diagnosis was TT leprosy in 4, BT in 68 and indeterminate in 4. Slit skin smears were positive in only 1 BT leprosy patient.

Histological examination revealed features of TT leprosy in 2 patients (2.6%), BT leprosy in 42 patients (55.3%), BL in 4 patients (5.3%), indeterminate leprosy in 16 (21%) and non-specific inflammation in 12 (15.8%). Acid fast bacilli ranging from a bacterial index of granuloma (BIG) of 1+ to 4+ were present in 10 of the skin biopsies (13.2%). The cutaneous nerve biopsies in 16 of the 18 patients (88.8%) revealed features of BT leprosy consisting chiefly of lympho-epithelioid granuloma. 12 of these nerve (66.7%) revealed AFB in them with a BI ranging from 1+ to 4+.

Conclusion: The findings from the study indicate that the number of lesions does not determine the type or extent of the disease.

PM & BM 2

A HISTOPATHOLOGICAL STUDY OF TYPE II (ENL) REACTION IN LEPROSY

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Type II lepra reaction produces a defined clinical picture of painful and tender erythematous nodules which are described as 'Erythema Nodosum Leprosi'. The histology of these lesions have been variously described. The aim of this study was to document the different components that constitute a histological diagnosis of ENL and their consistency of occurrence in each lesion.

A detailed study was made of 22 skin biopsies from ENL lesions. A histological diagnosis of 'LL in ENL' was made in 11 biopsies (50%). The most consistent feature noticed in these 11 biopsies was the presence of foamy macrophage granulomas in a pale oedematous dermis. The oedema was more prominent in the upper dermis and was associated with dilated vascular channels. Neutrophilic infiltrate was a consistent finding in 9 biopsies and vasculitis in 8. Plasma cells were present in 5 and panniculitis was noticed only in 1 biopsy.

Acid-fast stain revealed predominantly beaded and granular bacilli in the macrophages, nerves, smooth muscle and in the sub epidermal zone. Bacilli were also seen in the endothelial cells in 2 biopsies and in the wall or lumen of the blood vessels in 2 biopsies.

In the remaining 11 biopsies although the patient was clinically diagnosed as LL in ENL the histology did

not reveal features that were sufficient to label as ENL. The findings in these biopsies were of 'lepromatous leprosy' with macrophage granulomas and acid fast bacilli. Oedema, vasculitis and neutrophilic infiltrate were absent in these lesions.

PM & BM 3

ALTERED PROTEIN PHOSPHORYLATION IN LEPROSY LYMPHOCYTES – A PRELIMINARY STUDY

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Protein phosphorylation is a post-translational modification that modulates the specific functions of various effector proteins and is a major biochemical mechanism by which cells integrate extracellular signals and respond to it. Recently, a detailed picture of protein kinases involved in the regulation of immune cells has been reported. cAMP dependent kinases, Calcium/Calmodulin dependent kinases and Protein Kinase C (PKC) have been shown to be involved in B and T cell responses to antigens. Leprosy is a disease in which varied types of immune responses to *M. leprae* are observed.

To understand the molecular basis of immune response, we carried out protein phosphorylation of lymphocytes from leprosy patients in the presence and absence of modulators - cAMP, cGMP and Phosphatidylinositol. A wide range of proteins were phosphorylated in lymphocytes of normal and leprosy patients. The modulators had a similar effect on both normal and leprosy lymphocyte phosphorylation patterns, except for the 20 and 29 kDa proteins which showed a decreased phosphorylation. The pattern and significance of the phosphorylation in leprosy lymphocytes is presented.

PM & BM 4

ARMADILLO-DERIVED *Mycobacterium leprae* PRODUCES A HEPARIN-BINDING HEMAGGLUTININ ADHESIN (HBHA)

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As described for several bacterial pathogens, *Mycobacterium tuberculosis* expresses a surface-exposed heparin-binding hemagglutinin adhesin (HBHA), which is specifically involved in epithelial adherence through interactions with heparan sulfate-containing proteoglycans. Recent data showed that the disruption of the *hbhA* gene impaired *M. tuberculosis* dissemination from the lungs after intranasal infection of mice, indicating that HBHA plays an important role in the pathogenesis of tuberculosis. The aim of this study is to investigate the role of the *M. leprae* HBHA homologue in leprosy. Indeed, the recent conclusion of the *M. leprae* genome revealed the presence of a *hbhA* gene coding for a protein of 199 amino acids and sharing 81.4 % identity with the *M. tuberculosis* homologue. To demonstrate the expression of this adhesin in armadillo-derived *M. leprae*, the bacilli were sonicated and subcellular fractions were isolated and analyzed by western blot developed with a panel of anti-*M. tuberculosis* HBHA antibodies. A reactive band with the expected apparent molecular weight was detected in the cell wall and soluble fractions, suggesting that the adhesin is present on the bacterial surface. As observed for *M. tuberculosis*, the HBHA expressed by *M. leprae* is also posttranslationally modified by methylations of the lysine residues present in the carboxy-terminal heparin-binding domain of the adhesin. Investigations are currently in progress to determine the role of HBHA in the interaction of *M. leprae* with Schwann cells.

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PM & BM 5

ASSOCIATION OF NRAMP1 GENE POLYMORPHISM WITH GENETIC SUSCEPTIBILITY TO LEPROSY

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Mitsuda test is an intradermic lepromin test, which measure the specific immune response to heat-killed leprosy bacilli that have a high prognostic value, meaning susceptibility to the lepromatous form when negative. Linkage analyses have confirmed association of NRAMP1 gene with susceptibility to tuberculosis and leprosy. However, case-control studies could not found association of NRAMP alleles with leprosy status. This study aimed the association of the (GT)n repeats at the NRAMP1 gene promoter region with susceptibility to leprosy and also to the positive Mit-

suda test on high endemic Brazilian population assisted by Sanitary Dermatology/Leprosy Reference Center of Uberlândia, Federal University of Uberlândia (UFU). Leprosy patients (69) were diagnosed by WHO requirements, classified in sub-clinical forms, and submitted to the Mitsuda Test and BCG scar evaluation. Statistical analysis has clustered patients in paucibacillary-PB (36) and multibacillary-MB (33) forms. The control group consisted of 34 healthy non-consanguine household contacts of leprosy patients. Genotypes were obtained by the polymerase chain reaction (PCR), followed by detection through LIS-SSCP (14% PAGE, 49:1 acrylamide:bis, for 20h, 10V/cm, at room temperature). There were no significant differences among 2, 3 and 4 allele frequencies with Mitsuda test average and leprosy status. The allele 3 frequency (0.666) has shown a slight increase in MB patients compared to PB (0.611) and to the control group (0.573). The NRAMP1 gene may be associated to Leprosy resistance; however, our results do not agree with this affirmative, probably due to others factors, such as bacillus exposition, BCG status and genetic heterogeneity.

Support: FAPEMIG

PM & BM 6

ASSOCIATION OF VITAMIN D RECEPTOR GEN (VDR) *TaqI* POLYMORPHISM WITH SUSCEPTIBILITY TO LEPROSY

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Leprosy is a chronic disease caused by *Mycobacterium leprae*, with a wide spectrum of clinical manifestations. This spectrum of clinical/histological characteristics ranging from the polar paucibacillary (PB) form, which corresponds to tuberculoid leprosy (TT), exhibiting strong cellular immunity and a predominance of TH1-cytokine pattern, to the multibacillary (MB) form, which corresponds to lepromatous leprosy (LL) and a TH2-cytokine pattern. The mechanism of TH1/TH2 shift remains unclear but early studies of the leprosy treatment with medications containing vitamin D (VD) analogs are consistent with a possible immunomodulatory effect of VD on bacteriostasis. Also, the VDR gene polymorphism has been implicated with susceptibility to *M. malmoense*, *M. tuberculosis* and with clinical types of leprosy. This case-control study inquired the association of VDR with susceptibility to leprosy *per se* and also to leprosy types on high endemic Brazilian population assisted by Sanitary Dermatology/Lep-

rosy Reference Center of Uberlândia, Federal University of Uberlândia (UFU). Leprosy patients (67) were diagnosed by WHO requirements and classified in sub-clinical forms as described by Ridley and Jopling (1966). Statistical analysis has clustered patients in paucibacillary (36) and multibacillary (31) forms. The control group consisted of 34 healthy non-consanguine household contacts of leprosy patients. The genotypes were obtained by the polymerase chain reaction (PCR), previously described by Roy et al (1999), and followed by *TaqI* restriction. Frequency distribution of *TaqI* T/t polymorphism (p = 0.5967; q = 0.4033) for MB patients was significantly different from general population as detected by logistic regression. The MB group exhibits a lower frequency of "T" allele when compared to the control and PB groups, for which frequencies were: T = 0.7352; t = 0.2648 and T = 0.7083 and t = 0.2917, respectively. This study suggests that VDR polymorphism modulate susceptibility to leprosy development probably by affecting the TH1/TH2 differentiation of the host immune response.

Support: FAPEMIG

PM & BM 7

CHANGES IN THE PREVALENCE OF DAPSONE RESISTANT LEPROSY SINCE THE IMPLEMENTATION OF MDT

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Aim: To screen all new previously untreated multibacillary leprosy cases and relapses presenting at our leprosy referral hospital for dapsone resistance using MFP culture.

Methods: Skin biopsies were taken from all appropriate consenting patients presenting at Anandaban clinics. These were homogenised and injected into the hind footpads of Swiss Albino mice. Test drugs were included in mouse feed throughout the course of the experiment. When control group mice showed two logs of growth, experimental mice were sacrificed, and numbers of bacteria estimated.

Results: During the period 1987- 2000 a total of 348 samples were tested in our system. Twenty-three of 266 tested for primary dapsone resistance (0.09%) showed resistance at low dose (0.0001%, equivalent to 0.1mg/kg in humans); only one showed resistance at high dose (0.01%, ?10mg/kg). Levels of DDS resistance in patients treated with DDS monotherapy prior to MDT decreased over the period of monitoring. In 11 patients treated with MDT only, none had secondary dapsone resistance.

While there was evidence that some secondary dapsone resistant strains were resistant at high dose, only a single case of primary resistance to high dose dapsone was observed within our population.

Conclusion: Our studies indicate: i) that dapsone resistance has almost entirely disappeared as the remaining dapsone monotherapy patients have died or been treated with MDT, and ii) that secondary dapsone resistance does not develop in MDT regimens.

PM & BM 8

CHANGES IN VIABILITY OF INTERDERMAL *M. leprae* ASSOCIATED WITH THE HISTOPATHOLOGICAL RESPONSE OF SUSCEPTIBLE AND RESISTANT ARMADILLOS

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Leprosy manifests over a broad clinical and histopathological spectrum associated with Th1/Th2 immunological responses. Other than man, nine banded armadillos are the only hosts which develop the full clinical spectrum of leprosy. The CMI that they can manifest towards *M. leprae* has been indexed only with heat killed *M. leprae* (Lepromin) in a Mitsuda reaction. While the form of leprosy that a host may develop is generally consistent with the type of granuloma that they manifest with Lepromin, the Mitsuda reaction is known to be a poor indicator of susceptibility for leprosy. Several Mitsuda (-) armadillos resist experimental infection with *M. leprae*. To better understand the differences between granuloma formation and resistance, we examined the granulomas formed in the skin of armadillos in response to intradermal inoculation of highly viable *M. leprae* and to killed leprosy bacilli. We found that the granulomas formed in response to live *M. leprae* were significantly larger than those produced to *M. leprae* killed by heat, gamma irradiation or by freeze/thaw. Among Mitsuda(-) animals (n=20) granulomas involving viable bacilli ranged 2-12 times larger in size than those made to killed *M. leprae*, but their cellular composition was little changed and the bacillary number remained high. Mitsuda (+) animals showed similar enhancement with little qualitative difference in cellular composition. We used Radiorespirometry (RR) and conventional mouse foot pad technique (MFP) to examine the viability of *M. leprae* recovered from these intradermal inoculations. *M. leprae* viabilities fell markedly after initial inoculation but then stabilized. Bacilli recovered from living-Mitsuda reactions showed a broad range of viabilities and varied by the Ridley-Jopling classification of the animal (n=8). Highest *M. leprae* viabilities were found among multibacillary hosts and lowest among BT's. Over a six week period, intra-

dermal *M. leprae* viabilities among most multibacillary animals tended to increase, while they decreased or remained very low among BT animals and other paucibacillary hosts. The pattern for intradermal *M. leprae* viability among leprosy resistant Mitsuda (-) animals (n=4) resembled that seen among BT hosts, with the higher initial viabilities waning over time. The histopathological response of these animals to Lepromin remained the same. The trends in viability seen for intradermal *M. leprae* generally correlated with the outcome of systemic infections. Within 15 months after intravenous challenge with 1×10^9

M. leprae, the LL-spectrum animals that had accommodated high intradermal *M. leprae* viabilities developed signs of fully disseminated disease, while the resistant Mitsuda(-) and paucibacillary spectrum animals remained free of leprosy. Actively metabolizing bacilli may produce antigens that are not present among killed bacillary preparations, and they secrete them to the host over a long period of time. Histopathology is likely too insensitive to reveal the full range of variable resistance across the leprosy spectrum. A better understanding of the *M. leprae* antigens involved in resistance to leprosy by armadillos, and the specific cytokine profile of their responses, would be useful in our efforts at *in vivo* propagation, and could significantly benefit our ability to identify disease susceptible and resistant individuals in human populations

PM & BM 9

DETECTION OF *M. leprae* AND ITS SUSCEPTIBILITY TO DAPSONE USING DNA HETERODUPLEX ANALYSIS

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Current recommended MDT for leprosy should control the spread of drug-resistant leprosy; however, dapsone resistance continues to be reported. Comprehensive estimates of dapsone-resistant leprosy are difficult to obtain due to the cumbersome nature of the conventional drug susceptibility testing methods using mouse foot pad inoculation, which requires at least 6 months to obtain results. Recently we have determined that dapsone-resistant strains contain mutations in codons 53 and 55 of the *folP1* gene encoding the dihydropteroate synthase, a key enzyme in the folate biosynthetic pathway, and used this information to design a, PCR-based heteroduplex assay for rapid detection of *M. leprae* and dapsone susceptibility from clinical specimens. PCR was used to amplify a 231-bp *folP1* fragment from crude cell lysates of biopsy homogenates. The PCR products were annealed to a universal heteroduplex generator and the resultant DNA duplexes were separated on a PAGE

mini-gel. This assay took 6 hrs to perform, correctly detected the presence of *M. leprae* from eight biopsy specimens and from 14 separate *M. leprae* strains harvested from either armadillos or mice. In addition, this assay demonstrated a 93% correlation with dapsone susceptibility results as determined by both DNA sequencing of *folP1* and mouse footpad susceptibility testing and was sensitive enough to detect 10^3 bacteria. Therefore these results demonstrate that a new tool has been developed for rapid detection of dapsone resistance. This tool should be useful for drug resistance surveillance in leprosy control programs when combined with similar molecular tests developed of other drug resistance markers

PM & BM 10

DETECTION OF mRNA CODING FOR PROTEASE ENZYMES IN *Mycobacterium leprae* ISOLATED FROM HUMAN BIOPSIES

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The knowledge about the mechanisms of *Mycobacterium leprae* pathogenesis and the virulence genes responsible for it is very limited. Bacterial proteases have been proposed as virulence factors in a variety of diseases, contributing in different ways to the establishment and maintenance of microorganisms in the host. In this work, we have investigated the *in vivo* expression by *M. leprae* of genes annotated as putative proteases in the genome of this pathogen (Cole et al., Nature 409: 1007-1001, 2001). Five out of 32 protease genes were initially selected for this study: ML0041, ML0176, ML2659, *gcp* gene (ML0379) and *clpC* gene (ML0235). These genes code for putative secreted proteases, or for proteases with homology to virulence factors of other microorganisms. *M. leprae* was purified from biopsies of lepromatous leprosy patients and total bacterial RNA was isolated by guanidine thiocyanate extraction. cDNA was synthesized in a reverse transcriptase reaction with random hexanucleotides. PCR reactions were conducted in the presence of protease specific primers designed for the amplification of the full length of the genes. Preliminary results indicate that *M. leprae* expresses the ML2659 gene, which shares homology with the serine protease *pepA*, a virulence factor of *Pseudomonas aeruginosa*. Additional experiments are under way to further characterize the expression of these genes and to investigate their protease activities.

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PM & BM 11

DICHOTOMY OF -238 AND -308 SINGLE NUCLEOTIDE POLYMORPHISMS IN TNF- α GENE: CLINICAL AND BACTERIOLOGICAL EVALUATION IN LEPROSY

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Tumor necrosis factor alpha (TNF- α) plays a key role in orchestrating the complex events involved in inflammation and immune response. The presence of single nucleotide polymorphisms (SNPs) within the promoter region of the TNF- α gene has been associated to a number of diseases. Since the genetic predisposition could be considered as one of the factors in the outcome of different clinical forms of leprosy, the aim of this paper was to investigate the occurrence of (G/A) polymorphisms at positions -238 and -308 within the TNF- α promoter and its possible association with degree of severity. By definition, multibacillary (MB) forms was considered severe and the paucibacillary (PB) form, mild. Besides, the bacteriological index (BI) was evaluated among genotyped MB patients in order to investigate the possible influence of each polymorphism on the levels of bacterial load. The results of this study, which included a total of 631 leprosy patients (MB= 401, PB= 230) suggest that the -238A allele was associated to the more severe clinical form of leprosy (MB), whereas, the -308A allele with the mild form (PB). These data are in compliance with the BI analyses of MB patients in that the bacterial load among the -308 carriers was lower while among -238 carriers it was increased.

PM & BM 12

DRUG RESISTANT *Mycobacterium leprae* FROM RELAPSE OR INTRACTABLE LEPROSY CASE

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Current strategy against leprosy is mainly based on multi drug treatment (MDT). On the other hand, some cases of the drug resistant *Mycobacterium leprae* were reported by different study groups. Recently, there have been advances in the elucidation of molecular events responsible for drug resistance in Mycobacteria. Molecular analysis technique takes place *in vivo* drug susceptibility test and enables to know correctly the distribution of resistant strains by

examining many samples. In this study, The DNA sequences of particular regions of *M. leprae*, which are responsible for resistance to dapsone, rifampin, and fluoroquinolones were analyzed respectively. Samples are collected from Japanese relapsed or intractable cases, newly registered cases in Philippines and Indonesia. For the Japanese cases, 13 out of 16 samples analyzed *folP* gene, 9 out of 16 analyzed *rpoB*, 4 out of 8 analyzed *gyrA* indicated mutation at the position responsible for drug resistant. Results of the samples from Philippines were as follows, *folP*: 3 mutated/27 examined, *rpoB*: 6 mutated/23 examined. Indonesian samples revealed as follows, *folP*: 2 mutated/27 examined, *rpoB*: 5 mutated/23 examined. Two cases of Philippines regarded resistant dapsone and rifampin. Frequent drug resistant cases in Japanese cases may attribute to irregular and/or monotherapy. We thank E. Nagao, K. Kinjoh, M. Namisato, M. Goto, A. Hosokawa, T. Yanagihashi, R. Nogami, A.T. Agdamag and I. Agsuni.

PM & BM 13

EVALUATION OF GENETIC VARIABILITY IN *Mycobacterium leprae* AND POSSIBLE APPLICATION FOR DEVELOPMENT OF MOLECULAR TOOLS FOR STRAIN TYPING

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Despite a considerable reduction in registered leprosy cases over the last 15 years, the disease is still a major public health problem in several countries with no substantial decrease in case detection rate. Control programs could be improved by identification of the source of infection, better understanding of transmission and if relapse cases could be differentiated from re-infection.

Attempts to identify individual strains of *Mycobacterium leprae* has so far been disappointing and development of fingerprinting technology is hampered by the lack of DNA polymorphism. Very recently however, one study demonstrated a considerable isolate-associated difference in the number of copies in a TTC repeat in a single locus.

We confirmed the difference in TTC copy number in this locus in *M. leprae* from different Brazilian leprosy patients using gel electrophoresis and automatic sequencing. After analyzing the *M. leprae* genome sequence for simple repeats, sets of primers for amplification of five more loci containing (AT)_n, (TAC)_n or (C)_n-(G)_n were developed. Our preliminary data, using skin biopsy samples from 3 different patients and agarose gel electrophoresis, demonstrated size variability in 3 of the 5 PCR systems so at the moment, 4 loci have been defined containing isolate-associated polymorphism. Considering the limited resolution of agarose, variability in the other 2 systems will be searched for on polyacrylamide gel and by sequencing. More samples are being collected, including biopsy and lymph samples from multi- and paucibacillary patients, in order to establish the degree of genetic variability in the different loci and look for a possible association between genetic composition of the bacilli using these markers and clinical and epidemiological characteristics of the patients.

PM & BM 14

FURTHER STUDIES ON THE HISTOLOGICAL CHANGES IN THE SKIN IN PRIMARY NEURITIC LEPROSY

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Primary neuritic leprosy presents with peripheral nerve damage and no evident skin patches. Clinical diagnosis has centred on demonstration of anaesthesia and nerve enlargement. Laboratory confirmation is based on a histological diagnosis of leprosy in the cutaneous nerve biopsy. We have previously shown that although the skin shows no visible patches there are histological evidences of the disease in the skin biopsy.

In the present study 24 PNL cases were subjected to a skin biopsy from the area of sensory change to look for any histological evidences of leprosy. 18 of the 24 biopsies (75%) showed changes specific to leprosy. The changes ranged from Indeterminate leprosy in 7 (29.2%), Indeterminate -> BT leprosy in 2 (8.3%), Indeterminate to BL leprosy in 3 (12.5%), BT in 5 (20.8%) and BL in 1 (4.2%). 6 of the biopsies revealed no significant lesion. The histological features suggest a schematic progression of the disease from non-specific changes to specific changes such as indeterminate leprosy and further progression to determined forms of BT and BL leprosy.

This gives PNL an important status as a stage in the development of full blown disease.

PM & BM 15

IMPROVED PROCEDURES FOR THE GENERATION OF THE RECOMBINANT ANTIGENS OF *M. leprae*

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To date, most developmental work for new leprosy diagnostic antigens has been conducted on native *M. leprae* products. Since the *M. leprae* genome sequence has become available, emphasis has shifted to individual proteins, notably those that are *M. leprae* specific. For the purpose of producing recombinant antigens, we have modified standard methods. The basic 3-step strategy is well established: PCR, cloning of the genes into an expression vector, and purification of six-histidine-tagged proteins using the standard immobilized metal affinity column (IMAC). However, in order to produce large quantities of soluble recombinant proteins, we have modified these methods. We use touchdown PCR to overcome high annealing temperatures for high GC-rich DNA. In purifying recombinant proteins, we modify the pH gradient buffer system using the knowledge of pI values of the 6-histidine tag and IMAC. In this way, several soluble recombinant proteins have been produced in milligram quantities per one liter of cultured cells. The hydrophobicity and pI values of the original proteins determine the solubility and quantity purified. Ten *M. leprae* recombinant antigens (ESAT-6; CFP-10; MMP-I; MMP-II; EF-Tu; Ag85B; and the Ag85B+ESAT-6, CFP-10+ESAT-6, 10kDa+ESAT-6 fusion proteins) were purified by these methods and are under investigation (supported by a grant and contract from the NIAID, NIH).

PM & BM 16

INTRACELLULAR SIGNALS TRIGGERED DURING ASSOCIATION OF *Mycobacterium leprae* WITH SCHWANN CELLS

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Interaction of bacterial pathogens with their host cells triggers signal transduction pathways that, in turn, leads to a variety of cellular responses which ultimately favor their perpetuation in the host. Among these responses are those given rise to an extensive reorganization of the cytoskeleton, which results in morphological changes, and the secretion of cytokines into the medium. Although this interference in host cell metabolism by bacteria represents a central feature of their pathogenesis, these events are poorly understood in Schwann cells (SCs) infected

with *Mycobacterium leprae*, the causative agent of leprosy. To gain a better understanding of *M. leprae*-SC interaction, the present study investigates the signal transduction events triggered during the interaction of *M. leprae* with SCs. The assays consist of pre-treating or not ST88-14 cells – a human Schwann cell line – with specific kinase inhibitors, followed by incubation with fluorescein-labeled bacteria and analysis of bacterial association via fluorescence microscopy. The use of tyrphostin AG126, bisindolylmaleimide I and wortmannin which, respectively, inhibit tyrosine kinase (TK), protein kinase C (PKC) and phosphatidylinositol 3-kinase (PI 3-K) produced association inhibition suggesting that TK, PKC and PI 3-K are activated during the interaction of the leprosy bacillus with SC. Currently these preliminary results are being confirmed and the involvement of other transduction elements are being investigated by the use of specific inhibitors.

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PM & BM 17

INTRACELLULAR TRAFFICKING OF *Mycobacterium leprae* IN SCHWANN CELLS

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The effects of *M. leprae* invasion on the physiology and metabolism of Schwann cells and its relation to the progressive and irreversible degenerative process of peripheral nerves are poorly understood. *M. leprae* almost exclusively infects macrophages and Schwann cells. The fate of other pathogenic mycobacteria, once inside macrophages, has been the object of many recent studies. The exact molecular events leading to the *M. tuberculosis* phagosome-lysosome fusion inhibition, initially identified by Armstrong and Hart (*J Exp Med* 134:713-740, 1971), are not yet completely understood, though great progress has been made in the delineation of the molecules involved in uptake of *M. tuberculosis* and its interference with fundamental trafficking processes in host cells. Earlier studies, using bone-marrow derived macrophages, have shown that, like other pathogenic mycobacteria, *M. leprae* resides in non-acidified phagosomes (Frehel and Rastogi, *Infect Immun* 55: 2916-2921, 1987).

We have used a human Schwannoma cell line (ST 8814) as an *in vitro* model for *M. leprae* infection. Tissue culture cells were incubated with fluores-

cently labeled live and heat-killed *M. leprae* (kindly provided by J. Krahenbuhl, Louisiana State Univ., Baton Rouge, Louisiana, USA). Our data demonstrate that the cells avidly take up both live and dead *M. leprae*. Further, in preliminary experiments using fluorescent markers of lysosomal compartments, we show that live *M. leprae* do not colocalize with acidified vesicles inside Schwann cells, whereas dead bacilli do. This is the first demonstration of the utility of the ST 8814 cell line to study the trafficking of *M. leprae* *in vitro*. Studies are under way to further characterize the intracellular fate of *M. leprae* in Schwann cells.

This work received financial support from WHO/TDR and the Brazilian Ministry of Health

PM & BM 18

LEPROSY TRANSMISSION AND MUCOSAL IMMUNE RESPONSE: DO SEASONS PLAY ANY ROLE?

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Environmental association with the incidence of leprosy is not yet well understood. Reports from the literature indicate association of the rainfall and proximity of water sources to the inhabitants with the incidence. This can be an important aspect in the transmission of leprosy, especially in reference to the reports that suggest the increased viability of *M. leprae* outside human body under moist and shaded conditions. The objective of the present analysis was to look at the presence of *M. leprae* on the nasal mucosa in general population in different seasons using the data obtained from the study that was designed to look at the transmission and the development of mucosal immunity. Individuals from three villages were screened. Polymerase Chain Reaction (PCR) was used to detect presence of *M. leprae* DNA on the nasal mucosa and mucosal immunity was tested by measuring the salivary *M. leprae* reactive IgA antibodies (sML-IgA) using ELISA. PCR positivity was seen to be highest during the monsoon season. The PCR positivity was seen in 2.5% (36 out of 1464), 1% (19 out of 1824) and 4% (68 out of 1701) subjects during winter, summer and monsoon seasons respectively. Both children and adults show peak of positivity in the monsoon suggesting an increased exposure to *M. leprae* in monsoon. The percentage of non-exposed subjects i.e. subjects negative for PCR and sML-IgA is highest in summer (37.9%) and lowest in monsoon (27.4%). Seasonal effect and dy-

namic nature of the exposure needs to be looked more closely with shorter duration follow-ups to understand the mechanism of transmission and factors affecting it, which in turn can help us to design intervention strategies to interrupt the transmission.

PM & BM 19

MAST CELL SUBSETS AND NEUROPEPTIDES IN LEPROSY REACTIONS

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The immunohistochemical identification of neuropeptides (calcitonin gene-related peptide, vasoactive intestinal polypeptide, substance P, -melanocyte stimulating hormone and -melanocyte stimulating hormone) quantification of mast cells and their subsets (tryptase/chymase-immunoreactive mast cells = TCMC and tryptase-immunoreactive mast cells = TMC) were determined in biopsies of six patients with leprosy reactions (three patients with type I reaction and three with type II). Biopsies were compared with those taken from the same body site in the remission stage of the same patient. We found a relative increase of TMC in the inflammatory infiltrate of the reactional biopsies compared to the post-reactional biopsy. Also, the total number of mast cells and the TMC/TCMC ratio in the inflammatory infiltrate was significantly higher than in the intervening dermis of the biopsies of both periods. No significant difference was found regarding neuropeptide expression in the reactional and post-reactional biopsies. The relative increase of TMC in the reactional infiltrates could implicate this mast cell subset in the reported increase of the immune response in leprosy reactions

PM & BM 20

MORPHOLOGICAL EVALUATION OF NERVE BIOPSIES FROM PURE NEURITIC FORMS OF LEPROSY USING TOLUIDINE BLUE-STAINED SEMITHIN SECTIONS. CORRELATION WITH THE RESULTS OF POLYMERASE CHAIN REACTION

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Pure neuritic leprosy is difficult to diagnose if acid-fast bacilli is neither detected in nerve biopsy sections nor in skin smears. Nerve biopsies of seventeen patients with neuritic form of leprosy were submitted to the routine histopathology (H-E and Wade staining) and also to semi-thin (0.5 μ m) sectioning, toluidine blue staining and were observed under optical microscopy. A small piece of the nerve biopsy was submitted to polymerase chain reaction (PCR) for the detection of *M. leprae* DNA. The morphological findings of the biopsies were: inflammatory infiltrate (9), fibrosis (8, six of them with concomitant inflammatory process), myelinated fiber loss (13, large or small fibers), demyelination (3), active axonal degeneration: (2), remyelination (7), axonal regeneration (4), endoneurial angiogenesis and multilayering of capillary wall (5), acid-fast bacilli positivity (5). Eleven biopsies were PCR-positive, (6 of them were AFB-negative in Wade staining and one of them exhibited normal histological appearance). The most predominant findings for leprosy neuritic form were perineurium and endoneurium inflammatory infiltrate, nerve fiber loss (small and large fibers) and fibrosis. PCR contributed decisively in 6 cases for the diagnosis

PM & BM 21

MULTIPLE ENDOTHELIAL MEMBRANE PROTEINS BIND *M. leprae*

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Morphologic evidence has suggested that endothelial cells (EC) may be the gateway through which *M. leprae* enter peripheral nerve. Studies in vitro have demonstrated that uptake of *M. leprae* by EC is time- and dose-related. Experiments have therefore been undertaken to identify the EC membrane proteins capable of binding *M. leprae*.

Cytoplasmic membranes from 12×10^6 EC grown in vitro were solubilized and their proteins conjugated to biotin. *M. leprae* (2×10^9) were allowed to bind these biotinylated proteins for 4 hr at 4°C. The bacterial pellet was washed to remove unbound proteins; bound proteins were separated by SDS-PAGE and electro-transferred to PVDF membranes. Biotinylated EC proteins were visualized by staining with an avidin-alkaline phosphatase conjugate.

Biotinylated EC proteins bound to *M. leprae* were separated into several distinct bands, 7 of which have been consistently identified in 8 different experiments. In these preliminary experiments, the smaller molecules (29, 32, 47, and 54 kDa) have yielded discrete single bands on 8% and 10% gels; the larger molecules have appeared more diffuse, with bands at 59-63, 125-130, and 175-185 kDa.

These studies suggest that EC are capable of binding *M. leprae* using multiple surface proteins. Although these probably include proteins already used by other cell types to *M. leprae*, they may also include binding proteins unique to EC.

PM & BM 22

NEURAL PREDILECTION, MOLECULAR MIMICRY AND NERVE DAMAGE- COMPUTATIONAL COMPARISONS BETWEEN *M. leprae* BINDING PROTEINS AND THE *M. leprae* GENOME

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Mycobacterium leprae, the causative organism of leprosy is known to target and infect Schwann cells of the human peripheral nerve and trigger host-mediated immune reactions and destruction of myelin membranes leading to nerve damage. Antigenic mimicry is a mechanism adopted by *M. leprae* to evade the efficient human immune system. Various receptor mediated mechanisms such as the laminin 2- α dystroglycan/ β integrin bridge, the fibronectin (FN)- β integrin bridge and the myelin P0 glycoprotein are known to play a role in the binding and invasion of Schwann cells by *M. leprae*. Computational comparison of the *M. leprae* proteins and the human peripheral nerve - *M. leprae* binding proteins has revealed sequence similarities. Laminin had a homology to 60 kDa Chaperonin 1 and heat shock protein (P values 0.55 and 0.94 respectively).

Fasta searches of fibronectin and Blastp searches of myelin P0 revealed a homology to the secreted P60 family protein. The significance of secreted proteins as antigenic determinants is of importance because in tuberculoid leprosy nerve pathogenesis is observed even in the absence of *M. leprae*.

The secreted P60 family protein has sequence similarities to the immunoglobulin domains of myelin P0, which have significance in protein-protein and protein-ligand interactions. FSSP studies showed that many of the structural neighbours of myelin P0 were antigenic determinants and/or immunogens, which could have implications in understanding nerve damage.

These sequence similarities need to be further analyzed by extending this bioinformatic knowledge to wet experimentation to recognize potential drug targets and peptides to counteract leprosy.

PM & BM 23

OBSERVATION OF ACID FAST BACILLI BY MERGE TECHNIQUE OF DIFFERENTIAL INTERFERENCE CONTRAST AND POLARIZED MICROSCOPES

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Approximately 400 autopsy cases of leprosy were done during past 50 years by our group. There are still many unsolved problems in the pathological field of the acid fast bacillary infections.

We have studied the polarization of *M. leprae* under the polarized microscope up to a thousand magnification in these six years and trying to extend this study to the other mycobacterial infections such as tuberculosis and MOTT (Mycobacterium Other Than Tuberculosis). The polymorphonuclear leukocytes respond to these mycobacterium in the first phase of infection, then later phagocytic histiocytes take place of the role of responder. Polarization of mycobacterium was not observed in the polymorphonuclear leukocytes and monocytes in early stage when acid fast bacillary stains clearly. On the contrary, after the acid fast bacillary stain become negative in the late stage of treatment, polarized particles similarly looking to mycobacterium come appear in the cytoplasm of phagocytic histiocytes. Later on, the polarized mycobacteria are seen in the surrounding collagenous connective tissue. We will try to investigate these polarized particles using merge technique of differential interference contrast.

These sequence similarities need to be further analyzed by extending this bioinformatic knowledge to wet experimentation to recognize potential drug targets and peptides to counteract leprosy.

PM & BM 24

PCR DETECTION OF *Mycobacterium leprae* IN NASAL MUCOSA FROM LEPROSY PATIENTS

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Leprosy characteristics of long incubation period and wide spectrum of clinical manifestations prevent a fast and reliable diagnosis, especially in the initial forms. Discoveries have indicated an airway transmission, in which the nose plays a central role. Polymerase Chain Reaction (PCR) has been used to amplify *Mycobacterium leprae* DNA, allowing detection of low amounts of bacillus, and the spreading and transmission mechanisms of leprosy. The objective was to standardize PCR and RT-PCR to detect, respectively, DNA and RNA of *Mycobacterium leprae* in nasal mucosa biopsies of leprosy patients and to correlate it with histopathology and patient's clinical form. A preliminary test of Untreated (6), in treatment (1), and treated leprosy patients (1) and their contacts (2) from the Centro Colaborador Estadual em Hanseníase/UFU was done. PCR primers amplify 372 bases-pairs of a repetitive sequence of the bacillus DNA. RT-PCR was standardized using Ready-to-Go RT-PCR beads. Amplicons were detected in 1.5% agarose gels. PCR was positive in three samples, two BT patients with bacilloscopic index (BI) 0 and normal histopathology, and a BL with BI 4. RT-PCR was positive in two LL untreated patients and it was negative in 5 samples: two LL, one treated and another after one month of treatment, one TT, and two contacts of multibacillary patients. The results demonstrated that PCR identifies *Mycobacterium leprae* in leprosy patients' nasal mucosa and RT-PCR showed the viability of the bacillus, attesting treatment effectiveness. Larger sampling of patients and their contacts is being processed aiming to identify factors related to transmission, subclinical infection, and healthy bearers, looking for target-groups for new prevention strategies.

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PM & BM 25

PREDICTION AND EXPRESSION ANALYSIS OF *Mycobacterium leprae* SECRETED PROTEINS

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Secreted proteins represent a distinct group of proteins with respect to their structure and function and their contribution to virulence. Secreted proteins are of particular importance for vaccine development because they are often immunogenic and have the potential to be recognized early in infection. Annotation of the completed *M. leprae* genome has provided new information related to proteins constituting *M. leprae*'s hypothetical proteome. Because *M. leprae* cannot be grown *in vitro*, novel approaches are needed to determine which proteins are expressed

during infection and whether these proteins are related to pathogenesis. The objective of this study was to identify proteins from the *M. leprae* genome database that had high predictive values for secretion and to determine whether they were transcribed during infection. Our strategy was to 1) select known and predicted secreted proteins from *M. tuberculosis* and search for homologs in *M. leprae*, 2) select proteins from the *M. leprae* annotation with high predictive values for secretion and 3) study their expression by probing cDNA libraries prepared from nude-mouse derived *M. leprae* mRNA. Signal P was used to predict the presence and location of signal peptide cleavage sites in amino acid sequences, and TMHMM was used to predict the location and orientation of transmembrane helices in protein sequences. The analysis of 200 *M. leprae* sequences with Signal P yielded 32 potentially secreted proteins. These sequences were analyzed with TMHMM resulting in 24 sequences with high probability of encoding secreted proteins and 8 sequences likely to be transmembrane proteins. While the analysis suggests a relatively low number of potentially secreted proteins, it correlates with the fact that these algorithms detect only those proteins secreted via the general sec-dependent export pathway and because *M. leprae* has only 1,600 potential genes in its chromosome. Expression analysis indicated that a number of known and unknown secreted proteins were expressed in *M. leprae* during infection while others were not detected in the same cDNA library. PRE-DEP and TEPITOPE algorithms were used to predict MHC class I and class II binding motifs, respectively, in an attempt to prioritize the secreted proteins for vaccine development.

PM & BM 26

PROFILE OF DRUG RESISTANT *M. leprae* FROM A LABORATORY IN SOUTH INDIA IN THE PAST DECADE

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Mouse footpad inoculation data from skin specimens of patients belonging to the control area of S.L.R and T.C. and elsewhere between the years 1988 to 1998 were analyzed. Suspensions of 10^4 *M. leprae* prepared from skin biopsies of each of these patients were inoculated into both foot-pads of thirty-three inbred CBA strain mice. Dapsone feeds were prepared with concentrations of 0.01%, 0.001%, 0.0001%, Clofazamine with 0.01%, and 0.0001% and Rifampicin 0.01%, and 0.003%. On each of these drug concentrated feeds three inoculated mice were fed. Twelve animals were used as controls.

Out of the total 265 biopsies tested, 216 were sensitive to all of the concentrations of dapsone, rifampicin and clofazamine. Biopsies from 49 patients (19%) showed resistance to varying concentrations of dapsone, rifampicin and clofazamine. Out of the 122 biopsy samples received from patients belonging to the leprosy control area, 21 (17%) showed drug resistant strains. 9 (7%) of these exhibited primary drug resistant strains and 12 (10%) secondary resistant strains.

Though it took more than a decade to report dapsone resistant strains, secondary resistance to other drugs have been reported in a shorter period of time. There appears to be a gradual emergence of primary, low degree resistant *M. leprae* strains to clofazamine and rifampicin, in addition to dapsone, during the last decade, among newly diagnosed patients. Continuing drug sensitivity evaluations with clearly defined indications and careful follow up of patients is becoming crucial because of the frequent changes in the therapeutic regimens that have taken place in the past decade.

PM & BM 27

PURE NEURITIC LEPROSY: IMPORTANCE OF THE POLYMERASE CHAIN REACTION (PCR) IN THE DIAGNOSIS

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Introduction: Leprosy is a disease of nerves, skin and other tissues. The clinical diagnosis may be defined with, minimally, two of these three principal signs: hypopigmentation and/or skin, infiltration, nerve thickening and/or sensitive alterations, and the presence of *Mycobacterium leprae* in the skin or nerve. Leprosy represents in developing countries a real and severe problem of public health. According to WHO (1998), there are around 11 or 12 million leprosy patients in the world, being 105 thousand in Brazil that occupies the first place in Latin America. The pure neuritic leprosy (PNL), condition with one or more nerves compromised, without skin lesion, has a prevalence of 3.9% to 8.2% per 1000 patients. In these cases, even with accurate investigation, the diagnosis is difficult. In the last years the use of PCR for *M. leprae* detection and identification in nerve biopsies has been an alternative for the differential diagnosis of PNL.

Objectives:

- 1) To identify general aspects of the patients;
- 2) To study the diagnostic importance of PCR.

Material and methods: Fifty-eight patients with clinical suspicion of PNL were studied. They were patients from the Service of Neuromuscular Diseases of the Clinical Hospital of UFPR and Dona Libania Health Center (a reference unit for leprosy in the state of Ceará) and eventually other units. All cases were submitted to a pre-determined protocol including anamnesis, dermatoneurological examination, laboratorial routine, bacilloscopia research, electroneuromiography, histopathology and PCR of the selected nerves. The nerves were biopsied and divided in two fragments: one put into eppendorf tube for PCR and another fixed in gum adagrath both frozen in liquid nitrogen. For histopatological study 4 and 8 slices were done, stained in HE, Gomori and Ziehl and analyzed. From the sample for PCR, DNA was extracted and the sequence of DNA *M.leprae*-specific was amplified with primers ML 1 and ML 2, according to Woods and Cole (1989). After it was visualized with plates of agarose gel, compared with a positive control for *M.leprae* and negative for another non-leprosy neuropathy.

Results: From 58 patients, 41 (70.7%) were males and 17 (29.3%) females. The evolution of the disease ranged from 2 months to 8 years (mean of 1.9 year). The age varied from 15 to 77 years (mean 42.1 years). The patients were classified according to Ridley and Jopling (1966) in to Borderline-Tuberculoid BT 40 cases (69%) and Tuberculoid polar TT 18 cases (31%). The patterns of neuropathy: multiple motor-sensitive 36 cases (62.1%), multiple sensitive 7 cases (12.0%), motor-sensitive mononeuritis 11 cases (19.0%), sensitive mononeuritis 4 cases (6.9%). The main nerves involved was ulnar, common peroneal, tibial posterior, superficial peroneal and sural. The nerve sural was biopsied in 38 cases (65.1%). The Acid-fast-bacilli (AFB) was positive in the nerves in 20 cases (34.4%) of BT in none of TT. The PCR was positive in the nerves of 29 patients (50%). From theses the PCR was positive in 14 cases (48.2%), AFB negative, from which 12 cases (85.8%) BT and 2 cases (14.2%) TT.

Conclusion: PCR is useful diagnostic method in pure neural leprosy and allow to confirm diagnoses in AFB negative cases in nerve.

PM & BM 28**RELATIONSHIP BETWEEN INFECTION AND GENETIC SUSCEPTIBILITY MARKERS**

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Some point mutations at the promoter region of the TNF- α and IL10 genes may have an influence on the production of TNF α and IL10 cytokines and consequently to the susceptibility to leprosy infection. TNF α mediates host defense by stimulating effector mechanisms that kill mycobacteria and by promoting granuloma formation. Nevertheless, a high concentration of TNF α can cause immunopathology, including direct damage to myelin and oligodendrocytes, which can lead to deformities. Therefore, TNF may be a valuable prognostic marker that reflects inflammatory activity in leprosy. IL10 may also play a role in leprosy in inhibiting inflammatory and cell-mediated immune responses. Interestingly, an increased TNF α /IL-10 ratio seems to restrain mycobacterial invasion and replication early in infection and could be associated with protection against leprosy.

The presence of IgM antibodies to Phenolic Glycolipid-I in serum is a marker for *M.leprae* infection and could be related to the TNF and IL10 polymorphism genotype. We studied the correlation between mutations at TNF-238, TNF-308, IL10-819, IL10-1082 and IL10-2849 and PGL-I levels in 224 contacts of leprosy patients. Correlation between IL10 point mutations and PGL-I were not observed. Mutation at TNF-308 seems to be associated with a lower positivity rate for PGL-I ELISA and therefore possibly to protection against the development of severe forms of leprosy.

PM & BM 29**ROLE OF Zn AND Cu IN DNA DAMAGE OBSERVED IN LYMPHOCYTES OF LEPROSY PATIENTS MEASURED USING THE COMET ASSAY**

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Accumulating reports indicate the involvement of almost every organ in leprosy. Massive infection of *M. leprae* affects the homeostasis of vitamins and minerals, which participate in various known and unknown biochemical reactions, occur in the body. This derangement of the balance of vitamins and trace elements observed in leprosy patients may be an outcome of the disease process as such or an effect of the therapeutic agents given to them. In leprosy, the serum Zn level progressively decreased from TT to LL. Cu is reported to increase in serum of the leprosy

patients. Zn and Cu are important minerals that involve in several biochemical process of the body. Zn is a vital component of at least twenty enzymes and required for RNA and DNA synthesis. Adhesive Zn tapes used in the treatment of leprosy patients have been shown to promote healing of the wounds. Our previous studies on leprosy patients indicated higher levels of DNA damage in lymphocytes. Since Zn and Cu are essential for the maintenance of genetic stability, to find out the role of these elements in DNA damage in leprosy, we carried out an in vitro study on lymphocytes of leprosy patients. Lymphocytes isolated from leprosy patients and healthy individuals were exposed to various concentrations Zn and/or Cu and DNA damage was measured using the alkaline single cell gel electrophoresis.

PM & BM 30

STUDY OF THE RELATION AMONG NEW CASES OF LEPROSY AND POSITIVITY IN THE BACTERIOSCOPY IN THE STATE OF RIO GRANDE DO NORTE – BRAZIL

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Leprosy is an infectious and contagious disease caused by *Mycobacterium leprae* and is transmitted by the upper respiratory tract and skin. There are 04 types: indeterminate, tuberculoid, dimorph and virchowian. The bacillus prefers the skin and nerves. The most peculiar clinical findings are related to the peripheral involvement. The diagnosis is based on clinical and laboratorial findings. The direct bacilloscopy is the best method of diagnosis, in the public health services the purpose of this study was to establish the percentage of new patients who had a positive bacilloscopy. Records were acquired from patients who were seen in GISELDA TRIGUEIRO HOSPITAL.

GISELDA TRIGUEIRO HOSPITAL is a reference in infectious and contagious diseases in Natal – RN. The bacilloscopies were done at the Central Laboratory since January 1996 until March 2002. A total of 435 cases were diagnosed; 221 (50,8%) had a positive bacilloscopy; 30,3% *Mycobacterium leprae* dimorph and 20,5% *M. Leprae* virchowian. This research shows that more than half of new diagnosed patients in the period of the study were classified as multibacilar, showing the failure of the health services in the precocious diagnosis of this diseases

PM & BM 31

STUDY ON THE APPLICATION OF PCR ON THE LEPROSY DIAGNOSIS

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[Abstract] For understanding the possibility of detecting the *M. leprae*, we use the technique of polymerase chain reaction (PCR) with 16Sr RNA primer to test more than 20 strains different mycobacteria including mycobacteria leprae. 72 leprosy cases diagnosed by classical methods, such as clinical demonstration, bacteriological and histopathological examination, and 45 health volunteers from leprosy endemic area were also tested by this method for comparison. The result shows that among the 22 strain mycobacteria, mycobacteria leprae has unique positive reaction. There is no cross-reaction found among those mycobacteria. Among the 72 leprosy cases, diagnosed by classical method, 55 cases were positive in bacteriological examination, 59 cases show positive results by PCR test with 16 Sr RNA as primer. Statistic analysis show there is no difference in those two-laboratory tests. ($\chi^2=0.38$, $p>0.05$) All of the 45 health volunteers from leprosy endemic area show negative result. We think polymerase chain reaction with primer of 16SrRNA has prosperous future in detecting leprosy.

PM & BM 32

THE EXPRESSION OF NGFR AND PGP IN LEPROSY REACTIONAL CUTANEOUS LESIONS: NERVE FIBER STATUS USING IMMUNOHISTOCHEMISTRY

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The effects of reactional episodes on the cutaneous nerve fibers of leprosy patients was assessed in six patients (three with reversal reactions and three with erythema nodosum leprosum). Cryosections of cutaneous biopsy of reactional lesions taken in the episode and in the remission period were immunostained with anti-NGFr and anti-PGP 9.5 (indirect immunofluorescence) and counted with a fluorescent microscope. Wilcoxon, ManWhitney U and ANOVA tests were applied. We found no significant statistical difference in the number of NGFr- and PGP 9.5-pos-

itive fibers between the reactional and post-reactional groups. A significant difference was detected between the number of NGFr and PGP 9.5-stained fibers inside of the reactional group of biopsy cryosections; this difference could be due to the distinct aspects of the same nerve fibers displayed when stained with anti-NGFr and with anti-PGP 9.5 (NGFr-positive branches looked larger and so interpreted as containing more fibers, also some NGFr-positive fibers were PGP 9.5-negative). No differences in the number of stained fibers among the distinct cutaneous regions examined (epidermis + upper dermis, mid and deep dermis) was detected. This study shows also that nerve fibers should be evaluated with immunohistochemistry using markers for both Schwann cell and axons

PM & BM 33

THE USE OF IMMUNO STAINING TECHNIQUES TO ENHANCE THE DIAGNOSIS IN DOUBTFUL SKIN LESIONS OF LEPROSY

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Clinical and bacteriological examinations are generally adequate for making a diagnosis of leprosy. However a few cases present with 'doubtful' skin lesions and they usually remain on observation until a definitive diagnosis can be made.

The present study is of 15 such patients who presented to our centre and who were not confirmed as leprosy on clinical criteria. 6 mm skin biopsies were taken from the doubtful skin lesion. These were routinely processed and 5 micron thick section were cut and stained with Haematoxylin and Eosin stain to study the morphology and modified Fite Faraco stain to identify acid fast bacilli.

Parallel sections were immunostained with S100 to identify nerve involvement and BCG antibodies to identify and localise mycobacterial antigen in the sections.

The significance of these immuno stains in comparison to the routine staining techniques in enhancing the sensitivity for a definitive diagnosis of leprosy are presented and discussed.

PM & BM 34

VIABLE *M. leprae* AS A RESEARCH RESOURCE: EFFECTS OF PURIFICATION WITH NaOH AND STAINING WITH PKH DYES ON VIABILITY

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Mycobacterium leprae is a slow growing uncultivable organism, with an in vivo doubling time of ~13 days. Properly passaged in the athymic (nu/nu) mouse foot pad (MFP) fresh viable *M. leprae* can be maintained in vitro for a limited time. We have described conditions for producing and maintaining viable bacilli in axenic medium and cell culture. In brief, the bacilli do not tolerate freezing and are rapidly killed at 37°C, preferring temperatures <33°C. The present report describes ongoing efforts to improve the quality of viable *M. leprae* as a research reagent and the use of a vital fluorescent stain to track viable bacilli in vivo in mice and intracellularly in cell culture.

Because of the urgency of harvesting viable bacilli rapidly the bacilli are "contaminated" with mouse foot pad tissue but can be purified by treatment with NaOH. We describe here the effects of treatment with a range of NaOH concentrations (0.1M to 0.9M) on *M. leprae* viability.

Studies were also carried out to determine the effects of labeling viable *M. leprae* with highly aliphatic tracker dyes containing fluorochrome head groups which are retained in lipid bilayers of eukaryote cells and some prokaryotes because of their inherent insolubility in aqueous media. Two tracker dyes, PKH26 (red) and PKH65 (green) were employed to label *M. leprae* and yielded bacilli clearly fluorescent extracellularly and intracellularly in cultured mouse macrophages. Viability of stained *M. leprae* was not affected as determined by radiorespirometry and growth in the MFP.

These findings complement our laboratory's goal of characterizing fresh, abundant nu/nu mouse derived *M. leprae* as a research resource and will offer an important tool to investigators interested in the intracellular interaction of the live (or dead) leprosy bacillus with various host cells, subcellular components and organelles.

PM & BM 35

VIABLE *M. leprae* AS A RESEARCH RESOURCE: EVALUATION OF FLUORESCENT STAINING FOR LIVE AND DEAD *M. leprae*

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Our laboratory is concerned with the routine production and characterization of freshly harvested viable *M. leprae* from the infected foot pads (FP) of athymic nu/nu mice. An ideal passage schedule for weekly harvests of *M. leprae* was defined for our own use and for shipment to qualified investigators. Our standard test for viability, in vitro radiorespirometry (RR) closely correlated with growth of *M. leprae* in the mouse FP. In addition we determined the highly detrimental effects on viability of freezing and incubation at 37°C. Storage at 4°C is ideal and the ideal temperature for experimentation is 26°C to 33°C. The minimum lethal dose of U.V. or gamma irradiation and the minor effects on viability of purification of *M. leprae* suspensions using NaOH treatment was shown. Finally, we have shown that *M. leprae* can be stained with highly aliphatic red or green fluorescent traker dyes without affecting their viability in vitro or in vivo.

RR was a breakthrough in comparing the viability of one suspension of *M. leprae* from another. RR allows

more elaborate experimental design and is certainly superior to the tedious, expensive mouse FP assay. But RR data must accumulate, usually for 7 days, to assess viability. We are currently testing a novel, two-color fluorescence assay to determine if a reliable, quantitative, direct count viability assay is applicable to *M. leprae*. Using the *Molecular Probes BacLight Bacterial Viability Kit*®, two nucleic acid stains are employed in combination, a green fluorescent stain and a red fluorescent propidium iodide (PI) stain. PI penetrates if the cell membrane is damaged and reduces the green fluorescent stain to reveal dead (red) bacteria. A variety of experimental conditions are being employed to quantitate this "viability stain," including: killing extra cellular *M. leprae* with heat, fixatives, freeze-thawing and incubation at non-permissive temperatures. Kinetic studies are being employed to measure the effects of microbicidal leprosy drugs such as rifampin, ofloxacin and minocycline. Finally, these drug studies are being explored on intracellular *M. leprae* in normal and interferon gamma-activated macrophages

OPERATIONAL ASPECTS OF ELIMINATION

POA 1

A ESTRATÉGIA SAÚDE DA FAMÍLIA NO PROCESSO DE ELIMINAÇÃO DA HANSENÍASE NO MUNICÍPIO DE SOBRAL

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Um dos problemas que impedem o controle da Hanseníase é a dificuldade de acesso das pessoas atingidas a serviços que efetivamente realizem o manejo de casos. Em Sobral, município de 153.000 habitantes da zona norte do Ceará, a partir de 1997, iniciou-se a implantação do Programa de Saúde da Família, tendo sido implantadas um total de 35 equipes em 25 Unidades. Até 1999, os portadores de hanseníase eram atendidos em uma única Unidade de Saúde, referência inclusive para vinte e cinco municípios da região norte do Estado. A partir de então iniciou-se um processo de descentralização do atendimento de casos que compreendeu a capacitação dos profissionais de saúde da família: agentes de saúde, auxiliares de enfermagem, médicos e enfermeiros de família. Houve ainda uma intensa mobilização social que contou com o envolvimento de escolas, clubes de serviço, rádios, lideranças comunitárias e espirituais, como as rezadeiras e curandeiros. Esse processo levou a efetiva descentraliza-

ção de todas as ações de controle da doença para todos os Centros de Saúde da Família, com aumento do Coeficiente de detecção de casos novos de 7:10.000 habitantes em 1998 para 10,9: 10.000 em 2001. A taxa de abandono foi reduzida de 19,9% em 1998 para 2,6% em 2000.

POA 2

A IMPORTÂNCIA DA SUPERVISÃO TÉCNICA ESTADUAL NAS AÇÕES DE CONTROLE DA HANSENÍASE DOS MUNICÍPIOS DE PEQUENO PORTE

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Os pequenos municípios enfrentam dificuldades comuns na administração da saúde pública. As mudanças políticas locais e a constante inversão de prioridades a cada novo governo têm como consequência a desestruturação de alguns serviços e programas de saúde. Aliado a isto está a falta de profissionais qualificados, a baixa remuneração e profissionais sobrecarregados assumindo inúmeras funções.

Neste contexto, a manutenção dos serviços de hanseníase, assim como de outros programas de saúde, requer um esforço contínuo de todos os profissionais envolvidos.

O município de São Sebastião do Paraíso, situado no sudoeste do estado de Minas Gerais, com uma população aproximada de 58.835 habitantes, apresenta uma alta taxa de incidência de casos de hanseníase.

O setor de Ações de Controle e Eliminação da Hanseníase do município recebeu nos últimos anos a atenção da Coordenação Estadual que veio transformar a sua realidade, através de treinamentos, reciclagem e o constante apoio frente às dificuldades. O resultado foi o aumento do número de casos detectados, uma mudança na classificação dos casos quanto a sua forma clínica e a melhoria na qualidade do atendimento ao portador de hanseníase.

O presente estudo analisa os dados do setor de hanseníase do município de São Sebastião do Paraíso, no período de Janeiro de 1996 à Dezembro de 2001.

POA 3

A METHOD FOR 'FOCAL SURVEYS' IN HARD TO REACH LOW PREVALENCE AREAS

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The AIDS & Leprosy Programme of the International Nepal Fellowship works in partnership with the Government of Nepal (HMG/N) to support leprosy control activities in the Western Region. Significant progress has been made towards the goal of leprosy elimination. Regional reported prevalence is now 2.3/10,000, from 8/10,000 in 1991, but there is variation in prevalence at a district level. In co-operation with supporting partners, HMG/N have implemented two National Leprosy Elimination Campaigns (LEC) (1999,2001) in high prevalence districts, based on awareness raising and house to house surveys.

Among the 16 districts of the Western Region, just 3 districts qualified for LEC. Out of the remaining 13 districts, 2 are mountainous districts where the prevalence is either zero or less than 1/10,000 population and has been for the last 5 years. The remaining districts have recorded prevalence between 1 and 2/10,000, but a high proportion of people present with grade 2 disability at diagnosis. An elimination-campaign style was required not only to allow case finding and awareness raising, but also to give an estimate of actual prevalence. On the basis of the prevalence rates and population density, a full 100% house to house survey would not be possible or cost effective. A procedure has been developed for focal surveys based on stratified random sampling covering sufficient people to make an estimate of prevalence with an associated confidence interval. The basis for stratification is the 5-year data for case detection. A 6-day

house to house survey will be conducted in each selected location. Prior to the survey, there is a programme of awareness raising in the community and training of health workers and survey volunteers.

POA 4

A UNIQUE POLITICAL FORCE ON BEHALF OF THE PROTECTION AND ASSISTANCE TO LEPROSY AFFECTED PERSONS

Tadiana Maria Alves Moreira – Secretary of Health, Rio de Janeiro State

Vera Andrade – WHO

Gerson Fernando Mendes Pereira – Ministry of Health

Marcos Virmond - Institute Lauro de Souza Lima

Gil Suarez -PAHO

Artur Custódio de Souza – Movement of the Reintegration of Leprosy Affected Persons - MORHAN

Since 1998, with the support of WHO, the Task force HANSEN/CONASEMS has been contributing to overcome the limited access of populations to the diagnosis and treatment of leprosy. With the inclusion of the elimination issue in the agenda of the health managers it has been created adequate conditions to the increase in coverage for diagnosis and treatment of leprosy resulting, additionally, in improvement in the quality of life of the community. Associated to various partners, among them MORHAN, the task force has mobilized the community to increase their awareness of the cure of the disease without using selective policies to inform on the community rights, has also stimulated decentralization leading to prevention and assistance. This is an innovative and quality strategy that represents an effective contribution towards the elimination goal and citizenship, leading to a reduction of inequity among populations and to overcome the assistential model and the traditional communication techniques. In august 2001 all the municipal health secretaries in the country received information on the strategy for the elimination of leprosy. In October 2001, the MoH, recognizing the advances in the CONASEM's strategy, launch the National Mobilizing Plan of Action towards Elimination of Leprosy and Control of Tuberculosis incorporating the model of (i) expanding the involvement of different social and institutional partners, (ii) facilitating and creating an environment in which communities believe in the cure of leprosy, and (iii) been a constant issue in the agenda of the managers and in the reform of the health system in the country. The Mobilizing Plan of Action towards Elimination of Leprosy and Control of Tuberculosis may be taken as a landmark in both programs where the political force in behalf of protection and assistance of affected populations by these diseases is unique.

Financial support was provided by the Brazilian Ministry of Health, CONASEMS, WHO and Novartis Foundation for Sustainable Development.

POA 5

ACTIVE VS. PASIVE CASE DETECTION

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In one selected province in Paraguay (Ñeembucú) there was performed a special activity to create awareness about early signs and symptoms in leprosy and TB in the health centers (for the staff) and educational centers (students and teachers). At the same time the interested population was examined for skin lesions and sputum. Through those activities the incidence of new leprosy cases in that year increased to a number that was 7 times more than in the year before.

POA 6

ADVOCACIA EM HANSENÍASE NO ESTADO DO RIO DE JANEIRO

Tadiana Maria Alves Moreira – Secretaria de Estado e Saúde do Rio de Janeiro

Vera Andrade – Organização Mundial da Saúde

Desde 1998 com apoio do Grupo Tarefa/HANSEN/CONASEMS a Assessoria Técnica de Dermatologia Sanitária da Secretaria Estadual de Saúde do Rio de Janeiro vem elaborando materiais técnicos, para o desenvolvimento de ações de advocacia em hanseníase nos municípios do estado. Esta estratégia pretende contribuir na descentralização, como uma atividade para alcançar a consolidação da reorganização da assistência, na divulgação das informações sobre a cura da hanseníase, sinais e sintomas e da própria política do Programa Nacional, à comunidade, aos profissionais de saúde e às autoridades sanitárias. O tema de advocacia surge como consequência da necessidade da criação de demanda. Foram elaborados e distribuídos aos municípios os seguintes materiais: cartilha “*Respostas para as principais dúvidas sobre a Hanseníase*”; Kit de transparências “*Hanseníase na Atenção básica*” para treinamento dos técnicos da área de saúde com destaque as equipes dos Programa Saúde da Família, Programa de Agentes Comunitários de Saúde e a própria comunidade de cada município do estado. Destaca-se o fornecimento de 6.000 livretos “*O que mudou na Hanseníase com a NOAS*”, para os gestores municipais de saúde de todo o país, coordenadores de vigilância epidemiológica e do programa de hanseníase de todos os municípios do estado. Di-

ficilmente identifica-se hoje uma gestão municipal do estado do Rio de Janeiro que não possua informações sobre a estratégia de eliminação da hanseníase.

POA 7

ALTA COLETIVA PROMOVENDO A AUTO-ESTIMA E O AUTO-CUIDADO DE EX-PORTADORES E PORTADORES DE HANSENÍASE EM SOBRAL

Ivana Cristina de Holanda Cunha Barreto; Francisca Marlene de Sousa Bezerra; Maria de Jesus Guilherme Cavalcante; Sandra Maria Carneiro Flor; Luiz Odorico Monteiro de Andrade

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APOIO: Fundação Novartis.

Em cumprimento da Portaria do Ministério da Saúde de nº 817/GM, datada de 26 de julho de 2000, que trata da redução do tempo de tratamento de Hanseníase das forma multibacilares, (PQT/OMS) de 24 para 12 doses, surgiu a idéia da Secretaria de Desenvolvimento Social e Saúde de Sobral de organizar um momento para avaliação coletiva dos portadores que no momento estivessem em tratamento e com n de doses de PQT suficientes para receberem alta por cura.

Os usuários selecionados para participarem da ALTA COLETIVA, foram identificados a partir do relatório de acompanhamento dos casos do SINAN.

Como proposta social, foi organizado o evento da alta coletiva, que objetivou promover uma integração entre os portadores a fim de proporcionar uma elevação da auto-estima e estimular o autocuidado. A parceria do Movimento de Reintegração de Pessoas Atingidas pela Hanseníase (MORHAN), trouxe para o evento voluntários, dentre eles o cantor Ney Matogrosso e ex-portadores de hanseníase. Participaram voluntários dos núcleos do MORHAN de Fortaleza, Redenção, Juazeiro do Norte e Maracanaú, dos quais muitos eram ex-portadores de MH com graves incapacidades físicas e que nunca tinham participado de eventos sociais públicos nem ver pessoas atingidas pela hanseníase sem seqüelas.

Para consecução dos objetivos propostos, contou-se com dez equipes de Saúde da Família que realizaram avaliação dermatológico-neurológica, de incapacidades físicas e educação para o autocuidado. Os usuários que haviam completado a PQT, receberam um Certificado de Alta por Cura assinado pelo Secretário Municipal de Saúde, pelo cantor Ney Matogrosso e pelo profissional de saúde que o acompanhou durante o tratamento.

POA 8

AN ALTERNATIVE APPROACH OF NGOS

P.K. Mitra

ILEP CO-ORDINATOR, W. B.

The supportive role of NGOs acting as a catalytic agent to strengthen available government infrastructure can produce wider and sustainable effect. This role is more meaningful and effective rather than creating small islands of excellence here and there. ILEP agencies, in India, have been working for decades. Their expertise and experience was requested by Government of India to improve the leprosy activities of the country. District, which is the administrative unit, was provided District Technical Support Teams by ILEP agencies to work hand in hand with government. This supervisory and supportive role created appreciable results in the improvement of technical efficiency of government infrastructure. Improvement in technical knowledge improved motivation of the staff. It created impacts on planning implementation, monitoring and supervision and the results are shown in improved case detection, case holding, and awareness in the community. Here NGOs need not directly but assist government infrastructure to work better. This joint approach of governments and NGOs is showing a pathway of cooperation in other fields also.

POA 9

AN ATTEMPT OF INTEGRATION OF LEPROSY SERVICES IN PRIVATE MEDICAL PRACTITIONERS AT PANVEL – MAHARASHTRA

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In view of inevitable integration of leprosy control in general health services, an attempt for involving private medical practitioners and dermatologists in the programme is important. Kushtarog Niwaran Samiti is NGO working for leprosy control in Taluka Panvel, Dist. Raigad, Maharashtra state. The questionnaire inquiry of 30 med. practitioners in this taluka revealed that 70% of them do not have adequate training for leprosy, still they are treating sizable number of leprosy patients who are unknown to the NGO. The dermatologists themselves treat more number of patients than the NGO. That necessitates rapport between leprosy control unit and them. The practicing dermatologists in this area are fully cooperating with NGO and the cases registered with them are reported. We jointly initiated the refresher training programme of leprosy to these other medical practitioners

and distribution of quarterly leprosy update bulletin. NGO has also started free drug from the clinics of one of them. As against, skin smear and physiotherapy facilities are offered by NGO to dermatologists' clinics. Follow up is also undertaken by NGO for assuring records as per Govt. guidelines and for the defaulters. This helped in giving adequate and proper treatment to the patients without disclosing their identity. This also helped in correctly judging the patients load. We feel that this model experiment requires to be expanded at a large scale. The details of the same will be discussed.

POA 10

ANÁLISE DA IMPLANTAÇÃO DO SINAN, NA ÁREA DE HANSENÍASE – BRASIL - 2002

Maria da Conceição Cavalcanti Magalhães – ATDS/SPS/DAB/MS

Carolina Novaes Carvalho – SINAN

Denise Leão Ciriaco – SES/AL

Ruth Glatt – SINAN/CENEPI/FNS/MS

Marilda Vieira Moreira – SES/ES

O Brasil assume, em 1991 a meta de eliminação da hanseníase como problema de saúde pública até o final do ano de 2001 (<1 doente a cada 10.000 hab.).

Os programas, nacional e estadual de hanseníase, desde a década de 80 dispunham de bancos de dados e instrumentos padronizados para a coleta de informações padronizadas que forneciam variáveis para a construção de 16 indicadores essenciais ao programa de hanseníase.

No ano de 1991, foi criado o SINAN (Sistema de Informação de Agravos de Notificação) inicialmente para doenças agudas, sendo em seguida, incluídas as doenças crônicas hanseníase e tuberculose.

Desde então tem havido um processo de implantação do SINAN nos estados e a conversão de bancos de dados estaduais ao novo sistema de informação nacional.

O presente trabalho tem como objetivo verificar a situação atual de implantação/implementação do SINAN, na área de hanseníase, posto que o país necessita de dados fidedignos e ágeis de monitoração das ações no estado de modo a acompanhar o resultado das intervenções executadas e o processo de eliminação da doença no país.

POA 11

ANÁLISE DOS CRITÉRIOS DIAGNÓSTICOS DE HANSENÍASE NA DIRETORIA REGIONAL DE BELO HORIZONTE, NO ANO DE 1997

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O diagnóstico de Hanseníase é eminentemente clínico, mas quais os critérios diagnósticos mais comumente encontrados no nosso meio? Com a descentralização e integração das Ações de Controle de Hanseníase à rede básica e demais atividades das unidades de saúde há o desaparecimento da especialização dos profissionais de saúde. Então, como treiná-los? Como prepará-los para suspeitar, diagnosticar e classificar adequadamente os casos de Hanseníase? Através da análise de 281 fichas epidemiológicas e clínicas de notificação de Hanseníase, dos sete principais serviços do Regional de Belo Horizonte, do ano de 1997 observou-se que: 80,42% dos casos foram classificados como multibacilares e 19,57% como paucibacilares; 96,79% dos casos apresentavam lesões cutâneas; 47,68% tinham espessamento de pelo menos um nervo periférico, e que entre os nervos comprometidos o ulnar foi o mais comum, seguido pelo tibial posterior e fibular; a baciloscopia foi positiva em 24,91%; a histopatologia foi compatível em 32,02% dos casos, e a alteração de sensibilidade plantar e palmar ocorreram em 25,97% e 20,28%, respectivamente. A análise destes critérios permite levantar questões sobre treinamentos e supervisões, bem como indica a importância do exame dermato-neurológico na luta pelo controle da hanseníase.

POA 12

ANÁLISE DOS ENCAMINHAMENTOS PARA A REFERÊNCIA EM HANSENÍASE DO HOSPITAL DAS CLÍNICAS DA UFMG DE 03/2001 A 02/2002

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O ambulatório de Hanseníase do Serviço de Dermatologia do Hospital das Clínicas da UFMG vem dando suporte para a rede pública e privada há muitos anos. Mais recentemente, no 2º semestre de 2000 foi indicado como referência para esquemas terapêuticos alternativos pela Área Técnica de Hanseníase da SES-MG. Os encaminhamentos para o ambulatório ocorrem para toda a equipe de Hanseníase – médicos, enfermeiros, fisioterapeuta, terapeuta ocupacional, e assistente social. Esta avaliação se restringe a referência direta para a equipe médica, sem entrar na rotina de marcação do com-

plexo ambulatorial do Hospital das Clínicas. No período de 03/2001 a 02/2002 foram examinados 55 pacientes, 28 do sexo masculino e 27 do sexo feminino. Os principais motivos de encaminhamento foram: dúvidas no diagnóstico de Hanseníase em 36,4%; dúvidas na condução do surto reacional em 21,2%, diagnóstico diferencial de neuropatia periférica em 16,4% e esquema alternativo em 10,9%, entre outros. A maioria dos casos é proveniente da rede básica de saúde (89%). A área de abrangência em 36,4% dos casos pertence a Belo Horizonte e em 38,2% a área do Regional de Saúde de Belo Horizonte. O interior do Estado de Minas Gerais contribui com 21,2% dos casos, e ocasionalmente casos de outros estados e até países. O objetivo principal destes atendimentos é orientar a conduta a ser adotada pelo serviço de origem, para que o paciente possa manter o seu tratamento e acompanhamento neste local.

POA 13

ATENDIMENTO DA DEMANDA NO CENTRO COLABORADOR NACIONAL

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Introdução: O Laboratório de Hanseníase, Centro Colaborador Nacional para o Programa de Controle e Eliminação da Hanseníase tornou-se referência no sentido de oferecer suporte clínico para as dificuldades diagnósticas e terapêuticas encontradas pela rede básica de saúde.

Objetivo: Conhecer a demanda atendida em nossa unidade, visando identificar as formas de encaminhamento e os motivos de procura pelo nosso serviço.

Material e Métodos: A população atendida no Ambulatório Souza Araújo, é proveniente de procura espontânea e de encaminhamentos feitos pelos serviços públicos e particulares de saúde do Rio de Janeiro. Após avaliação médica e respectivo preenchimento de uma ficha de anamnese e conduta terapêutica, as informações foram transcritas para o banco de dados existente no serviço. Um estudo retrospectivo incluindo 5.126 pacientes no período de 1998 a 2001 correlacionou o motivo da consulta, e a resolubilidade, com a forma de chegada do paciente.

Resultados: Entre os pacientes atendidos 2855 foram encaminhados e 2.271 pacientes chegaram por procura espontânea. Dentre os 2855 pacientes encaminhados, os motivos foram: 2090 (73%) para elucidação diagnóstica, 532 (19%) para controle de quadro reacional, 233 (8%) por outros motivos. Entre aqueles 2090 encaminhados para confirmação diagnóstica, 837 (40%) confirmou hanseníase e 1253

(60%) outras patologias. Entre aqueles com hanseníase, 40% eram BT, 35% lepromatosos (BL e LL), 12% BB, 5% HI, 2% Nodular Infantil e 6% neural pura.

Conclusão: Estes dados demonstraram que dos encaminhamentos para elucidação em Centro de Referência em hanseníase, o maior percentual 60%, não confirmaram a suspeita diagnóstica e naqueles com diagnóstico confirmado 52% pertenciam às formas multibacilares, responsáveis pela manutenção da endemia.

POA 14

ATIVIDADES DE CONTROLE DE ELIMINAÇÃO DE HANSENÍASE NO ESTADO DO ACRE. DIFICULDADES E PROGRESSOS

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Os autores descrevem as dificuldades e os resultados positivos na implantação e operacionalização das ações de controle e eliminação, em uma área onde a população apresenta difícil acesso ao Serviço de Saúde. Destacam as dificuldades de implantação da poliquimioterapia e a organização de um programa de reabilitação e prevenção de incapacidades nessas áreas.

Tendo como parceiro a associação Italiana Amici de Raoul Follereau os autores apresentam como essas atividades levaram a redução de 95% da prevalência.

POA 15

AVALIAÇÃO DA PROPOSTA DE INTEGRAÇÃO INTERDISCIPLINAR E ENSINO-SERVIÇO – 1993 A 2001

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São José do Rio Preto é centro de excelência de várias especialidades médicas, cuja Dir XXII tem abrangência de 99 cidades. A Faculdade de Medicina de São José do Rio Preto e a Fundação Regional de Medicina, SP, desempenham importante papel junto à comunidade, implantando o Centro de Referência de Controle da Hanseníase. Exames dermatoneurológicos e laboratoriais, maior aderência ao tratamento, prevenção de incapacidades, reabilitação,

tratamentos supervisionados, visitas domiciliares, grupo de terapia são algumas ações implementadas por este Centro. O objetivo deste trabalho foi avaliar a proposta de integração interdisciplinar e ensino-serviço, compreendendo suas ações no controle da hanseníase e as novas práticas pedagógicas elaboradas no programa. Obteve-se como resultado um atendimento de 4.500 pacientes, com notificação de 200 para tratamento PQT/OMS. A aplicação e desenvolvimento de pesquisa científica contou com pesquisa na área de iniciação científica, mestrado e doutorado, com apresentação de 30 trabalhos, sendo 7 premiados, em congressos; envolvimento de alunos de graduação em Medicina e Enfermagem da 2ª à 4ª. Séries; participação ativa de Residentes de Medicina (8 anuais) e Enfermagem (3 anuais); treinamentos para a DIR XXII, treinamentos para o Pólo de Capacitação do PSF do Norte-Oeste Paulista. Entre as diversas dificuldades encontradas no desempenho das funções do Centro de Referência, a avaliação da proposta apresentou aspectos positivos.

POA 16

AVALIAÇÃO DO BANCO DE DADOS SINAN NO ESTADO DO RIO DE JANEIRO

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O arquivo de pacientes portadores de hanseníase da Secretaria de Estado de Saúde do Rio de Janeiro (SES-RJ) foi informatizado em Janeiro de 1987. Até 1997, toda a alimentação do banco de dados era feita no nível central, pelos técnicos do então Programa de Controle de Hanseníase da SES-RJ. Com a implantação do SINAN (Sistema de Informação de Agravos de Notificação), em 1998, as atribuições de atualização dos dados passaram a ser exercidas pelos municípios, em um processo descentralizado.

Apesar de vários treinamentos em SINAN terem sido ministrados para os municípios desde 1998, a análise dos dados anteriores e posteriores à sua implantação demonstra, entre outras, as seguintes discrepâncias:

- a taxa de abandono de tratamento subiu de 13,16% em 1997 para 35,04% em 2000;
- a prevalência de hanseníase no Estado manteve-se elevada (4,78 em 1997 e 4,09 em 2000), contrariando as expectativas de queda;
- pela manutenção da alta prevalência, esperar-se-ia um coeficiente de detecção em elevação, entretanto este apresentou queda (de 2,68 em 1997 para 2,15 em 2000);

- constatou-se duplicidade de registro de pacientes em vários municípios;
- até Dezembro de 2001, apenas 30% dos municípios apresentavam informações atualizadas relativas ao ano.

Estudo de amostragem dos municípios por pesquisa de prontuários revelou que 40% dos pacientes em registro ativo já se encontravam em alta terapêutica.

A deficiência de alimentação do banco de dados pelos municípios resulta em incorreção no cálculo dos indicadores. Demonstra-se a necessidade constante de treinamento, acompanhamento e supervisão das Secretarias Municipais de Saúde, no aprimoramento do banco de dados SINAN.

POA 17

AValiação DO IMPACTO DA CAMPANHA ESTADUAL DE COMBATE À HANSENÍASE NOS MUNICÍPIOS DA REGIÃO METROPOLITANA DA BAIXADA SANTISTA

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Introdução: Embora a OMS anuncie a eliminação da Hanseníase como problema de saúde pública para o início deste milênio, a doença continua sendo um sério problema no Brasil, o segundo no mundo em número absoluto de doentes. Na região, temos um grande número de casos, que nos acarretam um coeficiente de prevalência médio e de detecção alto. Portanto, são necessários campanhas com esforços conjugados de todas as instituições governamentais, bem como envolvimento de toda a sociedade civil na luta contra esta enfermidade.

Objetivos: a) Avaliar as atividades desenvolvidas durante a Campanha na região b) Quantificar ações desenvolvidas, serviços envolvidos e população atingida pela divulgação da mensagem; c) Avaliar o impacto da Campanha nas ações de diagnóstico e controle da doença.

Metodologia: A pesquisa foi tratada em uma abordagem quantitativa de análise de conteúdos de relatórios formulados pela Secretaria Estadual de Saúde-SP, ao término da Campanha Estadual de Combate a Hanseníase ocorrida de 23 a 27/04/01, quantificando ações, serviços, atividades e população atingidas pela divulgação da mensagem. A população utilizada foi a dos nove municípios que compõe a Direção Regional de Saúde-DIR XIX-Baixada Santista-SP.

Resultados: A partir de atividades como: palestras para profissionais de saúde e população em geral, divulgação sinais e sintomas da doença, obteve-se como resposta o aparecimento de 128 suspeitos na região, sendo confirmados 32 casos. Observou-se a surpresa de profissionais de saúde que não lidam no dia a dia com a doença, frente a tal prevalência.

Conclusão: O estudo torna clara a importância desses eventos, com mobilização dos profissionais e da comunidade, através da divulgação de informações sobre sinais e sintomas, diagnóstico e tratamento precoces, pois assim, quebra-se a cadeia de transmissão para então atingirmos a eliminação da doença.

POA 18

CAMPANHA DE INTENSIFICAÇÃO DO DIAGNÓSTICO DE HANSENÍASE – 2002. MANAUS, AM, BRASIL

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Em outubro de 2000, o Estado do Amazonas foi avaliado através do monitoramento da Eliminação da Hanseníase (LEM), que mostrou a existência de endemia oculta na ordem de 50%. Com objetivo de contribuir para a eliminação e controle da Hanseníase no Estado do Amazonas, enfatizando a diminuição da prevalência oculta, foi desenvolvida Campanha de Intensificação do Diagnóstico de Hanseníase, no período de 25 de janeiro a 24 de março de 2002. Como estratégias, intensificou-se ações de educação em saúde (meses de fevereiro e março); veiculou-se através da mídia os sinais e sintomas da doença; foram capacitados voluntários e profissionais das instituições e órgãos envolvidos, estabeleceram-se parcerias com diversos órgãos e instituições buscando envolver a sociedade; atendeu-se no “Dia da Mancha” – 18 de março, todos os casos suspeitos nos diversos serviços, estrategicamente localizados para garantir o acesso da população. Como resultado foram realizados 29.384 exames dermatológicos, 7.891 consultas médicas e 198.879 pessoas receberam orientações educativas. Como impacto imediato houve incremento na detecção de casos, resgate de pacientes faltosos e a oferta de atendimento foi aumentada. No “Dia da Mancha” 40 casos novos foram registrados e outros 38 pacientes encaminhados para confirmação diagnóstica; 53 casos de abandono de tratamento foram recuperados. A média e longo prazo espera-se incrementar a detecção de casos novos com redução da prevalência oculta; alcançar 90% de diagnóstico precoce; imple-

mentar a descentralização e diminuir o percentual de faltosos.

das dermatoses de alta prevalência nesta região do Brasil.

POA 19

CAMPANHA DE PREVENÇÃO A HANSENÍASE NO ESTADO DO ACRE, BRASIL. (ESTUDO EPI-DEMIOLÓGICOS DAS DERMATOSES NO ACRE, BRASIL)

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Introdução: Em 1991 a organização mundial de saúde e seus membros se comprometeram a eliminar a lepra até o ano 2000, eliminação sendo definida como uma prevalência menor de 1 caso / 10000 habitantes. A Hanseníase no Brasil é uma doença de prevalência elevada. Em 1997, esta prevalência foi de 5,43 casos / 10000 habitantes, com 86.741 em registro ativo, colocando o Brasil em segundo lugar no mundo em número absoluto de casos. O contato interhumano íntimo e prolongado facilita a infecção.

Casística e Métodos: Nosso objetivo foi realizar uma campanha de prevenção e combate a Hanseníase no estado do Acre, Brasil. A campanha teve duas fases. Inicialmente 4023 residências foram visitadas por agentes de saúde treinados, que avaliaram um total de 6430 pessoas. Os casos suspeitos de Hanseníase e outras dermatoses foram então encaminhados para uma avaliação por nossa equipe. A campanha também estava aberta a pessoas que não haviam sido visitadas pelos agentes de saúde.

Resultados: Um total de 1200 pessoas foi examinada na campanha em 3 cidades diferentes (Rio Branco, Xapuri, Epitaciolândia) no decorrer de 1 semana. Foram feitos 184 (15,33%) diagnósticos clínicos de hanseníase. Um grande número de outras dermatoses também foi diagnosticado. Das 1200 pessoas examinadas foram encontrados 1832 dermatoses, sendo que apenas 79 pessoas (6,58 %) não apresentavam dermatoses. As doenças infecto-contagiosas (excluindo-se a moléstia de Hansen) foram responsáveis por 56,08 % das dermatoses. 69 casos (5,75%) de lesões malignas ou pré-malignas foram também diagnosticados, sendo 1 caso de melanoma maligno.

Conclusão: A prevalência de Hanseníase no Brasil é subestimada, estando longe de ser uma doença eradicada como pretende a O.M.S. O diagnóstico e tratamento precoce diminuem a incidência e gravidade das seqüelas neurológicas. A campanha de prevenção evidenciou, também, o perfil epidemiológico

POA 20

CLIENT SATISFACTION - GUIDELINES FOR ASSESSING THE QUALITY OF LEPROSY SERVICES FROM THE CLIENTS' PERSPECTIVE

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In order to ensure that leprosy patients are detected and treated adequately, it is essential that they are satisfied with the services provided. Their satisfaction can be analysed by assessing the quality of the services from a client perspective. This will give crucial information for the identification of strengths and weaknesses of leprosy services, e.g. in areas such as health seeking behavior and regularity of treatment. It necessitates, however, that special attention is given to clients' opinions and ideas, both of which are rarely included in reviews and evaluations of leprosy programmes. Hence, an initiative was taken to formulate guidelines for the conducting of a study on client satisfaction. These guidelines were pre-tested in two countries, Nepal and Brazil. The development and contents of these guidelines are highlighted and discussed in this paper.

POA 21

COMPARAÇÃO ENTRE OS DADOS DAS CAMPANHAS DE PREVENÇÃO À HANSENÍASE NO ESTADO DO ACRE E NO ESTADO DE SÃO PAULO, BRASIL

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Introdução: A Hanseníase no Brasil é uma doença de prevalência elevada. Em 1997, esta prevalência foi de 5,43 casos / 10000 habitantes, com 86.741 em registro ativo, colocando o Brasil em segundo lugar no mundo em número absoluto de casos. No Brasil, contudo, os doentes, em grande parte, são do pólo

virchowiano. O contato interhumano íntimo e prolongado facilita a infecção.

Casística e Métodos: Nosso objetivo foi realizar campanhas de prevenção e combate a Hanseníase nos estados do Acre e São Paulo, Brasil. Em São Paulo as campanhas foram realizadas em comunidades carentes da favela de Heliópolis e Vila Brasilândia. Em São Paulo não houve atendimento prévio por agentes de saúde, o atendimento foi feito exclusivamente por médicos. No Acre, a campanha teve duas fases. Inicialmente 4023 residências foram visitadas por agentes de saúde treinados, que avaliaram um total de 6430 pessoas. Os casos suspeitos de Hanseníase e outras dermatoses foram então encaminhados para uma avaliação por nossa equipe. A campanha também estava aberta a pessoas que não haviam sido visitadas pelos agentes de saúde.

Resultados: Em São Paulo foram examinadas 326 pessoas, sendo feitos 13 (3,99%) diagnósticos clínicos de hanseníase. Um número grande de outras dermatoses também foi diagnosticado. Doenças infecto-contagiosas representaram 22,46% dos diagnósticos. A dermatose mais prevalente foi pitíriase alba com 19,22% dos diagnósticos. No Acre, um total de 1200 pessoas foi examinada nas campanhas, em 3 cidades diferentes (Rio Branco, Xapuri, Epitaciolândia), no decorrer de 1 semana. Foram feitos 184 (15,33%) diagnósticos clínicos de hanseníase. Um grande número de outras dermatoses também foi diagnosticado. As doenças infecto-contagiosas (excluindo-se a moléstia de Hansen) foram responsáveis por 56,08 % das dermatoses. A dermatose mais prevalente foi a Hanseníase com 15,33% dos diagnósticos.

Conclusão: Apesar das diferenças entre as populações avaliadas, algumas conclusões podem ser feitas. A Moléstia de Hansen é muito prevalente no Brasil. Os dados oficiais sobre prevalência e incidência desta doença provavelmente estão subestimados. As doenças infecto-contagiosas são endêmicas no nosso País.

POA 22

COMPROMISSO DE ELIMINAÇÃO DA HANSENÍASE EM MINAS GERAIS - BRASIL
RESULTADOS ALCANÇADOS - 1991- 2000

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Em 1991 a OMS propôs a eliminação da Hanseníase como problema de saúde pública até o ano 2000, ou seja, que os países endêmicos alcançassem uma taxa de prevalência < 1/10000 hab. Naquela ocasião Mi-

nas Gerais ocupava o 1º lugar no Brasil em número de casos com 34.944 doentes e taxa de 22,2/10000.

Além do trabalho que vinha sendo realizado o Estado deveria fazer um esforço adicional para atingir esta meta e, para tanto, elaborou o “Plano de Emergência” (1991 a 1994) e o “Plano de Eliminação da Hanseníase” (1995 a 2000) com metas e estratégias claras para alcançar os objetivos. As principais metas foram: aumentar a cobertura, através de capacitação de pessoal; aumentar o % de casos em PQT/OMS; diagnosticar e tratar todos os casos novos esperados; conhecer a prevalência real, através de adequação do sistema de informação e eliminar a Hanseníase até o ano 2000.

Os principais resultados foram: aumento da cobertura de 12,0 para 65,8 %; aumento do % de casos em PQT de 15,5 para 99,9 %; alta por cura em 33.447 casos; redução do % de abandono de 58,6 para 15,2 %; redução da prevalência de 34.944 para 5.668 (de 22,2 para 3,2/10000 hab).

Apesar dos esforços, não se conseguiu atingir a meta de eliminação em 2000. Vários fatores contribuíram para isto e o principal deles é a permanência de casos não diagnosticados (prevalência oculta) responsáveis pela manutenção de fontes de contágio na população (Prevalência Oculta–Leboeuf, M.A et al.).

POA 23

DEMANDA DE HANSENÍASE NUM CENTRO COLABORADOR DE REFERÊNCIA EM DERMATOLOGIA SANITÁRIA

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O Centro Colaborador de Referência em Dermatologia Sanitária de Hospital Eduardo de Menezes, criado em 15 de fevereiro de 2000 pela Portaria Supege 1281, da Superintendência Geral atende, grande número de casos de Hanseníase e outras Dermatoses de Interesse Sanitário. O objetivo do trabalho foi identificar a demanda de atendimento de casos de Hanseníase neste Centro no período de janeiro a dezembro de 2001. Os dados da pesquisa foram coletados a partir do prontuário dos doentes através de questionário elaborado por epidemiologista e pré-testado pela equipe responsável pela pesquisa. Durante os meses pela equipe responsável pela pesquisa. Du-

rante os meses em estudo, 445 pacientes com alguma ocorrência ligada a Hanseníase foram atendidos no ambulatório de Dermatologia do Hospital Eduardo de Menezes, destes 188 (42,2%) buscaram o serviço por demanda espontânea e outros 257 (57,8%) foram referenciados para este Centro através de encaminhamentos de outros centros de saúde deste e de outros municípios do Estado de Minas Gerais. Dos 445 pacientes atendidos, 20 (4,5%) procuraram atendimento ou foram encaminhados para esclarecimentos de dúvidas, 73 (16,4%) para confirmação diagnóstica, 111 (25%) para diagnóstico diferencial com outras doenças, 4 (0,9%) para classificação clínica, 10 (2,3%) para a realização de exames complementares, 106 (23,8%) devido a neurites e outras reações hanseníicas, 18 (4,1%) pela necessidade de esquema alternativos de tratamento, 24 (5,3%) para prevenção de incapacidades e 6 (1,3%) para o tratamento de incapacidades já detectadas, 10 (2,3%) para o tratamento de feridas, 63 (14,1%) para exame e avaliação de contatos. A análise dos dados mostrou uma grande contribuição do Centro de Referência em Dermatologia Sanitária do Hospital Eduardo de Menezes para o diagnóstico, tratamento, manejo de complicações e reabilitação dos pacientes de Hanseníase de Belo Horizonte e de todo o Estado de Minas Gerais prestando um atendimento importante para a população, contribuindo de forma significativa para a melhoria de vida destes pacientes, e o controle da doença em todo o Estado.

POA 24

DISTRICT TECHNICAL SUPPORT TEAMS – AN ALTERNATIVE APPROACH OF NGOS IN WEST BENGAL

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The supportive role of NGOs acting as a catalytic agent to strengthen available Government infrastructure can produce wider and sustainable effect. This role is more meaningful and effective rather than creating small islands of excellence here and there. ILEP agencies, in India, have been working for decades. Their expertise and experience was requested by Government of India to improve the leprosy activities of the country. District, which is the administrative unit, was provided district technical support teams by ILEP agencies to work hand in hand with Government. This supervisory and supportive role created appreciable results in the improvement of technical efficiency of Government infrastructure. Improvement in technical knowledge improved motivation of the staff. It created impacts

on planning implementation, monitoring and supervision and the results are shown in improved case detection, case holding, and awareness in the community. Here NGOs need not directly but assist Government infrastructure to work better. This joint approach of Governments and NGOs is showing a pathway of co-operation in other fields also.

POA 25

EFFECTS ANALYSIS FOR TRAINING ON THE NON-LEPROLOGISTS

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In the activities of the healthy education on leprosy, some 900 non-leprologists have accepted professional training about the leprosy control among medical workers in 17 counties, LIANGSHAN prefecture, SICHUAN province. Contrast analysis has been made on the training effects. Before they had been trained, as far as their correlative knowledge of the leprosy, the total correctness rate is up to 83.5%, contrasted to the number of pre-training, there is an obvious, the leprosy's infectivity, resulting to malformation and its curability showed the biggest difference. It proved that these three aspects are people's misconception to leprosy, and also are the main reasons of fearing leprosy. The analysis results attested this training is obviously effective and pertinent. What is noticeable is the attitude to the patients had no distinct difference between pre-training and after training. That is to say, for thousands of years, people showed inveterately bias and discrimination to leprosy patients which is difficult to relieve. So, more health education of leprosy should be put into practice.

Because the medical workers have authority of explaining disease; they will directly influence people's attitude and cognition to disease. So the non-leprologists are the first objects to accept the training.

[Key words]: medical staff knowledge of leprosy control training analysis

POA 26

ESTRATEGIA DE INTERVENCION EN LA ATENCION PRIMARIA DE SALUD PARA ELIMINAR LA LEPRO COMO PROBLEMA DE SALUD EN AREAS DE LEPRO NO ELIMINADA. GRANMA

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Se diseñó en la Provincia un Plan Estratégico de Intervención teniendo en cuenta los aspectos esenciales de la Lepra para el diagnóstico y la caracterización epidemiológica de la población donde la lepra no esta eliminada como problema de salud, con el principal objetivo de lograr en corto tiempo la meta de eliminación.

POA 27

ESTUDO DA DEMANDA PÓS-ALTA DE HANSENÍASE EM MINAS GERAIS – BRASIL: CONTRIBUIÇÃO PARA A SISTEMATIZAÇÃO DA ASSISTÊNCIA

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Introdução: A demanda pós-alta de Hanseníase foi quantificada e caracterizada, visando contribuir para a sistematização da atenção. Participaram 25 Serviços de Saúde de diferentes portes, preenchendo planilha, por categoria profissional e tipo de atendimento, por 3 meses, identificando casos em tratamento, pós-alta e contatos. A demanda pós-alta foi identificada em prontuários quanto aspectos, clínico-epidemiológicos, tratamento, tempo de diagnóstico e alta, modo e motivo do retorno.

Resultados: Dos 11869 atendimentos registrados, 59% foram casos em tratamento e 30% pós-alta, variando de 8 a 73%. Médicos realizaram 38% dos atendimentos e auxiliares de enfermagem, 32%. Dos 951 pacientes pós-alta, 86% retornaram para o serviço de origem, 28% antes de 30 dias, 77% dentro de 1ano, 57 % eram homens, 89% MB. Estes pacientes retornaram de 1 a 259 vezes, 91% realizaram baciloscopia no diagnóstico (51% positivos e IB 3 em 35%). O principal motivo do 1º atendimento pós-alta foi “reação e/ou neurite” (64%), a “continuidade de atenção” foi o principal modo de retorno (47%), sendo que 82% foram “mantidos no serviço”.

Conclusão: O atendimento pós-alta de Hanseníase representa importante demanda para os Serviços, devendo ser contemplada no planejamento das Ações de Controle, na previsão de recursos humanos, medicamentos e outros insumos. O registro e monitoramento da reação/neurite durante e após o tratamento são imprescindíveis para a atenção integral ao paciente.

POA 28

ESTUDO DOS FATORES INFLUENCIÁVEIS À INCORPORAÇÃO DAS AÇÕES DE CONTROLE DA HANSENÍASE À ESTRATÉGIA DE SAÚDE DA FAMÍLIA NO ESPÍRITO SANTO

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O Ministério da Saúde (MS) vem incentivando a implantação de Estratégia de Saúde da Família (ESF) objetivando mudança do modelo assistencial em saúde. Em consequência, a condução dos programas verticais de saúde também vêm passando por modificações cujos resultados são ainda desconhecidos. Para garantir a continuidade dos avanços nas ações de controle de hanseníase (ACH) no Estado do Espírito Santo, foi realizado um estudo para identificar os fatores influenciáveis à incorporação das ACH à ESF e propor mecanismos adequados à essa incorporação.

O estudo dividiu-se em três etapas: inicialmente, foram identificados municípios com diferentes níveis de implantação da ESF, seguida de uma comparação entre municípios com nível definido de implantação da ESF e municípios sem ESF, segundo parâmetros das ACH.

Finalmente foram identificados aspectos gerenciais e os relacionados aos profissionais de saúde que influenciaram no alcance dos parâmetros das ACH em municípios selecionados.

Os resultados obtidos indicaram não existir diferenças estatisticamente significantes ($p > 0,05$) entre os grupos considerados na análise. Na etapa 3 foi realizada pesquisa nos municípios do grupo 1 (maior tempo de implantação) e do grupo 3 (maiores coberturas da ESF) com os profissionais da ESF. Quando comparados estes grupos, em apenas uma variável foi encontrada associação considerada estatisticamente significativa ($p = 0,002$).

Todas as variáveis estudadas foram cruzadas entre si, havendo associação significativa em todas ($p < 0,05$). Neste estudo não foram encontradas evidências de diferença nos indicadores de hanseníase entre municípios com e sem ESF. E entre os com ESF também não foram encontradas diferenças, sendo o único diferencial a existência de treinamento nas ACH.

POA 29

EVALUATION OF MASS CASE DETECTION CAMPAIGN IN BIHAR STATE IN INDIA

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An evaluation of the mass case detection campaign in Bihar State was done in January 2002 to assess the impact in terms of coverage and efficiency in diagnosis. Each of the thirty-eight blocks randomly selected in 22 districts of Bihar was covered by an external team consisting of a Medical Officer and a supervisor. All the suspects identified during the campaign were screened for clinical status, all the cases were interviewed and about 5 adults from every village covered by the team were also interviewed to know their awareness.

In the selected blocks 17126 suspects were identified by the programme of which 8876 (51.8%) had been screened by their staff. Only 8.3percent of the unscreened suspects were found to be cases. Of the 8876 suspects screened 3331(37.5%) had been confirmed as new cases, 4439 (50%) as not cases and 1106 (12.5%) as old cases by the staff. About 72% of the new cases were PB, 27.7% MB, 0.3% SSL. Out of the 3331 new cases identified by the programme 2674 (80%) were screened by the evaluators. About 75% (1996) were real new cases, 12.5% (334) were old cases registered as new, and 12.9% (344) were not cases. Wrong diagnosis among PB was 13.7% and among MB it was 10.4%. About 1.3% of the MB was wrongly classified as PB and 10.8% of the PB were wrongly classified as MB.

Of the 4439 suspects declared as not cases by the programme 3501 were evaluated by the teams and 103 (3%) were found to be new cases.

Awareness among the patients and community was reasonably good.

Mass case detection programmes may be productive in terms of a large number of cases detected but unless properly controlled and executed the outcome of such exercises may become confounded by various operational factors.

POA 30

FACTORS CONTRIBUTING TO DEFAULTING OF LEPROSY PATIENTS IN CENTRAL TERRAIN DISTRICT OF NEPAL

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Objectives: To determine the socio-economic characteristics of leprosy defaulters and identify factors contributing to defaulting in a Terrain district of Nepal.

Design and method: An exploratory type of non-intervention study was carried-out in Dhanusaha-a

high prevalent district bordering with India. A sample of 57 Defaulters was selected (SE=10%) using systematic sampling method. A semi-structured interview schedule was used for data collection. The data were augmented by information collected during informal discussions with the Defaulters.

Results: Majority of sample was Male, Married, and illiterate and having Nuclear type family structure. They were occupationally laborers/daily wage earners and from economically active age groups with having lower economic class background. About 70% of MB type had stopped treatment within 6 months of registration while 95% of PB type stopped within 3 months. Study found that an awesome majority of sample doesn't have modern concepts of the cause of leprosy and had strong beliefs that the disappearance of sign/symptoms is the only meaning of the "cure of the disease". About 49% defaulted because of no or quick response to sign/symptoms, and side effects of drugs while 35.1% defaulted because of migration, fear of losing wages and lacking family support. Rests were defaulted because of distant health services and health worker's rude behavior.

Conclusions: The data revealed the fact that Defaulters are having poor socio-economic background and low level of knowledge of disease and treatment outcome. The finding shows that the disease related factors – no or quick response to treatment, and drug side effects along with patient related factors i.e poor socio-economic status and poor understanding of disease are the major factors contributing to defaulting in terrain district.

POA 31

FLUXO DE ATENÇÃO À HANSENÍASE EM CURITIBA/PR-BR

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Com o registro de 40 mil novos casos por ano, a Hanseníase continua um importante problema da saúde pública no Brasil. Em Curitiba, a partir de 1991, observou-se diminuição importante da taxa de prevalência da doença, sendo o tratamento poliquimioterápico relevante para esta redução, assim como a descentralização da atenção para as Unidades Básicas, que se iniciou em 1997, com sensibilização dos profissionais para suspeita e diagnóstico precoces da doença, disponibilizando o atendimento próximo à residência do paciente.

O coeficiente de prevalência da Hanseníase em Curitiba, que em 1997 era de 2,78/10.000 habitantes, em 2001 caiu para 1,22/10.000 habitantes, havendo uma redução de 44%. Como em 2001, a taxa de ca-

sos com incapacidade física grave representou 16%, observou-se a necessidade de subsidiar tecnicamente os profissionais no atendimento à Hanseníase, redefinir a organização da atenção nos diversos níveis de atuação e orientar a construção de um sistema de saúde integrado. Assumindo o compromisso de eliminação da doença, Curitiba implantou em novembro de 2001, um protocolo de atenção à Hanseníase, através da capacitação de todos os profissionais municipais envolvidos no atendimento.

Entre as principais ações do protocolo estão a definição de: competências para cada nível de atenção de acordo com a complexidade da doença; de um "gestor de caso" que será responsável pelo acompanhamento quinzenal no domicílio e capacitação de referências para orientação do diagnóstico, da condução terapêutica, da prevenção e do controle das incapacidades.

POA 32

GENDER DIFFERENTIALS IN LEPROSY DISEASE PROCESS AND CONTROL IN THE STATE OF AMAZON, BRAZIL

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Female leprosy patients under treatment in the public health system of Amazon State form a minority group. In 1998, only 39% of the new leprosy cases detected were female patients although defaulting rate was lower among female's patients during that same year. Although Brazilian public health policies are claimed to do not discriminate gender, Brazilian society is profoundly marked by social and economic inequalities suggesting that more subtle mechanisms of cultural discrimination are preventing females to benefit from health services in the same proportion then males do and dictating that males should quit before completing treatment. A two-years transversal comparative study is proposed to investigate gender aspects of differentials in behavior and attitudes of male and female patients that enter public health local system seeking for diagnostic and treatment of leprosy. From June 1999 till May 2000 all new leprosy patients from the Amazonas State detected by "Alfredo da Matta" staff were included in this study comprising a total of 821 cases. Of those, sixty percent were male patients. The analysis of the data collected from questionnaire items suggested that important differences on perceptions and behavior might exist between genders. Greater proportion of male patients tended to simple consult family members or close friends about their symptoms and follows their advises. A relatively large number of female patients decided on their own initiative about to come to health service to seek for a leprosy diagnosis. Males seemed to be more reluctant than females

at seeking for treatment, which contradicts findings from research conducted in other regions

POA 33

GEOGRAPHIC INFORMATION SYSTEM AS AN EFFECTIVE TOOL FOR HEALTH CARE MONITORING

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This paper is to provide a set of guidelines by which health care monitoring can be refocused using GIS as a tool to improve the timeliness, quality, access and use of Health Care data. Health is a state of complete physical, mental and social well-being and not merely absence of disease (WHO, 1948). Various factors like individual susceptibility, genetic predisposition, environmental conditions like sanitation and nutrition and geographical factors like soil, water, climate, rainfall and temperature influence health. As health care delivery has to be adjusted to these factors, knowledge about these factors is of great help for the planners and the public to plan strategies for improving health. In 1854, a demonstration using a map showed that association between cholera deaths and contaminated water supplies was the main cause of epidemic. Recent advances in GIS and mapping technologies and increased awareness have created new opportunities for public health administrators to enhance their planning, analysis and monitoring capabilities at national, regional and even upto village level in a spatial context. In government hospitals, treatment is free for the poor. This system is helpful as it reduces on the government to provide universal medical care at its expense. It serves as a common platform for convergence of multi-disease surveillance activities standardized geo-referencing of epidemiological data that facilitates standardized approaches to data management. The process provides an excellent means of analyzing epidemiological data, revealing trends, dependencies and inter-relationships that would otherwise remain hidden in data shown only in tabular format. A GIS can serve as an entry point for integrating disease surveillance activities where appropriate.

POA 34

HANSENÍASE: INCIDÊNCIA EM COMUNICANTES DE PACIENTE VIRCHOVIANOS

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Neste trabalho estudamos retrospectivamente 270

comunicantes intradomiciliares de pacientes que apresentavam Hanseníase Virchoviana no ambulatório de hansenologia do município de Itapevi (região metropolitana de São Paulo). Observamos que estes pacientes virchovianos correspondem a 44% do total de hansenícos acompanhados neste serviço. Os autores procuram demonstrar o risco destes comunicantes serem infectados e traduzirem esta infecção em forma de patologia. Para tanto levantamos através de prontuários incidência da doença no grupo estudado, no período de 1997-2001. Os resultados encontrados foram que 11% dos comunicantes (30 comunicantes) desenvolveram moléstia de Hansen, enquanto 89% (239 comunicantes) não a desenvolveram. Entre os comunicantes que adquiriram a patologia, 37% (11 comunicantes) eram multibacilares (03 com a forma dimorfa e 08 com a forma virchoviana); 23% eram paucibacilares (02 com a forma indeterminada e 05 com a forma tuberculóide); 40% eram casos confirmados de comunicantes com doença onde não foi possível avaliar a forma clínica (EX: pais já falecidos, irmãos que atualmente residem em outro domicílio). Concluímos que os dados encontrados reforçam o que diz a literatura, onde a incidência de hanseníase em comunicantes intradomiciliares é alta, enfatizando o papel relevante deste contato na epidemiologia da doença, chamando a atenção para uma importante área de controle da doença que é a família do paciente, o que tem sido reiterado como objetivo básico da Organização Mundial de Saúde.

POA 35

HANSENÍASE NO MARANHÃO: ATIVIDADES REALIZADAS NO PERÍODO DE 1992 A 2001 BUSCANDO A ELIMINAÇÃO DA DOENÇA

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Na 44ª Assembléia Mundial de Saúde, realizada em 1991, Genebra, estabeleceu-se o compromisso de eliminar a hanseníase como problema de saúde pública no mundo até o ano 2000. Um dos principais objetivos do programa é tratar a hanseníase o mais precocemente possível, obtendo a cura do paciente. O sucesso do Plano de Eliminação da Hanseníase (PEL) está diretamente relacionado à duração do tratamento, criando-se assim, uma necessidade imperiosa de que os pacientes terminem o tratamento recomendado e sejam liberados por alta clínica, sendo retirados da prevalência. Para tanto as atividades do Programa precisam ser redimensionadas no que se refere, principalmente, ao seguimento dos casos e à manutenção de um sistema de informação de qualidade, visto que, temos como principal obstáculo ao processo de eliminação no Brasil a existência de uma

parcela considerável da população excluída do acesso ao diagnóstico e ao tratamento na fase inicial da doença. As atividades de controle da hanseníase devem ser implantadas em toda a rede de serviços de saúde para que se alcance a meta de eliminação (menos de 1 doente a cada 10.000 habitantes). No Estado do Maranhão as atividades realizadas, investem em recursos humanos, visando a atenção integral ao paciente portador de hanseníase no processo de descentralização das ações de saúde da rede de serviços. Como resultado das atividades realizadas no Estado tem-se a diminuição do coeficiente de incidência com valor de 6,3/10.000, diminuição da prevalência em 7,7/10.000, fortalecimento com as parcerias (ONGS, PAC'S, PSF, Pólo de Capacitação), aderência do paciente ao tratamento, melhoria na qualidade do atendimento e trabalho em equipe. Impõem-se como desafios ao programa, a referência e contra-referência, disponibilidade de médicos, avaliação e acompanhamento, rotatividade de profissionais e sistema de informação de qualidade.

POA 36

HORIZONTALISATION OF A VERTICAL PROGRAMME: THE ROLE OF LEPROSY ELIMINATION CAMPAIGNS IN THE INTEGRATION PROCESS OF LEPROSY CONTROL IN JIGAWA, NIGERIA

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In endemic countries, leprosy activities should become an integral part of the general health services to ensure the sustainability of the leprosy control (WHO, 1998). This means that leprosy activities are conducted mostly in multipurpose settings by health workers within the general health services. Integration also enhances cost effectiveness and accessibility to leprosy services (Feenstra, 1993), (Visschedijk et al 2000). Furthermore, integration of disease control programmes including leprosy is part and parcel of health sector reforms that are currently taking place (Green AT, Jochem K, 1998). Hence, in many countries including Nigeria, integration has been adopted as a core strategy in national health policies (National Health Plan, Nigeria, 1998-2010). However at the same time some doubts have been placed on the consequences of integration on the quality of leprosy services (Naafs, 2000). In addition the process from a vertical to a more integrated approach has been regarded as challenging, in which several hurdles have to be taken and some basic conditions have to be fulfilled (Visschedijk et al, 2000).

This paper will assess and describe the experience in Jigawa State, Nigeria in the integration process of leprosy services over the past three years. The paper

will particularly analyse the impact of the integration on coverage and quality of leprosy services. It will illustrate the justification of conducting LECs in the area and how Leprosy Elimination Campaigns (LECs) sometimes have constituted opportunities to facilitate the integration process. The paper will first elaborate on the context in which leprosy services are provided in Jigawa State and describe how LECs were used in the process towards integration. Then, the consequences in terms of coverage and quality of services will be indicated. Finally, in the discussion and concluding remarks, the lessons learned and conditions for successful integration will be presented.

POA 37

HOW TO MAINTAIN QUALITY OF LEPROSY CONTROL SERVICES IN BORNO STATE, NIGERIA

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In Borno State even though the prevalence of leprosy has gone down to below 1 per 10,000 populations, the case detection rate still remains stable with little sign of fluctuation over the years. MDT clinics with no patients on treatment for more than six months were removed from the clinic calendar, as a result the accessibility of MDT services becomes less and the workload is now considerably reduced. This makes the maintenance of the programme too costly, as a result of the few patients on treatment, staff skills and knowledge on leprosy and its control will progressively continue to decrease over the coming years. In addition both donor and government interest in the leprosy control programme might continue to diminish. This means that inputs into the programme might also decrease, all these will have a great impact on the quality of the leprosy control services.

Apart from coping with the social, economic and psychological consequences of leprosy on the patients, a considerable number of patients still need to be cared for and new cases need to be detected as early as possible, this implies that for many years to come leprosy control programme will still be needed. This may indicate that the quality of leprosy control services need to be maintained, with other issues like sustainability, cost-effectiveness, equity, community participation and efficiency taken into considerations. On the other hand, TB is fast becoming a huge problem, this is further complicated by the rising HIV/AIDS epidemic, the donor agency that supports leprosy control programme in Borno State does not provide support for TB control programme hence there is no functional TB control programme in

Borno State, TB treatment exists only in a few hospitals.

In this paper the concepts of quality of care in general and quality of care in leprosy control services is discussed. In order to maintain the quality of the leprosy control services in Borno State, I have also discussed in this paper the various possible options: vertical leprosy programme, integration into the PHC clinics, combination with other diseases like TB and dermatology, and a mix of two options. In addition to the experience in Borno State, various literatures have been used to compare the strengths, weaknesses, opportunities, and threats for each option. The findings show a preference (best choice) for the combined leprosy and TB with integration of both control activities at the PHC clinic level, with specialised components maintained at the State and LGA level for planning, supervision, research, monitoring and evaluation.

POA 38

IMPACTO DA IMPLANTAÇÃO DO PROGRAMA DE SAÚDE DA FAMÍLIA NAS AÇÕES DE CONTROLE EM HANSENÍASE NO MUNICÍPIO DE CONTAGEM, MINAS GERAIS

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O município de Contagem representa 15% da região Metropolitana de Belo Horizonte, com território de 194,3km² e população estimada de 540.000 habitantes. A partir de 1999 iniciou um processo de reestruturação, tendo como estratégias fundamentais a distritalização dos serviços e a implantação do Programa de Saúde da Família. Conta atualmente com sete distritos, tendo sido implantadas 86 equipes de PSF, com cobertura de 56% do município, principalmente nas regiões de baixo nível sócio econômico, permanecendo ainda com 28 unidades tradicionais (postos de saúde).

O programa de ações de controle da hanseníase, ficou inativo por vários anos, com reimplantação em 1993. No período de 1995 a 2001 foram registrados 517 casos, destes 317 como casos novos.

Não foi possível a descentralização rápida, principalmente pela dificuldade e/ou resistência de atendimento dos profissionais de saúde da rede básica, da alta rotatividade dos mesmos, pelo tamanho territorial e populacional, e ainda ao grande número de capacitações em outras ações básicas em saúde que vêm sendo realizadas. Nosso projeto de descentralização está sendo realizado progressivamente com a transformação de uma unidade, a única que acompanhava os casos do município, em Unidade Municipal Colaboradora de Referência e a criação de

Unidades de Referências Distritais. Como impacto da implantação do Programa de Saúde da Família (PSF) e a implantação do projeto de descentralização houve um aumento do número de casos diagnosticados nas Unidades Básicas de Saúde superior a 100%, quando comparado com os anos anteriores. Porém ainda não ocorreu aumento significativo no número de casos novos. Nosso objetivo é transformar as Unidades de Referência Distrital em multiplicadores, assim como a realização de campanhas periódicas de sensibilização diagnóstica por distrito, com maior envolvimento dos agentes comunitários de saúde.

Apesar de todas as dificuldades e dos resultados ainda pouco satisfatórios o PSF demonstra ser uma alternativa viável nas ações básicas de eliminação da hanseníase, porém é necessário um maior investimento de gestores e atores do sistema único de saúde.

POA 39

IMPACTO DAS CAMPANHAS DE ELIMINAÇÃO DA LEPRA NA PROVÍNCIA DO NIASSA

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Âmbito e objectivo: A partir de 1996 à 2000 a Secção Provincial do PNCTL do Niassa/MISAU levou a cabo Campanhas de Eliminação da Lepra denominadas LEC, dirigidas a população que vive em zonas rurais da Província. Este estudo tinha por finalidade avaliar o impacto destas campanhas.

Métodos: Analisamos a situação da lepra a partir dos dados das estatísticas do sistema de Notificação Trimestral e Anual, incluindo os indicadores referente ao período 1991 à Dezembro de 2001, para determinar se as campanhas tinham sido aparentemente bem sucedidas, tinham fracassado ou cujos resultados não eram concludentes.

Resultados: O estudo mostrou que as campanhas ajudaram na detecção de casos da lepra nas áreas desfavorecidas dos cuidados de saúde. As campanhas provavelmente preveniram as deformidades através da detecção precoce dos casos. A Prevalência tende a reduzir de 8.7 em 1996 para 3.3/10.000 habitantes em Dezembro de 2001.

Conclusões: Na generalidade, como estratégia de Eliminação da Lepra as Campanhas tiveram sucessos. Embora este sucesso possa ser atribuído a uma redução da Prevalência na Província, pois, a taxa de detecção anual, a taxa anual com deformidade grau 2 e a taxa de crianças dos 0 – 14 anos em novos continuam quase estacionárias o que demonstra a existência de casos privados dos cuidados de saúde e da existência ainda da infecção na comunidade. A insistência numa estratégia que não comprovou de forma convincente o êxito não parece justificar-se.

Porém, em anos futuros é possível que se registem êxitos comprovados com base nos factos.

POA 40

IMPACTO DAS CAMPANHAS DE ELIMINAÇÃO DA LEPRA PROVÍNCIA DE NIASSA

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As campanhas de Eliminação da Lepra na Província do Niassa tiveram o seu início em 1996 tendo-se realizado até do então um número de cinco.

Objectivo Geral: Reduzir a prevalência da Lepra para menos de um caso em cada 10.000 Habitantes.

Objectivos Específicos

Cobertura territorial do Programa

Actividades realizadas

Metodologia utilizada

Casos detectados por campanha

Casos novos com grau de deformidade 2

Casos novos de 0 a 14 anos

Tendência de casos por campanha

Prevalência de Lepra na Província de 1996 a 2001

Resultados de tratamento de doentes Pb e MB

Conclusões

POA 41

INTEGRATED LEPROSY CONTROL WITHIN A WEAKENED HEALTH CARE SYSTEM, LESSONS LEARNED IN DARFUR, SUDAN

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The Leprosy Mission (TLM) has been involved in leprosy control in Darfur, West Sudan since 1998. The health care system here has deteriorated over the 18 years of civil war. In Darfur leprosy control is carried out by general health care workers in general health care centres with logistical support provided by TLM. Leprosy care has definitely improved over the past three years, although case detection still tends to be late and the treatment completion rates are lower than the objectives set. Early case detection through the health centres does not work well because people do not go to health centres with "minor" skin patches. A community health education programme is therefore to be added to increase public awareness. Treatment in health centres nearer to

the patients, and more emphasis on defaulter tracing will hopefully improve treatment completion rates. However, poor general health care does have an effect on the outcome of the programme and, under these conditions, integrated leprosy control can probably not achieve the high objectives set in vertical programmes. Integrated leprosy control can help reduce the stigma of leprosy better than a vertical programme and has the added advantage of supporting the general health care system, whereas vertical programmes may compete with it for scarce resources.

POA 42

INTEGRATION OF LEPROSY CARE SERVICES IN URBAN AREA

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In India integrating vertical leprosy care services in the general health care services is one of the strategies of leprosy elimination. It is aimed at improving access to leprosy care services in addition to addressing the gender inequity inadvertently crept into the vertical system.

In the rural India, because of the uniformity of the primary health care infrastructure, integration has been possible. The same is not the case in the urban area. Urban primary health care has been a complex issue due to multiple systems and providers including private providers. Absence of structured disease surveillance and control mechanism and social stigma against leprosy also contributes to the complexity.

In the absence of primary health care infrastructure in the urban areas that could be integrated, as an alternate concept to achieve integration, DANLEP has piloted a process for building sustainable and institutionalized partnership between CBOs /NGOs/service providers, and developing coordination and monitoring mechanism for leprosy elimination.

The process has been piloted in 6 selected towns in 4 Indian states. The results of the process is quite encouraging with potentiality for replication. In the piloted towns it has increased awareness and commitment of various stakeholders at policy, providers and community level. Stakeholders have taken up various activities. The access to the leprosy care has increased.

POA 43

INTENSIFICATION OF LEPROSY ELIMINATION - ANGOLA

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40 years of war has destroyed the health network. Today 80% of the human resources are working in the Provincial capitals, and 1/4 of the population is internally displaced.

Integration of Leprosy in primary health care, is vital in order to maintain the patients in his community.

The prevalence rate is 2,8/10.000. The detection rate is 14, 2/100.000 13,9% new patients have deformity GII, 12% are children, 68 % are MB cases.

32,2% of Health Units and 75,6% of municipalities are covered with MDT.

A project for intensification of Leprosy elimination in Angola was started in September 2001. The funding was provided jointly by the Ministry of Health, WHO and ILEP.

The project consists of decentralisation, and implementation of a package of activities at Provincial and Municipal levels. The Political commitment of Provincial Health Directors and of Provincial Authorities made the Project start..

In the first quarter of 2002 the package of activities has been implemented in all 18 Provinces and 10 have been visited, representing 55 % success.

Results of MDT coverage, are presented comparing the year 2001 with the 1st and 2nd quarters of 2002. By the end of the year we will have reached 80% MDT coverage of the 1460 health units of Angola. The cease-fire signed in 4th April 2002 can only facilitate the implementation of this project.

POA 44

LABOR DE LOS AGENTES DE SALUD EN EL CONTROL DE LA LEPRO. SITUACION HABITUAL EN AREAS RURALES

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Se muestra la encomiable labor de los agentes de salud brasileños repartidos por todo el territorio nacional. Remarcar el hecho de que sin su presencia continúa en regiones hiperendémicas sería difícil el control de la Lepra.

Se recoge la labor de 10 agentes de salud en municipios del nordeste del Estado de Mato Grosso (Sao Felix do Araguaia, Santa Terezinha, Alto do Boa Vista, Luciara, Confresa, Porto Alegre do Norte y Vila Rica). La formación de los mismo se llevó a cabo por el Polo Regional de Saude de Porto Alegre con la colaboración de la ONG Fontilles.

POA 45

LEPROSY AND INFORMATION TECHNOLOGY: A NOVEL METHOD OF IMPROVING THE QUALITY OF LIFE OF LEPROSY PATIENTS

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The technological developments taking place at a rapid pace across the globe and Information Technology (IT), which has revolutionized the lifestyle of individuals, particularly in urban areas prompted us in 1998 to explore the possibilities of using these techniques in basic leprosy control work, research and rehabilitation to improve the quality of life of leprosy patients. The gadgets concerned were prohibitively expensive and considered as rare items of luxury. This presentation deals with how IT has made a transition point in our scientific work as well as service related activities to the physically challenged due to leprosy and other locomotor disorders in an integrated manner.

Various types of electronic gadgets such as mobile phones and pagers have been used in detecting leprosy patients in the community as well as detecting complications and due to the disease besides identifying handicapped patients due to a variety of diseases. Computer training to the handicapped patients have helped their rehabilitation and reintegrating into the society. Communication equipments such as digital camera, scanners and multimedia projector with laptop computers have been used for continuing medical education. The E-mail, Internet, Net chat, discussion forums and video conferencing using the computer technology have linked scientists and researchers from all over the world. The satellite communication has enabled the experts to offer live training to a large number of grassroot level workers gathered in different areas. The E-commerce has paved a simple and quicker way for the donors to extend financial assistance for supporting leprosy relief work.

POA 46

LEPROSY ELIMINATION CAMPAIGNS IN DANGS DISTRICT, GUJARAT (INDIA)

Dr. Paresh V. Dave, Dr. Anand P. Kaswekar, Mr. Amarjit Singh

Field area of 311 villages of Dangs district

The Dangs district of Gujarat is completely hilly with very difficult terrain. The people are mostly tribal. Around 50% population from Dangs district migrates in sugar factories nearby districts from November to May every year. Average rainfall of district is around 80 to 120 inches per year. We had tried to contact these people before migration.

Leprosy Elimination Campaigns were planned during September 1999 and again in September 2000. Around 40 to 50 Para-Medical Workers were deputed to the Dangs district to conduct a well-planned Leprosy Elimination Campaigns. In September 1999 total 504 new leprosy cases were detected (147 SSL, 281 PB and 76 MB). During September 2000 total 131 new leprosy cases were detected (46 SSL, 76 PB and 9 MB). An unforgettable experience in completely hilly and difficult tribal area where planning, organizing and implementing of Leprosy Elimination Campaigns were successfully done will be discussed during the Congress.

POA 47

LEPROSY MANAGEMENT BY "CASUAL DOCTORS - A LOW COST STRATEGY"

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Decreasing funds have forced NGOs committed to leprosy work to rethink on the money and manpower management to achieve maximum results within available resources. Some NGOs have started diverting funds for other public health problems such as TB and AIDS as leprosy elimination efforts, while post-elimination issues related to World Without Leprosy needing long term money flow are on the agenda. Within its constraints, Bombay Leprosy Project has been experimenting with low cost techniques in areas such as case detection, POD and integration as an alternative to existing practices.

As it is unrealistic any more to employ doctors expecting leprosy to offer career prospects, we thought of a novel idea of minimizing the cost by engaging "Casual Doctors" to assist full time doctors in the management of various activities such as patient management.

The casual doctor works for four hours or even less receiving payment as and when engaged under the guidance of a nucleus of full time regular doctors. These doctors are not entitled for any service benefits enjoyed by the conventional full time or part time staff. These are generally postgraduate doctors with the background of dermatology or community medicine, or they may even be students.

We did a comparison of the total emoluments spent on casual doctors vs. full time doctors as a control by a rough retrospective analysis. Between 1997 and 2001 four regular full time doctors provided services to a total of 4332 doctor-days at the rate 228 days per year. An amount of Rupees 3.92 million (US \$ 63,490) was spent towards their salaries. During the same period, 47 casual doctors were engaged for a

total of 6124 doctor-days representing an average of 12 doctors in a year costing Rupees 1 million. This study shows that NGOs especially those working in urban and semi-urban areas could save substantial amounts by restricting regular doctors and taking advantage of "casual doctors", whenever available.

POA 48

METHOD AND EFFECT OF LEPROSY ELIMINATION CAMPAIGNS IN THE MOUNTAIN AREA 22 COUNTIES OF SICHUAN PROVINCE IN CHINA

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[Abstract] Leprosy Elimination Campaigns (LEC) are carried out in the Sichuan province 22 counties in the mountain, the knowledge of leprosy are popularized, good effect is got in discovering more patients and increasing the work ledge of leprosy grasped by the Civil Servants. The government attends the workshop to training the directors of the town and the sanitation nurse as well as epidemic doctors. News media and public health organization carry out health education on leprosy by all kinds of method. Special organizations collect by the clues reported by the barefoot doctors and the mass, assign experts to determinate the diagnosis. LEC covers 22 counties, 756 townships, more than 4800 villages. 118 short-training class are held. 7653 cadres of counties, township and villages and health workers attend the training, 617 clues are reported right now, and 83 are determined as leprosy patients by bacteria and histological examination. The knowledge of leprosy grasped by health workers and the mass is increased. It demonstrates that it is necessary for the government to attend the LEC in the mountain area, which can discover the hidden patients in the community, and teach a good lesson on leprosy to the whole society, push forward the work of elimination of leprosy.

POA 49

MODELO LÓGICO PARA A AVALIAÇÃO DOS RESULTADOS DA DESCENTRALIZAÇÃO DAS AÇÕES PROGRAMÁTICAS DE HANSENÍASE NO MUNICÍPIO DE NOVA IGUAÇU: UM ESTUDO DE CASO

Tadiana Maria Alves Moreira – Secretaria de Estado e Saúde do Rio de Janeiro.

O objetivo central deste trabalho é apresentar a construção de um modelo lógico de pesquisa avaliativa, da descentralização do diagnóstico de casos e de sus-

peitos, das incapacidades físicas bem como do tratamento da hanseníase na rede básica de saúde do município de Nova Iguaçu. Estudou-se as características importantes deste processo, os resultados obtidos assim como sua validação. Na oportunidade construiu-se uma metodologia para avaliar a influência da descentralização no acesso da população as ações programáticas de avaliação. Optou-se por empregar como estudo sentinela o município de Nova Iguaçu, que oferece atendimento a seus habitantes numa rede pública de saúde de baixa e média complexidade assistencial:

Unidades de saúde de média complexidade (centros de saúde, unidades mistas, unidades de pronto atendimento) com equipe multi-profissional. As ações programáticas de hanseníase são desenvolvidas por dermatologistas e equipe de enfermagem; Unidades de saúde de baixa complexidade (unidades básicas de saúde, postos de saúde e Programa de Saúde da Família) com profissional médico generalista e/ou auxiliar de enfermagem ou ainda, por apenas pessoal de nível médio e elementar de enfermagem e agentes comunitários de saúde do Programa de Agentes Comunitários de Saúde.

POA 50

MODIFIED LEPROSY ELIMINATION CAMPAIGN (MLEC-III) IN CHHATTISGARH (A NEW EXPERIENCE IN PLANNING AND IMPLEMENTATION)

A new state – Chhattisgarh is born in India on 1st of Nov. 2000 composed of what were, until recently, some peripheral districts of large state of Madhya Pradesh; with rough terrain, vast tracts of forest and largely tribal population; poverty compounded by low literacy levels and lack of access to health facilities in many of the tribal areas.

What Chhattisgarh has done from September to November 2001 in the third Modified Leprosy Elimination Campaign (MLEC-III) is breath taking and exciting in terms of coverage and concept. The result; most of the 2 crore population of the state was surveyed and over 12,000 cases of leprosy identified.

The objective of the campaign was to bring out within a very short time span, all hidden cases of leprosy in the target area through a process of house-to-house search. This search first identifies possible cases by physical examination, which are later verified and confirmed by qualified Medical / Paramedical staff. Treatment by MDT is initiated immediately for all positive cases ensuring cure within a maximum period of 1 year.

Funding support are from the center and international agencies including World Bank, DANLEP (Danida Assistance to the National Leprosy Eradica-

tion Programme) which has been working in the area was involved in the campaign.

Earlier two rounds of MLEC-I and MLEC-II took place in 1998-99 and 2000 respectively. The unique features of MLEC-III are: -

Political will was evinced through active participation of local leaders, ministers including Chief Minister of the state.

Administrative support for the campaign was provided not just by the health department but by the total government machinery, in particular by the Revenue Department. Meticulous planning at state level and willing participation in the districts ensured that officials from the Collector to the village Patwari were involved in organising and implementing the campaign. This has created a management system at district, block and field levels, which has provided additional administrative manpower, lent further authority to activity at each level.

Mass mobilisation and active community participation was a major component of MLEC-III. Village leaders, NGOs and students participated in information, education and communication (IEC) activities to raise awareness. Panchayat leaders, municipal counsellors and ward members participated in the campaign to spread messages in the areas.

Voluntarism played an important role in the awareness campaign and house-to-house search. Search-volunteers were trained for the process and this has created a bank of trained lay persons in every community in the state. With a very high political commitment and community support it was possible to visit more than 30 lakh houses surveying about 2 crore population.

IEC strategy used variety of communication media available from traditional folk to modern electronics. An added dimension was the training of folk dancers and singers of the districts at the state level to perform plays in traditional mode with leprosy elimination as a theme. More than 25 lakh wall paintings, more than 35 thousands rallies by school children, thousands of Gram Sabhas and more than 2 lakh announcements by village Kotwars were highlights of the outcome of IEC strategy

Outcome of MLEC-III. Out of 85069 persons suspected and referred by the volunteers 12353 cases were confirmed by the Medical / Supervising persons. 6910 were female patients. Prevalence rate of leprosy which was 7.1/10000 population has gone up to 12.8/10000 population as an outcome of the vigorous campaign with highly visible IEC activities.

No. of leprosy cases suspected	85069
No. confirmed	12353
SSL cases	575
PB cases	7882
MB cases	3886

POA 51

MUNICIPALIZAÇÃO DO PROGRAMA DE HANSENÍASE EM SOROCABA, SÃO PAULO

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Em Janeiro de 2000, a Secretaria Municipal de Saúde de Sorocaba, assumiu o Programa de Controle da Hanseníase. Foi realizada uma avaliação situacional e estabelecidas as prioridades para a estruturação do Programa. A partir dessa data foram realizadas três campanhas que resultaram no aumento dos coeficientes de prevalência, detecção e aumento dos diagnósticos na forma inicial da doença (casos indeterminados). Conclui-se que, a partir dessa experiência tem havido agilidade na execução de ações necessárias ao bom andamento do serviço. A proximidade e o acesso fácil aos vários departamentos que o controle municipal do Programa permite, asseguram resolutividade e eficiência nas ações.

POA 52

NETWORK SURVEY/SURVILLANCE/SENSITIZATION PROJECT (For-NLEP-APPLICATION)

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The basic aim of this paper is to show that to how we can maintain a qualitative, cost effective, least time consuming, least wastage of health staffs and sustainable survey cum screening cum sensitization programme by judiciously utilizing the just literate human resources of the country basically through (student-teacher)/Community Volunteers-health care provider-public health managers network.

Practically it can be applied in wide scale to reach very fast within the families of students and school staffs and getting feedback from them very fast by just using a simple set of questioners form through the network. This method is applicable in any organized set-up like Industry, Armed Forces, Universities, Colleges, and Plantation Sectors etc.

Therefore we can positively think now, to find out the 'hidden cases' through this network at different set up and different level, shifting our focus from the traditional and conventional method of survey/default tracing/follow-up/ activity in which we are spending huge amount of money, not utilizing these hidden human resources, engaging large no. of vertical staffs along with general health care staff. The cost will come down to at least 1/10th compared to the present context along with increasing quality and reliable work.

The potential for this project lies here that it can be adopted very easily with a well co-ordinated approach at different levels through the public health managers and Govt. functionaries with minimum use of the trained health staffs, huge expense on FOL, unjustified use of posters, leaflets, manpower etc. This system will definitely create an impressive impact when no. of cases are coming down and in the phase of integration and when a reliable, sustainable method of case surveillance is required esp. for the poor and developing countries.

The above-mentioned paper needs to be explained in a proper forum of experts as a consensus can be reached for its application for benefit of the present programme. I would also need sponsors to show its credibility and also to justify its applicability in other public health programme like TB/HIV etc. Sample study is quiet encouraging justifies the viability and future.

POA 53

NGO AND STATE: THE CO-OPERATION BETWEEN A LEPROSY RELIEF ASSOCIATION AND OTHER INSTITUTIONS IN SOUTH AMERICA

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In a structured questionnaire format, the *German Leprosy Relief Association* (GLRA) interviewed its representatives in two Federal states of Brazil and four other Latin American countries about the distribution, between itself, the state and other institutions of a) responsibility for funding and b) implementation of activities, in relation to leprosy control. Whenever the political commitment was given, GLRA's role could be reduced to the highly effective support of the government structure in well-defined areas, most particularly in staff training, health education and eventually in programme supervision. This public-private partnership under the umbrella of the host government sustains a small, but important specialized leprosy component whilst routine services are well integrated into the general health system.

POA 54

O ATENDIMENTO AO PACIENTE PORTADOR DE HANSENIASE; ENFOQUE INTERDISCIPLINAR.

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O serviço de dermatologia desenvolve o programa de controle da hanseníase promovendo assim atendimento aos portadores da doença desde 1976, e em 1989 iniciamos com a PQT (poliquimioterapia), com apoio da EEnFUFMG e Faculdade de Medicina.

No período entre 1978 até 1988 havia em registro um total de 230 pacientes no esquema de tratamento vigente na época (DNDS) e 130 obtiveram alta por cura. Em 1994 foi realizada, no serviço, pesquisa operacional quando todos pacientes em abandono foram convocados para reavaliação. Após convocação os pacientes em esquema antigo foram reavaliados a medida que retornavam ao serviço. No período de 1990 até 1999 estavam registrados 217 pacientes já com a poliquimioterapia.

Após vários debates com Secretaria Estadual de Saúde e outros serviços, com nossa historia contada e recontada, trabalhos apresentados em seminários, simpósios e congressos, e uma equipe multidisciplinar formada, somos hoje centro colaborador de referência municipal e estadual em hanseníase.

Seguindo o fluxo do atendimento obedecendo às normas do ministério da saúde, as consultas medicas são agendadas e após o diagnóstico o paciente inicia o tratamento, sendo atendido pelo enfermeiro para primeira dose da medicação, e receber as demais orientações. Os pacientes são encaminhados por toda a equipe, para entrevista com o serviço social, para o serviço de terapia ocupacional e fisioterapia do setor. Há também o atendimento de grupo realizado pelo serviço social e pela enfermagem, onde se proporciona aos pacientes, contatos e comunidade um espaço onde possam estar construindo novos conceitos da doença., favorecendo o entendimento e maior participação no processo de cura.

POA 55

O CLIENTE ACOMETIDO PELA HANSENIASE E A IRREGULARIDADE DO TRATAMENTO. A CONTRIBUIÇÃO DA ENFERMAGEM PARA A META DE ELIMINAÇÃO

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Este trabalho pretende buscar os determinantes da não adesão dos clientes ao tratamento de hanseníase, considerados faltosos ou em abandono no programa de uma Unidade Básica de Saúde, localizada no município do Rio de Janeiro. O tema para este estudo é oriundo de um projeto de Extensão da Faculdade de Enfermagem - UERJ, que articula o ensino e o

serviço, possibilitando a resolutividade dos problemas, pelas atividades de prevenção e controle da hanseníase. Considerando esta patologia ainda nos dias de hoje um sério problema de Saúde Pública, com a meta de eliminação prorrogada para o ano de 2005, demandará das ações de superação de grandes obstáculos, como a deficiência da Rede Pública de serviços de saúde no que diz respeito a profissionais capacitados para atendimento integral ao paciente de hanseníase (Ministério da Saúde – 2000). Nas ações propostas, é indispensável a regularidade do tratamento e estratégias devem ser utilizadas para facilitar a assiduidade da clientela. Neste estudo optamos pelo método qualitativo, no qual faremos busca ativa aos clientes faltosos ou em abandono do esquema medicamentoso / poliquimioterapia. Utilizaremos a entrevista para a coleta de dados que será realizada no período de abril a junho de 2002 a fim de identificarmos as causas que dificultam a alta destes clientes. A análise compreensiva dos significados poderá contribuir na qualidade da assistência e na melhor organização do serviço de saúde.

POA 56

O CLIENTE COM HANSENÍASE: ALÉM DO INDIVIDUAL UMA QUESTÃO FAMILIAR

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O estudo refere-se a monografia apresentada para finalização do curso de Graduação de Enfermagem, realizada por três acadêmicas, no período de agosto/2001 a fevereiro/2002. A motivação do tema surgiu das experiências vividas em uma Unidade Básica de Saúde, localizada no município do Rio de Janeiro, durante as consultas de enfermagem aos clientes em tratamento pela hanseníase. Neste cenário observou-se que os clientes geralmente estavam desacompanhados, relatavam dúvidas quanto a cura, dificuldade em aceitá-la e autopreconceito. O objetivo foi identificar a percepção do cliente sobre a participação da família durante o tratamento da hanseníase, até a cura. O objeto do estudo foram clientes em tratamento ou em alta terapêutica, escolhidos aleatoriamente durante o atendimento em uma Unidade de Saúde do Estado do Rio de Janeiro. As questões norteadoras do estudo foram: Como foi o seu relacionamento com outras pessoas após o diagnóstico? O que você pensa do apoio familiar durante o seu tratamento para a cura? A abordagem qualitativa dentro das concepções fenomenológicas foi a mais indicada, podendo proporcionar uma descrição da experiência tal como ele é segundo Gil (1998). Foi utilizada a técnica de entrevista aberta. Na análise os dados foram agrupados em quatro categorias: preconceito - uma barreira a ser vencida;

hanseníase, aceitando a doença; falta de informação uma questão a ser trabalhada e o apoio familiar, primordial no tratamento. Estas categorias identificadas nas falas dos sete clientes entrevistados, destacam várias vertentes que fazem repensar em estratégias para mudanças dos serviços e de seus profissionais, que envolvem as dificuldades dos clientes em lidar com o diagnóstico, suas relações sociais, preconceito, medo, necessidade da educação sobre o tema e essencialmente o envolvimento familiar neste processo, pois segundo eles, amenizam as dificuldades emocionais e físicas que enfrentam. A formação de grupos de clientes e seus contatos para discussões abertas e participativas apontam como uma das ações prioritárias. Ressaltamos a citação do Ministério da Saúde/2000 “A família é uma estratégia de mudança, significa repensar práticas, valores e conhecimentos de todas as pessoas...” Consideramos que com este olhar não apenas para o indivíduo acometido pela patologia em questão, poderemos contribuir de forma mais efetiva para o plano de eliminação da hanseníase

POA 57

O IMPACTO DA “ATENÇÃO PÓS-ALTA” AO EX-PACIENTE DE HANSENÍASE NA ROTINA DO CENTRO COLABORADOR NACIONAL

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Ambulatório Souza Araújo – Laboratório de Hanseníase / FIOCRUZ RJ

Introdução: Uma das mais importantes estratégias do plano de eliminação da hanseníase é o tratamento com PQT/OMS, que alcançou uma cobertura ideal (99% em 1997 comparado com 36% em 1987). O tempo médio de permanência do doente de hanseníase no registro ativo foi reduzida de 12,7 anos em 1985 para 2 anos em 1997.

Objetivo: Identificar os motivos que fazem com que o paciente retornem ao ambulatório após a alta terapêutica.

Material e Métodos: Foram selecionados os pacientes que após a saída do registro ativo retornaram ao serviço pelo menos uma vez no período de janeiro de 2000 a dezembro de 2001. A coleta de dados consistiu de uma avaliação retrospectiva dos prontuários, com a finalidade de identificar os motivos dos retornos do paciente desde a alta terapêutica até o ano em estudo.

Resultado: No primeiro ano pós-alta, 80% dos pacientes retornam ao serviço devido à manifestações do quadro reacional e 20 % devido a outras queixas clínicas e procura de atendimento pelo serviço social. Em média, 65% desses pacientes, continuam comparecendo mensalmente ao serviço para controle do

quadro reacional por um período de 3 anos, com uma média anual de aproximadamente 12 consultas por paciente.

Conclusão: Os quadros reacionais hansênicos representam uma significativa sobrecarga na rotina do serviço, uma vez que os pacientes mesmo tratados, continuam procurando o serviço com uma acentuada frequência por um longo período. Portanto, é imprescindível considerar e analisar tais retornos, com vistas a ampliar a visão e as estratégias de ação do programa de hanseníase.

POA 58

O PROGRAMA DE HANSENÍASE NO AMBULATÓRIO DE ESPECIALIDADES CECI: PASSADO, PRESENTE E FUTURO

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Prefeitura do Município de São Paulo - Ambulatório de Especialidades Ceci.

Introdução: O Ambulatório de Especialidades Ceci, anteriormente denominado C.S.I Jabaquara foi municipalizado em 1.993. Em junho de 1.996 houve mudança política e administrativa influenciando no caráter do atendimento, passando a funcionar como C.R. DST/AIDS com cobertura aos programas de hanseníase e tuberculose. Os profissionais com experiência em atendimento a hanseníase foram colocados à disposição, assumindo 04 técnicos (dermatologista, enfermeira, educadora, aux. enfermagem).

Problemas Enfrentados: 504 usuários no registro ativo em monoterapia com índice de abandono superior à 40%; usuários sem avaliação e/ou prevenção de incapacidades; 80% dos comunicantes sem acompanhamento; desconhecimento da problemática da hanseníase da equipe de saúde, outros serviços da região, usuários, comunicantes e população em geral; desorganização do serviço em relação ao atendimento global do usuário.

Solução: Sensibilização e compromisso da equipe mínima diante da situação encontrada; recuperação gradativa da confiança dos usuários de forma acolhedora e humanizada; "luta" para manter o programa na unidade, envolvendo várias instâncias administrativas; reorganização técnica e administrativa; inclusão na polioquimioterapia (PQT); altas por cura dentro dos critérios preconizados; realização de avaliações e prevenção de incapacidades; estabelecimento de vínculo e atendimento aos comunicantes; garantia da continuidade do tratamento nas transferências; intensificação das ações educativas com a utilização do teatro de bonecos entre outros; estabelecimento de parcerias com entidades oficiais e filantrópicas para obtenção de recursos.

Conclusão: A luta perseverante para manutenção da atenção a hanseníase e da equipe multidisciplinar na Unidade apresenta os seguintes resultados: nenhum caso de abandono na rotina desde 1.999; o registro ativo conta com média de 50 pacientes/ano com comparecimento e alta no tempo regular do tratamento; resgate da cidadania através da criação do núcleo do Morhan (movimento de reintegração das pessoas atingidas pela hanseníase), reinserindo-os como participantes ativos da sociedade, e o futuro continuar com o desafio, implementando cada vez mais às ações de controle para eliminação da hanseníase

POA 59

ON COMMUNITY BASED COMBINED LEPROSY AND TUBERCULOSIS CONTROL WORK IN NAVI MUMBAI

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This paper is an attempt to reflect on and derive lessons on work which combine two disease control programmes – Leprosy & TB.

The paper begins with a narration of ALERT-INDIA's community based leprosy and TB control work in the past 12 years.

It also brings out the crucial differences between two diseases in terms of socio-economic and psychological characteristics. Keeping in view these difference the paper proceeds to discuss the strategies and epidemiological features of the control programmes.

Finally, it high lights the major differences that emerge in the implementation of such programmes. Thus yielding valuable and critical aspects that need to be embodied in meaningful training programmes for both organisation and workers desirous of taking up such combined disease control programmes.

POA 60

OUTCOME OF REPEATED LEC IN A HIGH PREVALENCE DISTRICT OF WEST NEPAL

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The AIDS & Leprosy Programme of the International Nepal Fellowship works in partnership with the Government of Nepal (HMG/N) to support leprosy control activities in the Western Region of Nepal. In all 16 districts of the region, significant

progress has been made towards the goal of leprosy elimination. There remain three high prevalence districts of which one has been the focus of repeated LEC.

In Rupandehi district, the reported prevalence in 1991 was 10/10,000 and this district continues to have the highest prevalence in the region 10 years later. In absence of a campaign, case finding is passive, and amounts to ~300 people /year.

In campaign years there has been active case finding (house to house surveys over 6 days), awareness raising and training of health workers and survey volunteers. Each year ~400 people were diagnosed in the campaign period alone. Despite the change to active case finding, the MB proportion, child proportion and male/female ratio for the campaign data have all been similar to those found in the passive case finding of the remainder of the year.

We conclude that the campaigns are not finding the hidden or index cases that would be necessary for the success of the elimination programme. However, a significant decrease in grade 2-disability is observed and the impact regarding increased community awareness, reduced social stigma and training for health staff and volunteers should not be minimised. A modification of campaigns is recommended, especially in the area of awareness raising strategy and training methods including revision of search card used by search team volunteers

POA 61

PARTNERSHIP FOR PROMOTING INTEGRATION – A WORK PLAN OF GOVERNMENT-NGO COLLABORATION IN INDIA

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Integration of leprosy services in general health has been defined as a process of bringing together common functions within and between organisations to solve problems. To bring partnership in integration a Nodal NGO can be identified at the district level to provide support services to the on going activities of the Government. This NGO based support services involves the following:

Help the General Health Department in the District to plan the leprosy work with an integrated approach

Provide on the job training in leprosy to the General Health staff

Help them to organise IEC activities to facilitate voluntary reporting

Introduce the concept of Prevention of Disability at the PHC level

Provide technical know how to handle complicated cases

Facilitate referrals for Reconstructive surgery and Socio economic rehabilitation.

A zonal team covering several Districts (5 to 10) can facilitate and extend the needed guidance see to that the support services are functional at the field level.

POA 62

PATIENT- AND HEALTH SERVICES DELAY IN THE DIAGNOSIS OF LEPROSY IN KADUNA STATE, NIGERIA

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The objective of the study was to determine patient- and health system delay before reaching modern leprosy services, and to obtain an insight in the kind of health providers that were consulted by leprosy patients in that process. The study was carried out in 1998, Kaduna State, Northern Nigeria. A modified questionnaire on health seeking behaviour was used (ILEP 1996).

About half of all interviewees (48%) went to traditional healers to present the first signs of leprosy. Only 11 % of the patients went to the public health sector, and 17% went straight to (public) leprosy services. Private practitioners were consulted in 13% of the cases. They visited 2–3 health providers before leprosy was diagnosed. Family and friends were, however, the most important group to first suspect leprosy (46% of the cases). Median patient delay was found to be 4.5 months, and the median health system delay 10 months.

The study indicates the challenge that traditional health providers poses to conventional case finding strategies. At the same time patients' social networks, important for health seeking decisions, can be reached through mass health education.

POA 63

PLANO DE ELIMINAÇÃO DA HANSENÍASE DA REGIONAL DE SAÚDE DE BELO HORIZONTE NO ANO DE 2001

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A elaboração do plano de eliminação da Hanseníase do Regional de Saúde de Belo Horizonte no ano de 2001 visa eleger municípios cuja situação epidemiológica requer implantação e/ou implementação das atividades de ações de controle em Hanseníase, conforme recomendação da Norma Operacional de Assistência à Saúde – NOAS – de 2001. Os critérios adotados para a seleção dos municípios prioritários foram a taxa de prevalência hiperendêmica ($>$ ou = a 4,0/10.000 hab), e/ou muito alta (entre 2 e 3,99/10.000 hab); prevalência maior ou igual a 10; número de casos novos maior ou igual a 5, e a baixa cobertura de serviços com alguma atividade de controle de Hanseníase. Dos 37 municípios da DRS, foram selecionados 15 prioritários, responsáveis por 95,5% dos pacientes em registro ativo em 2000, 96,5% dos casos novos do mesmo ano, além de terem 74,3% dos serviços de saúde do regional que tem alguma atividade de controle em Hanseníase e abrangerem 89,1% da população do regional. A implantação e implementação das atividades de controle englobam várias atividades como sensibilização de gestores, visitas e supervisões aos municípios prioritários, treinamentos nas várias ações de controle da hanseníase, bem como atividades de suporte para educação continuada dos profissionais da rede básica com ações de controle em Hanseníase.

POA 64

PLANO DE ELIMINAÇÃO DA HANSENÍASE EM BELFORD ROXO E QUEIMADOS/RJ: UMA EXPERIÊNCIA DE INTEGRAÇÃO DE ENSINO-SERVIÇO

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A Faculdade de Medicina (FM)/UFRJ, à partir de maio de 1996 participa da elaboração, execução e avaliações anuais dos Planos de Eliminação da Hanseníase em Queimados e Belford Roxo/RJ, área hiperendêmica. Trata-se de um projeto interinstitucional (Estado, municípios e UFRJ) com funções definidas para cada instituição, tendo como objetivo geral reduzir a prevalência a menos de 1 caso/10000 hab.

O plano de ação consistiu da integração das instituições envolvidas e das seguintes atividades: diagnóstico situacional à nível municipal; treinamento de 80% das redes de saúde; treinamento em serviço nas 07 US previamente selecionadas para a descentralização das ações de controle; inserção do alunado realizando ações educativas e VDs, para resgates de abandonos/faltos e divulgação de sinais e sintomas à população e a realização "feiras de saúde".

Em Queimados a prevalência variou de 8,11/10.000 hab/95 para 12/10.000 hab/01 e a detecção de 4,43/10.000 hab/95 para 6,04/10.000 hab/01. Em Belford Roxo, a prevalência foi de 3,87/10.000 hab./95 para 7,93/10.000 hab/01 e a detecção aumentou de 2,07/10.000 hab/95 para 4,3/10.000 hab/01. As taxas de abandono reduziram de 52,4% em BR/95 para 32,18/00. Em ambos os municípios 80% dos funcionários da saúde foram treinados em suspeição diagnóstica e foi efetivado o processo de descentralização. Discute-se à partir destes dados uma estratégia para atingir a meta da eliminação.

POA 65

POST ASSESSMENT STUDY TO ASSESS THE IMPACT OF MLEM DONE IN TAMILNADU AMONG VARIOUS HEALTH FACILITIES RANDOMLY SELECTED

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Introduction: It was Aimed to Assess the Geographical Coverage, Availability and Quality of the MDT Blisters Packs. To Assess the Quality of the patient care services and to make an Analysis of the trends of Leprosy Problem updating of Leprosy Registers and to Assess the Internal validity of the information on prevalence and detection.

Context:

1. MDT Supply Indicators

Proportion of Cases treated with MDT / Proportion of Existing Health Facilities providing MDT Treatment / Proportion of HFS has of MDT drugs available / Proportion of Health Facilities have stocks of MDT Drugs for $>$ 3 months / Proportion of MDT packs utilised / Proportion of BCPS of Poor Quality / Proportion of estimated needs for MDT Supply.

2. Patient Care Indicator

Diagnosis of Leprosy

Proportion of cases Diagnosed and classified wrongly / Proportion of child cases among the new cases detected / Proportion of MB cases among the new cases detected / Proportion of SSL Cases / Proportion of Female Cases / Proportion of new cases with disabilities / Proportion of Re-cycled cases

Accessibility to MDT

Proportion of cases with delay in diagnosis / Proportion of cases have to travel longer distance / Proportion of cases incurred cost to collect the MDT Drugs.

Proportion of patients avail the flexible delivery of MDT Services.

Case Holding

Proportion of cases cured in due time for treatment / Proportion of cases defaulted out / Proportion of cases continuing treatment beyond the prescribed dates.

3. Elimination of Indicators:

Prevalence

Reported prevalence rate / Prevalence after applying the standard definitions / Prevalence trends over the last 5 years.

Detection

New case detection trends over the last 5 years / MB cases detection trends / Child cases detection trends / SSL cases detection trends / Female cases detection trends / Disability cases detection trends / Voluntary cases detection trends.

Conclusion

The main purpose of this working paper is to develop a limited number of indicators that can describe the performance of MDT services it refers to comprehensive health activities including diagnosis, classification, prescription of treatment, delivery of MDT, case holding and cure of leprosy patients and it is expected that such indicators will assist in assessing progress towards the elimination of leprosy at the most peripheral level. This will also assist in planning and implementing appropriate action and to measure its impact.

POA 66

POST LEPROSY ELIMINATION ISSUES - FUTURE FUNDING

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A call for the final push for the elimination of leprosy with MDT with a revised target year 2005 is bringing a positive hope to conquer this age-old disease. Even though the global active leprosy case load has significantly declined from 5 351 408 (1985) to 597 035 (2001), the new case detection has not shown any significant change. The global case detection was 560 646 in 1994 and 719 219 in 2000. (WHO, 2002)

Several ILEP agencies supporting leprosy programmes are in the process of reducing funds based on the active leprosy case load for treatment.

This paper highlights some of the following important post elimination issues that need to be worked on to achieve a "World Without Leprosy," a new

concept propagated during the Beijing International Leprosy Congress, 1998.

1. Tackling low level of transmission and identification of early skin smear positive leprosy patients including MB relapses, especially in fast growing urban locations.

2. Providing rehabilitation, especially physical rehabilitation to about 2-3 million disabled leprosy patients in the world (1.5 million in India)

3. Early identification and management of reactions and neuritis to prevent nerve damage in 30%-40% of cases

4. Further research on leprosy eradication model, drug resistance, newer drugs to prevent nerve damage, newer chemotherapeutic combinations, operational studies in integration, low cost techniques, immuno-therapeutic agents, immunoprophylaxis and chemoprophylaxis with ROM in selected areas

Achieving a "World Without Leprosy" encompassing several of these issues and other broader issues merit sustained funding and efforts.

POA 67

PREVALÊNCIA OCULTA DE HANSENÍASE NA DRS DE BELO HORIZONTE - ESTIMATIVA NO PERÍODO DE 1995 A 1999

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O Estado de Minas Gerais é dividido em 25 regiões administrativas de saúde, com áreas de abrangência distintas, denominadas diretorias regionais de saúde [DRS]. Uma dessas diretorias é a de Belo Horizonte, que engloba 36 municípios, com uma população de 4.215.952 habitantes. Dentre esses 36 municípios foram escolhidos quatro [Belo Horizonte, Betim, Contagem e Santa Luzia] que perfazem um total de 3.121.543 habitantes, correspondendo a 74,04% da população do regional, para a observação da evolução dos indicadores de prevalência e detecção de Hanseníase no período de 1995 a 1999. Paralelamente, foi feita a estimativa da prevalência oculta, neste mesmo período, segundo as recomendações da Organização Pan-Americana [OPAS].

Observa-se o decréscimo dos indicadores de prevalência e detecção, que em 1995 eram, na DRS de Belo Horizonte, de 1800 pacientes em registro ativo [R.A], com uma taxa de prevalência de 4,7/10.000 habitantes para 784 pacientes em R.A, com taxa de 1,9/10.000 habitantes em 1999. A detecção foi de 360 casos novos, com uma taxa de

0,94/10.000 habitantes em 1995, e de 313 casos novos e taxa de 0,74/10.000 habitantes em 1999. Entretanto, ao se estimar a Prevalência Oculta, percebe-se uma "perda" de cerca de 122 casos novos de Hanseníase a cada ano, na DRS de Belo Horizonte.

O objetivo da apresentação é para que se aumente a vigilância em relação ao controle da Hanseníase, bem como mostrar a necessidade da adoção de novos indicadores epidemiológicos, à medida que nos aproximamos da meta de eliminação da Hanseníase como problema de saúde pública.

POA 68

PREVALÊNCIA OCULTA DE HANSENÍASE NAS ÁREAS DE ABRANGÊNCIA DAS DIRETORIAS REGIONAIS DE SAÚDE DE MINAS GERAIS - BRASIL

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Minas Gerais, nos últimos 14 anos reduziu 85% da prevalência de Hanseníase, passando de uma taxa de 27,2 (1986) para 3,2 /10.000 hab. (2000). Sendo a eliminação da Hanseníase a meta a ser atingida nos próximos anos, preocupa-nos a existência de casos não detectados pelos Serviços de Saúde permanecendo na população e perpetuando focos da doença – prevalência oculta.

Utilizando o método proposto pela Organização Pan-Americana de Saúde - OPAS/OMS, baseado no "grau de incapacidades no diagnóstico", apresentamos neste trabalho o número de casos de Hanseníase que cada Diretoria Regional de Saúde-DRS deixou de detectar a cada ano (de 1995 a 1999) e o percentual que isto significou em relação aos diagnósticos realizados.

O percentual de casos não detectados em relação aos detectados no Estado foi de 34% e, entre os Regionais variou de 19 a 70%. Dois Regionais que já haviam atingido a meta de eliminação (<1/10.000) passaram a apresentar taxas até duas vezes maiores após inclusão dos casos ocultos. No Estado 5.217 casos deixaram de ser detectados entre 1995 e 1999.

Considerando que mais de 1.000 casos de Hanseníase deixam de ser detectados a cada ano em Minas Gerais, este trabalho teve como objetivo identificar as áreas de maior perda de casos, para que se possa programar ações intensivas de divulgação e treinamento, no sentido de favorecer o diagnóstico precoce, tratamento e cura, visando a eliminação Hanseníase e dos problemas por ela acarretados.

POA 69

PROGRAMA NACIONAL DE CONTROL DE LEPRO. REDEFINICION DE ESTRATEGIAS PARA ENCARAR EL PROCESO DE CONSOLIDACION

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La Lepra en Argentina constituye un problema de salud pública regional.

La zona endémica se limita a 12 provincias del país que geográficamente corresponden al noreste argentino (NEA), noroeste argentino (NOA), centro y litoral.

La tasa de prevalencia nacional ha descendido en forma sostenida en los últimos 10 años, de 2/10000 hab. en 1992 a 0,44/100000hab. A fin de 2001.

Señalamos como factores determinantes de este resultado: la implementación de PQT, la ampliación de la cobertura en función del proceso de descentralización de actividades de control de lepra, la capacitación gerencial de los referentes provinciales, la revisión y actualización de registros históricos.

La detección de nuevos casos si bien ha acompañado la curva descendente, ha sido mucho más gradual, pasando de 543 caso en 1992 a 417 detectados e fin de 2001, manteniéndose un promedio de 400-450 nuevos casos por año.

La necesaria redefinición de estrategias para encarar el momento actual incluyen:

realizar nuevamente la estratificación epidemiológica regional, para identificar las áreas críticas en los departamentos provinciales que aún mantienen tasas de prevalencia superiores a 1/100000hab.

Formular indicadores de monitoreo acordes a la situación actual: detección de casos, prevalencia conocida y oculta, casos nuevos con discapacidad, pacientes curados, recidivas.

Fortalecer el sistema de vigilancia epidemiológica en las provincias con tasas inferiores a 1/10000 hab. Con la introducción de unidades centinela.

Iniciar la formulación de un Plan de Consolidación

POA 70

PROJETO PRIORITARIO TOLERÂNCIA ZERO: MATO GROSSO SEM HANSENÍASE: UMA ESTRATÉGIA DE INTERVENÇÃO NA ENDEMIA HANSÊNICA EM MATO GROSSO

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Nos últimos 11 anos foram diagnosticados mais de 30.000 casos de hanseníase em Mato Grosso e, há pelo 10 anos o Estado vem apresentando os maiores coeficientes de detecção e prevalência a nível nacional. Ainda assim o número de casos não representa plenamente a realidade. Cálculos de prevalência oculta apontam que 2.500 casos deixaram de ser diagnosticados, no período de 1995 a 1998. Em 2001, o governo do Estado de Mato Grosso, através da Secretaria Estadual de Saúde, lançou o **Projeto Prioritário Tolerância Zero: Mato Grosso Sem Hanseníase** com o objetivo de acelerar a meta de eliminação da hanseníase como problema de saúde pública em Mato Grosso. Os municípios foram divididos em 4 extratos segundo população e gravidade epidemiológica sendo selecionados 33 municípios prioritários para o Projeto, que detêm 70% da população e 72% da prevalência do Estado. Foram estabelecidas três metas para detecção de casos, aumento do percentual de cura e para redução da prevalência. Foi concedido incentivo financeiro tipo "bônus" para os agentes comunitários de saúde envolvidos na busca de casos, as equipes de saúde responsáveis pela cura do paciente e aos municípios que atingirem as três metas propostas. O presente trabalho tem o objetivo de apresentar os resultados obtidos no primeiro ano do Projeto e analisar o impacto dos resultados na evolução da endemia.

POA 71

REACHING THE UNREACHED TO ELIMINATE LEPROSY

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State of Madhya Pradesh in India has 23% tribal population living in forest and difficult to reach terrain. Un reached population for MDT was identified and SAPEL projects were planned and executed in the state of Madhya Pradesh, India.

Sixty-four (64) need based SAPEL projects were designed and implemented. Protocol was developed during year '98 -2000. These projects were participatory in nature. Community volunteers, health workers and DANLEP, all three partnered the execution of SAPEL projects.

3528 community volunteers were developed, 1187 new cases were detected and put on MDT and MDT coverage was extended to 18,16,397 unreached population.

Community volunteers continued leprosy elimination activities beyond the period of SAPEL projects and thus effect of empowering community was found sustained.

POA 72

RESULT OF THIRD MLECS IN BHARUCH DISTRICT

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The Bharuch District is a high endemic district of Gujarat state. For better coverage of population of district and good result of MLECS, and to empower general health care services Doctor, Health supervisor, Multipurpose Health worker Male and Female were oriented and trained about sign – symptoms of leprosy, MDT, facilities and fact about leprosy. The training organized by the District Leprosy office, for awareness of total population of district among rural areas announcement by Kotwal and Urban areas by megaphone with vehicles, slogan writings on walls and public places like railways and bus station, Mandir (Temple), Masjid (Mosque), Church etc. rallies and group meeting were method for educating community and spreading awareness during the month of February 2002.

Bharuch District has 8 Taluka populations 1385457, whichever 1127486 rural populations and 2579971 urban populations. 47 VRC center created in Bharuch District for 27th and 28th February 2002. Which ever 34 Primary Health Center, 7 Referral Hospital, 1 General Civil Hospital, 4 Municipal Dispensary in urban area, 1 NGO Dispensary in rural area. Each and every VRC center attached with 1 medical officer, 2 General Health Worker (male and female), 1 NLEP worker.

During this 2 days VRC center (27th and 28th Feb. 2002), the Medical officer examined self-suspected persons reported at VRC center no. of 557 person, NLEP worker registered the new 51 Leprosy cases detected and provided MDT, which of them nobody case of visible deformity detected.

POA 73

RESULTS AND LONG -TERM IMPACT OF LEC – HODEIDAH (YEMEN)

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Leprosy elimination Campaign (LEC) was implemented from 15th Nov'97 to 3rd May'98, in 22 districts of Hodeidah province in Yemen, which is an endemic governorate in Yemen which is known as a low endemic country. The Campaign was concentrated on the Health Education, Intensive Commu-

nity Mobilization and training the local health personnel to detect hidden Leprosy cases. During the period of 11 weeks, 276 cases of leprosy were detected and placed on MDT. 192 (70 %) of new cases detected and they confirmed as Leprosy cases classified as MB and the remaining 84 were PB, 69 cases (25%) suffered by visible deformities and 22 patients (8%) were children.

Follow up made in December'99 the patients, who were placed on MDT revealed (93% and 92%) cure rates for both MB and PB cases respectively.

POA 74

SISTEMA DE RECURSOS HUMANOS E O PROGRAMA DE CONTROLE DA HANSENÍASE NO ESTADO DE SÃO PAULO

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O trabalho descreve a implantação e implementação de um sistema de informação que permite analisar o quadro de profissionais sensibilizados, treinados ou capacitados em hanseníase pelo Programa de Controle da Hanseníase da SES de São Paulo. O sistema tem como objetivos registrar a produção de eventos realizados pelo nível central e regional nas diferentes áreas de atuação que integram o PCH; cadastrar os participantes dos eventos realizados por categoria profissional, local de trabalho e participações anteriores; otimizar as oportunidades de treinamento; analisar a rotatividade dos profissionais que atuam no PCH e necessidades nas diferentes regiões do Estado. O sistema foi implantado em 1994 em base operacional DOS e implementado em 1999 no ambiente Windows. Alimentado de maneira intermitente ao longo do ano registra eventos e cadastra profissionais; recebe ainda carga a cada dois anos que permite análise da cobertura dos serviços locais quanto ao número e categoria de profissionais treinados. De 1988 a 2001 foram cadastrados 14.538 profissionais. Contabilizadas 27.564 participações. A área que mais realizou eventos foi a Organização de Serviços (38%) seguido pela área de Diagnóstico e Tratamento (16%) e Prevenção de Incapacidades (15%). Foram 56,98% os profissionais treinados de nível universitários sendo 2621 médicos (31,64%) seguido por enfermeiros 29,42 % (2.437). Com nível médio (28,50%) os auxiliares de enfermagem constituíram 36,95% (1.532) dos profissionais cadastrados, seguidos pelos atendentes 17,26% (715). Pudemos observar que ao contrário do esperado, os médicos estão muito mais presentes nos treinamentos, assim

como o PCH atua junto ao PSF há dois anos por entender a importância de tal estratégia para o controle e eliminação da hanseníase.

POA 75

SITUAÇÃO ATUAL DA HANSENÍASE E PERSPECTIVAS DO PROGRAMA DE CONTROLE DA HANSENÍASE NO ESTADO DE SÃO PAULO – BRASIL

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A redução da prevalência em São Paulo foi observada a partir das décadas de 60 e 70 do século passado e muitos fatores podem ter contribuído para isso. A implantação da poliquimioterapia para todos os doentes, a partir de 1991, acentuou intensamente esta queda com a prevalência caindo de 11,6/10.000 habitantes para 1,6/10.000 habitantes no final do ano 2.000. A detecção de casos do Brasil vem aumentando nos últimos anos com os investimentos na reorganização dos serviços e as campanhas de divulgação nacional e, no Estado de São Paulo, apesar da realização dos mesmos esforços, a detecção vem se mantendo estável ou com discreta tendência de queda. Este trabalho mostra a variação dos coeficientes de prevalência e detecção na série histórica de 1924 a 2000 e a média móvel dos coeficientes de detecção dos últimos 30 anos. Apresenta ainda as repercussões desta mudança de situação nos municípios do Estado, evidenciando um número crescente de municípios com prevalência de eliminação, alcançando 230 municípios no ano 2.000, ao mesmo tempo em que 42 municípios continuam hiperendêmicos. A partir desta situação são apresentadas as perspectivas para as ações de controle, propondo-se a redefinição dos indicadores de nível endêmico para municípios com menos de 20.000 habitantes e a necessidade de identificação de ferramentas operacionais para os trabalhos com municípios com prevalência de eliminação e intensificação das ações de controle, nos moldes tradicionais, para áreas que mantêm nível endêmico elevado

POA 76

SITUAÇÃO DE CONTROLE DA HANSENÍASE EM ÁREA URBANA DE DESCENTRALIZAÇÃO DAS ATIVIDADES DE CONTROLE

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São avaliados resultados de intervenção na Área de Planejamento 5.3 do município do Rio de Janeiro, a partir do final de 1995, realizadas com o objetivo de melhorar o acesso da população ao diagnóstico e tratamento da hanseníase. Com população estimada de 313 390 habitantes em 2001, o nível sócio-econômico da população situa-se entre os mais baixos do município. Até 1995, apenas uma das 14 UBS realizava o Programa. Registra-se como principais investimentos, o aumento da oferta de consultas, a descentralização das atividades de diagnóstico e tratamento, alcançando 9 UBS em 2001, capacitação continuada de profissionais, inquérito sobre mancha na pele aos que demandam as UBS, e divulgação periódica de informação sobre hanseníase para a população. O déficit e a rotatividade de pessoal representam sérios obstáculos à expansão das atividades de controle.

Comparando-se os períodos de 1990 a 1995, anterior à intervenção, com o período de 1996 a 2001, observou-se um aumento do total de novos casos detectados, com variação proporcional relativa de 89,5 %; a razão H/M variou de 1,12 a 0,82; a proporção de casos MB, de 53 a 46%, sem redução significativa entre os homens; a média dos coeficientes de detecção e em menores de 15 anos variou de 2,63 a 4,73 /10 000 habitantes, e de 0,84 a 1,94/10 000 habitantes, respectivamente; a proporção de novos casos sem incapacidades físicas permaneceu praticamente inalterada, variando de 88,7 a 88,3%, enquanto a proporção de deformidades físicas caiu de 5,2 para 3,5%. Entre os homens, esta proporção caiu de 8,3 para 5,6% e entre as mulheres, de 1,9 para 1,8%. Os coeficientes de prevalência mostraram queda progressiva, alcançando 3,66/ 10 000 habitantes em 2000; neste ano o abandono na prevalência do período foi de 6,4%.

Conclui-se que é necessário intensificar investimentos na área, ressaltando-se a importância de se aplicar estratégias visando ao aumento da oportunidade diagnóstica para os homens.

POA 77

STANDARDIZATION OF SKIN SMEAR REPORTS OF FIELD LABORATORIES

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An essential investigation in leprosy is the examination of skin smears which can be performed by a trained smear technician even in a very simple labo-

ratory established in a village. Unfortunately this investigation is not being done on the plea that the reports are not dependable. However, by a minimum supervision and cross checking a good standard can be maintained. This has been done in 16 field laboratories of LEPRA – India situated in the peripheral field areas. 10% of the slides examined by field technicians are randomly picked and are sent to the Central Laboratory for cross – checking by a senior technician. It has been found that there was variation only in 3.5 to 4.0% of reports. The paper presents data to confirm above facts taking into consideration all constraints of field work. There is thus no justification for dropping this single important investigation.

POA 78

THE DECENTRALIZATION OF THE HEALTH SYSTEM IN COLOMBIA AND BRAZIL AND ITS IMPACT ON LEPROSY CONTROL

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Decentralization policies are an integrated component of health sector reform in an increasing number of countries. The ability of such policies to improve the health system's quality and efficiency is backed up by limited scientific evidence. This study intends to evaluate the impact of decentralization on a specialized field of disease control (leprosy control) in Colombia and Brazil. It analyzes the respective juridical base, epidemiological indicators and local publications. Furthermore, 39 semi-structured interviews with key informants were conducted. In both countries, the devolution of technical responsibility and financial resources to the municipalities was the implemented form of decentralization. Access to preventive and curative health care and the community participation in decision-making improved clearly only in Brazil. The decentralization to private providers in Colombia had dubious effects on service quality in general and still more on Public Health. The flow of finances (including finance collection through state-owned taxes instead of insurance companies) seemed to be better controlled in Brazil. Leprosy control in Brazil took advantage of the decentralization process; in Colombia, it came close to a collapse.

POA 79

THE NATIONAL LEPROSY ERADICATION PROGRAM: IN NEED OF A PARADYGM CHANGE

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Today, the issue of integration of National Leprosy Eradication Program (NLEP) with the general health system is a subject of debate. Whereas some leprologists favor the vertical structure, a growing consensus is emerging for an integrationist model. The author looks back to the evolution of the health-care system in India and the factors that influenced the development of the NLEP.

As of today, the county has an extensive health infrastructure that can incorporate the NLEP into its network. The State of Bihar contributes 30% of the leprosy caseload of the country. The implementation of Multidrug Therapy (MDT) took place only in 1995-96. At that time, the State did not have the vertical structure proposed by the NLEP. Consequently case detection and treatment compliance were not satisfactory. The state realized that with the existing NLEP infrastructure it was impossible to tackle the problem. Bihar had to look for an alternative model involving the general health system: hence adopted the Modified Leprosy Eradication Control (MLEC). Successful implementation of the MLEC has helped the process of integration of NLEP with the general health system.

Detailed statistics will be presented, here, to stress the point, only the detection rate is highlighted; in 1997 –when the NLEP was implemented as per guidelines, the total case detection was 99,599; in 1999 –when the MLEC was in full swing- the total case detection was 282,081, out of which 206,495 (73.2%) by the MLEC and 75,586 (26.8%) were self-reporting.

The author will discuss the need for an integrationist model of health care system that is cost effective, sustainable and efficient, as is being developed successfully in the state of Bihar.

POA 80

TRANSFORMING A LEPROSY HOSPITAL INTO A REHABILITATION CENTRE: THE GREEN PASTURES EXPERIENCE

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The era of leprosy elimination with decreasing prevalence and disability rates has implications for national referral centres and leprosy hospitals. The concept of 'reverse integration' aims for application of the specialised services of these institutions to diseases other than leprosy, by methods that ensure that the integration is sustainable, attractive, and cost-effective.

Green Pastures Hospital in West Nepal has been functioning as a leprosy hospital for four decades. After the integration of leprosy control activities into

the national health services, the hospital became one of the national referral centres. With the vision towards the post-elimination era, in the mid nineties the hospital started to treat diseases and disabilities other than those caused by leprosy.

Today, 25% of the annual admissions and 30% of the surgical procedures are unrelated to leprosy and 25% of the bed capacity is used for non-leprosy cases. In 1997, a spinal cord injury unit was established, and since 1999, cases with AIDS related illness can be admitted to a specialised unit. Bed capacity and staff numbers have been reduced by about 20% to increase the possibility of financial sustainability within the local context. As a rehabilitation centre, Green Pastures Hospital continues to be dedicated to the treatment of people affected by leprosy, now and after elimination.

This presentation describes the process of 'reverse integration' in Green Pastures Hospital over the last five years. Statistical data from the hospital's annual reports (1997-2001) will be used to demonstrate the various effects of the reverse integration process on the institution. The advantages, disadvantages, and the challenges in becoming a regional rehabilitation centre will be discussed.

POA 81

UM BREVE ESTUDO SOBRE O ABANDONO DE TRATAMENTO DA HANSENÍASE NO ESTADO DO PARANÁ – 1992 – 2001

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Introdução: O abandono do tratamento da hanseníase sempre foi um grande problema, devido ao fluxo migratório, deficiência no atendimento em nossas Unidades de Saúde, condição social ao estigma pela hanseníase que ainda hoje é bastante presente.

Sendo assim, estabelecemos o período de 1992 a 2001, no qual se deu a implantação do tratamento poliquimioterápico e o compromisso de se Eliminar a Hanseníase como problema de Saúde Pública em nosso País.

Objetivo: Analisar o abandono de tratamento no Estado do Paraná no período de 1992 – 2001.

Resultados: Pudemos observar que nos primeiros anos do tratamento PQT/OMS o abandono se mostrou estável. Mas podemos considerar que após a interface com o PACS/PSF, a melhor capacitação dos profissionais, visando melhorar a qualidade de atendimento ao paciente os índices de abandono que eram de 32% em 1992 reduziram para 17% em 2000.

Conclusão: Concluímos que nas regiões onde as equipes do PACS/PSF estão mais bem desenvolvidos

a taxa de abandono de tratamento da hanseníase caiu sensivelmente. Campanhas, materiais educativos dirigidos a Comunidade e os pacientes assim como os vales alimentação, educação, gás melhorou a condição sócio-econômica, também contribuindo para a diminuição do abandono.

O monitoramento dos acompanhamentos através de análise dos Relatórios do SINAN.

POA 82

URBAN LEPROSY CONTROL THROUGH GENERAL HEALTH CARE DISPENSARIES—EXPERIENCE IN NEW DELHI, INDIA

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Delhi state, the Capital of India, a cosmopolitan city, is divided into 9 revenue districts. Health care services are provided through hospitals and dispensaries of various government and non government health agencies and through private practitioners and hospitals. With inadequate infrastructure for Leprosy control activities coupled with immigration, emigration of leprosy cases, absence of field staff for case detection and follow up, duplication of registration due to various agencies involved and other problems, the Leprosy Eradication Programme in Delhi needed support for improved and uniform leprosy services in the state. With a view to strengthen the already existing health infrastructure and to establish a sustainable and uniform system for providing leprosy care services in Delhi, NLR-India, through its technical support teams, has assisted in increasing the no. of service delivery points from the previous 5 to 23 by involving more govt. health dispensaries in the North and Central districts of Delhi. These teams are providing in service training to MOs and other staff of the dispensary, ensuring that leprosy control services are in place, improving case detection and IEC activities in the catchment area of these dispensaries involving volunteers. After establishing these service points, including case detection and IEC activities, the no. of patients registered in these dispensaries and hospitals rose from previous 23 to 133 within one year. This paper presents the strategy undertaken, the inputs given and highlights the possibility of managing urban leprosy through govt. health dispensaries and hospitals of urban areas.

POA 83

URBAN LEPROSY ELIMINATION - NEED TO ACCELERATE

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The leprosy elimination target has been revised to the year 2005 by the Global Alliance for Elimination of Leprosy (GAEL). In spite of this final push and recommendations, certain special operational features to achieve leprosy elimination in complex industrial towns/cities are not considered seriously. The environment of the rapidly growing slums with poor hygiene is conducive to transmission of the disease. This paper reviews available data and information on leprosy situation in selected cities such as Bombay, Delhi, Patna and Dhaka and highlights special operational aspects needing special efforts to eliminate the disease.

1. Slum population: Bombay-5.7 million, Delhi-6 million, Patna-0.2 million, Dhaka-4 million.
2. Wherever MDT has been intensified, prevalence rate has declined considerably.
3. New Case detection rate has not shown any significant reduction.
4. Data on skin smear positive cases from Bombay does not show any significant reduction over the past 5 years. 400-500 new skin smear positive leprosy patients are recorded annually (ADHS, Bombay, 2001). More than 60% of these patients are migrants that come to Bombay.
5. Examination of 72436 migrant population to different cities in Western India revealed a very high detection rate of 194 per 100 000. (NLEP-Maharashtra.1998)
6. Leprosy programme managers at various levels still to monitor the programme through adequate data collection. (TLMI, 2000)

National, State and District leprosy programme officers should follow the important recommendations on Urban Leprosy made by authentic bodies since 1973 to accelerate the programme to reach leprosy elimination effectively including bringing down new case detection rate.

POA 84

WHAT DO FIELD WORKERS FEEL ABOUT LEPROSY PROGRAMMES ?

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Since the introduction of MDT in NLEP, Government guidelines have been issued time to time with

the specific approach of reaching the national goal of Elimination of Leprosy within stipulated time period. Though the experts at higher level formulate policies for this, the success of programme is always in the hands of those who implement it, i.e. Field Workers. In view of this, an attempt has been made to collect the views of Field Workers about the strategies presently used and their impact on reaching the elimination goal. A simple questionnaire consisting of five questions was distributed to 116 Field Workers who participated in the Regional Conferences of field workers, organized by H.K.N.S., Mah.Branch at Miraj and Panvel in March 2000. Of 116 participants, 91 (78%) responded voluntarily. The analysis of responses revealed that over 95% field workers were well aware the statistical information about their district. Majority of the Field Workers express that –i) it is possible to Eliminate Leprosy in their district (66%) ii) single dose ROM is adequate for SSL patients (78%) and iii) MDT for 12 months is enough even for Smear +ve MB cases. Further analysis of the responses and the views about their utility during post-elimination period will be presented and discussed.

POA 85

WHY THE DETECTION OF LEPROSY CASES DOES NOT DECREASE? POSSIBLE REASONS IN FORMER MEMBER COUNTRIES OF O.C.C.G.E.

Tiendrebéogo Alexandre and Bidé Landry

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Surveillance of leprosy programmes from 1991 to 2000 in 8 West African countries, former members of O.C.C.G.E., allowed collecting core indicators of leprosy elimination. In all the countries, the point prevalence decreased towards the leprosy elimination threshold of 1 case per 10,000 inhabitants. Elimination goal was reached globally in OCCGE region and also in 6 of the 8 countries. However, the detection of new cases generally remained at the same level in the whole region but slightly decreased in two countries (Benin, Mauritania) and increased in Niger.

Reasons that could explain the sustained level of the detection during the decade are mainly epidemiological (the long incubation of the disease) and also operational. The operational factors are linked to the implementation of leprosy elimination activities in the countries: Training of health staff, MDT programme, Integration of leprosy programme in peripheral health facilities, Active case-finding during Leprosy Elimination Campaigns (LEC) or Special Action Projects for the Elimination of Leprosy (SAPEL), Updating of Leprosy Registers (ULR) and Leprosy Elimination Monitoring (LEM).

Based on these reasons, we are advocating for synchronised campaigns to eliminate leprosy (SCEL) in areas that are still endemic within the 8 countries. These SCEL would combine the set up of extended case-finding and treatment network with community involvement and large scale Information-Education-Communication activities.

[Key words] prevalence, detection, elimination and synchronised campaign

POD & REHABILITATION

PPOD 1

A FIELD MODEL FOR PREVENTION OF LEPROSY DISABILITIES – A STEP TOWARDS ACHIEVING A “WORLD WITHOUT LEPROSY”

R. Ganapati, S. Kingsley, V.V. Pai and N.T. Kamthekar

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With our current commitment to attempt a cost-effective field -based model for reaching a “World Without Leprosy” (Yo Yuasa, 1998), we were disappointed at the efforts being made by the government and non-governmental agencies particularly in India, which contributes 60% to the new cases detected and

80% to the “disability pool” in the leprosy-endemic countries. It is well recognized that physical care is a crucial component to obviate the need for rehabilitation and to reduce the stigma. Unfortunately the uneven distribution of the estimated 1.5 million visibly disabled patients in India defies the implementation of a reasonable disability care programme. We report on an experiment on door-step delivery of such tools to patients living in rural terrain adjoining Bombay as well as some city slums through “mobile service units” (MSUs).

The study focused mainly on the identification of early nerve damage and treatment with prednisolone and preventing the worsening of disabilities following simple task-oriented training using the commu-

the specific approach of reaching the national goal of Elimination of Leprosy within stipulated time period. Though the experts at higher level formulate policies for this, the success of programme is always in the hands of those who implement it, i.e. Field Workers. In view of this, an attempt has been made to collect the views of Field Workers about the strategies presently used and their impact on reaching the elimination goal. A simple questionnaire consisting of five questions was distributed to 116 Field Workers who participated in the Regional Conferences of field workers, organized by H.K.N.S., Mah.Branch at Miraj and Panvel in March 2000. Of 116 participants, 91(78%) responded voluntarily. The analysis of responses revealed that over 95% field workers were well aware the statistical information about their district. Majority of the Field Workers express that –i) it is possible to Eliminate Leprosy in their district (66%) ii) single dose ROM is adequate for SSL patients(78%) and iii) MDT for 12 months is enough even for Smear +ve MB cases. Further analysis of the responses and the views about their utility during post-elimination period will be presented and discussed.

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The study focused mainly on the identification of early nerve damage and treatment with prednisolone and preventing the worsening of disabilities following simple task-oriented training using the commu-

nity workers as well as the Government staff. 48 leprosy patients with signs of reaction (acute neuritis) were identified out of whom 31 patients also had early or partial nerve function impairment who were treated with WHO standard course of steroid therapy. 726 leprosy patients with various grades of disabilities were treated with the simple techniques delivered at the doorstep of leprosy patients. Service delivery was planned and implemented through the community volunteers. Monitoring the progress of disability status using simple grading system was done at regular intervals by expert teams using MSUs.

It is observed that the transfer of technology would be possible if the techniques and the components of POD (Prevention of Disability) services are simple. The involvement of Community Volunteers who can act as a catalyst between the leprosy worker and the leprosy patients will ease the logistic problems prevailing in urban areas in particular, though in rural areas and tribal belts, recruitment of such volunteers is relatively more difficult. This investigation revealed that inspite of the rapid advancement of the superspecialities in the *urbs prima in indis*, viz. Bombay, the outreach services to the deprived rural segment in just around a 100 kilometer radius was so poor as to make us feel diffident about the possibility of our living up to the definition of a "World Without Leprosy".

PPOD 2

A IMPOTÊNCIA DA ÓRTESE NA AUTO-ESTIMA DO HANSENIANO PORTADOR DE GARRA MÓVEL NA MÃO

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O estudo foi realizado com 23 hansenianos, portadores de garra ulnar ou ulno-mediana móvel em uma das mãos, que fizeram uso de uma órtese, por um período de 3 meses. Foram utilizados neste estudo dois modelos, ou a órtese confeccionada em couro ou a confeccionada em material termoplástico de baixa temperatura. Após o uso, foram submetidos a uma entrevista com questões semi-estruturadas. As respostas foram agrupadas em núcleos temáticos e analisadas. Os resultados das falas dos núcleos temáticos revelaram melhora na auto-estima dos hanseniano, citando a órtese como responsável pela reabilitação dos movimentos voluntários dos dedos, firmeza e segurança no "pegar objetos", melhora na aparência dos dedos, maior confiança na realização de tarefas, melhora na qualidade de vida, motivação

e incentivo para participar de eventos sociais que antes evitavam ou se escondiam por vergonha e/ou medo.

PPOD 3

A PROBLEMÁTICA DOS PACIENTES COM SEQUÊLAS - ULCERAÇÕES DE EXTREMIDADES INFERIORES - DECORRENTES DA HANSENIASE

Rosana R. N. K. Oda, Sandra M.P. Ferraz, Mônica Antar Gamba, Celso Mello Pereira, Márcia Yuriko Kajita

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Apesar da redução, em mais de 80%, da prevalência da hanseníase no Brasil, registrada na última década, muito ainda deve ser realizado nos "Programas de Prevenção, Controle e Tratamento da Hanseníase". Este trabalho visa relatar a experiência da equipe de enfermagem na avaliação e acompanhamento de pacientes egressos (com alta medicamentosa) da hanseníase, mas que apresentam ferimentos de extremidades inferiores. Neste serviço há aproximadamente 30 pacientes em registro ativo para o tratamento da doença sendo que 28 pacientes comparecem para o tratamento das seqüelas, em especial, as ulcerações crônicas. Os resultados demonstram uma situação que conota relativa gravidade em função da duração, tempo de tratamento e estadiamento das feridas. Quanto ao sexo 65% eram do sexo masculino e 35% do feminino, sendo que há uma maior proporção nos indivíduos com sessenta anos e mais. Cerca de 50% dos pacientes apresentam a ferida há mais de vinte anos e nunca obtiveram resolução do problema. Quanto a tipologia cerca de 80% são lesões neuropáticas, ou seja, poderiam ser tratadas com a simples provisão de cuidados especiais como a remoção da pressão, confecção de órteses especiais, as demais são venosas (40%) e hipertensivas (15%), no momento da coleta de dados 30% apresentava infecção grave no local. A grande maioria dos pacientes não sabiam definir as causas da cronicidade das feridas e 50% apresentou imagem radiológica sugestiva de osteomielite demonstrando espessura total da lesão. Isto remete atenção especial para a gravidade do problema e para que as unidades básicas de saúde se estruturam urgentemente para desenvolver ações mínimas para os cuidados com feridas crônicas utilizando os princípios de Tunner e a hierarquia para a cura sistematizada de feridas crônicas possibilitando que, as seqüelas tão temíveis e incapacitantes não determinem o maior problema para a extinção da hanseníase no Brasil.

PPOD 4

A REPORT ON HOINA SURGICAL UNIT ACTIVITIES

Victor Parisipogula, Physio Therapist, Program Co-ordinator; Eliazar T. Rose, Director

Hoina Leprosy Research Trust, M U N I G U D A – 765 020, Rayagada District. Orissa, India

HOINA Leprosy Research Trust was established in Muniguda, Rayagada district, Orissa, India in 1983. The aim of the Trust is to locate Leprosy affected people in the district, including the local tribal belt, and to provide them with medical care. The entire population of Rayagada (over 900,000 people) is reviewed every three years. To date 10,323 cases of leprosy have been detected and treated.

In 1994 the Trust's Reconstructive Surgical Unit opened, in which the Leprosy-induced paralytic deformities of hands, feet and eyes are corrected. Here the physiotherapy team have screened a total of 559 patients with Grade II deformities. Of these 187 patients have been referred for reconstructive surgery, where one or more of 45 different operations will have been performed. In total the number of individual operations performed between '94 and Dec' 2001 was 1,486.

Patients are also referred from other districts of Orissa and neighbouring states. Regular follow-ups of these patients are continued regardless of distance. The Trust additionally hosts regular eye surgery 'camps' for patients both with and without a leprosy background. Reconstructive surgery for polio afflicted youth and the manufacture of artificial limbs and footwear are other aspects of the Trust's work.

All the costs incurred by treatment of the patients at HOINA are covered by the Trust

PPOD 5

A SIMPLE TECHNIQUE FOR CORRECTION OF TRANSVERSE METACARPAL ARCH AND ULNAR CLAW

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The author's procedure (1985) has remained a good standard procedure for correction of the transverse metacarpal arch. While performing the 'lasso' technique for correction of the ulnar claw hand, the ulnar slip of the FDS is not included for the lasso but is sutured to the abductor digiti minimi muscle with part of the MP capsule at the level of MP joint. The tension is adjusted by grasping the tendon and capsule and pulling it upwards to get the transverse arch in

protraction position as much as possible. The surgical technique and long term results will be presented.

PPOD 6

A SIX MONTH CREATIVE PHYSIOTHERAPY ATTACHMENT IN A RURAL HOSPITAL IN NIGERIA

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I spent six months in Ochamadu Hospital, Kogi State Nigeria under the supervision of the Leprosy Mission International.

Aims: To teach two Health Workers the basics of physiotherapy and set up a physiotherapy unit within the General Hospital and Leprosy Unit.

Method: Daily lectures and weekly tests to ensure that the health workers understood and retained theoretical and practical knowledge and information. Also weekly Health Education talks to patients to ensure their proper understanding of the importance of eye, hand and foot care. Simple visual aides and practical methods of education were used with limited resources.

Two physiotherapy units were constructed using materials purchased locally and assembled by a local carpenter and welder. Money was raised by charitable methods in the UK and sent to Nigeria.

Outcome: High scores in all tests were achieved by the two health workers. One health worker went on to Enugu to complete a qualification in Orthopaedic Nursing.

The physiotherapy equipment was built in the six months and used successfully by patients. The equipment included a unit to support an exercise bicycle, the ordinary bicycle could also be used for other purposes. We made specialised walking sticks, parallel bars, walking frames, orthopaedic benches and a purpose built practical orthopaedic appliance for contracted limbs. All the equipment was easily maintained and sustainable.

PPOD 7

A SKIN FLAP FOR THE SOLE OF THE BIG TOE (HALLUX)

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A skin flap taken from the lateral side of the big toe (hallux) can be used to cover the area of sole between the metatarsal head and the hallux, when that

area presents recurrent ulcers due to scars or defectuos pad. The steps of the surgery and the results are presented by pictures.

PPOD 8

A STUDY OF 300 LEPROSY AFFECTED PEOPLE, TO ANALYZE FUNCTIONAL OUTCOME AND LEVEL OF PATIENT SATISFACTION FOLLOWING, LASSO SURGERY TO CORRECT CLAW HAND DEFORMITY

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Objective: To study functional outcome and level of patient satisfaction following lasso surgery, for correction of claw hand deformity

Design: A retrospective study using patient clinical notes / files for data collection

Setting: The Leprosy Mission Hospital, Naini, is a 110-bed referral Hospital with leprosy and non-leprosy medical facilities.

Participants: This study includes 304 leprosy affected people, with a claw hand deformity of more than 8 months duration. These people are from the rural community and residents of nearby small towns and cities.

Procedure: In a lasso surgery the tendon of Flexor digitorum superficialis is looped through the proximal pulleys of the digits. This surgery has been in use for decades. 300 patients who underwent the lasso surgery have been analyzed, over a 4-year period from 1998 to 2001. Functional outcomes of hand and level of patient satisfaction have been analyzed for these patients, post-operatively. All surgeries were done in the same setup with uniformity of the Surgeon, Physiotherapist, Physiotherapy technician, Occupational Therapist and pre and post-operative exercise regimen.

Outcome measures: The percentage of people with good hand functions (>90% improvement) and a good level of patient satisfaction (80% satisfaction level), following lasso surgery

Results and conclusions: The analysis is in progress and the results will be presented at the Conference.

PPOD 9

A STUDY OF INDIRECT LASSO SURGERY USING PALMARIS LONGUS AND EXTENSOR CARPI RADIALIS LONGUS FOR CLAW HAND CORRECTION

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Objective: To emphasize the utility of the Palmaris lasso and ECRL lasso as two reconstructive surgical procedures to correct claw hand deformity.

Design: A retrospective study using patient clinical notes / files for data collection

Setting: The Leprosy Mission Hospital, Naini, is a 110-bed referral Hospital with leprosy and non-leprosy medical facilities.

Participants: 27 people affected by leprosy with more than 6 months duration of claw hand. These people are from the rural community and residents of nearby small towns and cities.

Procedure: In patients with weakness of the long flexor muscles (FDS) and hypermobility of interphalangeal (IP) joints with risk of swan neck deformity, indirect lasso surgery is opted for. The results of the 24 Palmaris lasso and 3 ECRL lasso surgeries on 27 patients with claw hand deformity were analyzed and compared with regard to physical appearance of hand, joint angles, hand functions and level of patient satisfaction. Factors such as Surgeon, Physiotherapist, Physiotherapy technician Occupational therapist and pre and post-operative exercise regimen were constant

Outcome measures: The percentage of people with good physical appearance of hand (>90% improvement in physical appearance), good functional outcome of hand (>80% improved hand functions) and good level of patient satisfaction (>80% level of patient satisfaction), following indirect lasso surgery

Results and conclusions: The analysis is in progress and the results will be presented at the Conference.

PPOD 10

A SYSTEM OF PREVENTION AND CARE OF DISABILITIES IN LEPROSY

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CLCP has refined its 'System of Prevention and Care of Disabilities in Leprosy' based on a continuous learning process with actively providing field based disability care services within different projects over the past decade. The system is based on taking a systematic and comprehensive approach to providing disability care services. The CLCP approach places

great emphasis on early treatment with MDT and proper reaction management as the most effective way to prevent disabilities. However appropriate tools and techniques have been developed to prevent and/or care for disabilities irrespective of the stage at which they develop. The key modalities include simple tools such as prefabricated hand splints or foot-drop splints, grip-aids, self-care ulcer kit, attractive MCR footwear and health education. These services can be provided by health care staff after minimal training. Reconstructive surgery and rehabilitation are also important elements of the CLCP approach. The computerized data management with special software simplifies monitoring of the disability care and its impact.

PPOD 11

ALTERAÇÕES OFTALMOLOGICAS EM PACIENTES COM HANSENÍASE CO-INFECTADOS PELO HIV

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A endemicidade da hanseníase no Brasil e a atual possibilidade de cronificação da infecção pelo HIV sinalizam para a necessidade do desenvolvimento de estudos de grupos de pacientes co-infectados. Devido a alta prevalência de ambas as infecções estudos com análises dos indivíduos com a co-infecção possibilitarão a ampliação dos conhecimentos. Estudo retrospectivo do tipo série de casos dos pacientes co-infectados no período de 1997 a 2001 com diagnóstico clínico e laboratorial de hanseníase e de infecção pelo HIV. Todos os pacientes foram submetidos no diagnóstico a exame oftalmológico realizado por especialista como parte das ações de prevenção e tratamento das incapacidades físicas. Na distribuição por sexo foi encontrada predominância do masculino com 56% dos casos. Entre as formas da hanseníase, houve predomínio da paucibacilar com 67%. As queixas referidas foram embaçamento da visão, prurido, ardência, e dificuldade para enxergar perto. Ao exame oftalmológico observou-se: olho seco, hipoestesia corneana, retinite por citomegalovírus, olho vermelho e catarata. O maior percentual de hansenianos co-infectados pelo HIV pertencia à forma paucibacilar da hanseníase; a queixa ocular mais freqüente foi ardência; a alteração ao exame oftalmológico mais prevalente foi o olho seco; no grupo estudado apenas 1 paciente apresentou comprometimento ocular decorrente da imunodeficiência; são necessários estudos com maior número de pacientes e de seguimento em coortes de casos de hanseníase com a co-infecção pelo HIV.

PPOD 12

AMPUTATION OF INDEX AND LITTLE FINGER STUMP. PERSONAL TECHNIQUE

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Of all the techniques proposed for amputation of Index and Little finger stumps, only two seem to have stood the test of time. 1) Amputation at the level of M.P. joint by disarticulation leaving the Metacarpophalangeal joint intact. 2) Amputation at the level of the base of the Metacarp.

Amputation by disarticulation is not only aesthetically poor (Littler) but the projecting Metacarpal head serves only as an impediment to the thumb-long finger web (Louis). Amputation at the base of Metacarp gives good aesthetic results but it reduces the power grip by about 20% (Murray). Further we believe that disruption of the fibrous skeleton of the transverse metacarpophalangeal arch – as it occurs when the transverse intermetacarpal ligament is cut – may weaken the tensile strength of the same.

Our technique: Racket-type of incision. The soft tissue is retracted, and the head of the metacarp is cut obliquely in a sagittal plane. The transverse intermetacarpal ligament is preserved. The dorsal interossei with the extensor tendons are sutured to the palmar interossei and flexor tendons so as to form a sort of soft-tissue hood covering the trabecular bone. Digital nerves need not be touched as neuromas do not occur in leprosy. Vessels are cauterized and skin closed with 04 silk or any other suitable material. The same technique applies to both thumb and V digit.

Statistics: Four cases of Index stump and 3 cases of little finger stump.

The functional and aesthetic results are excellent. Some of these patients have been reassessed after 2-4 years, the results are consistently good. Photos and diagrams are incorporated in the presentation.

PPOD 13

AN ANALYSIS OF 304 PATIENTS, FOR APPEARANCE OF HAND AND LEVEL OF PATIENT SATISFACTION, FOLLOWING LASSO PROCEDURE

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Objective: To analyze physical appearance of hand (joint angles) and level of patient satisfaction following the lasso procedure for correction of claw hand

Design: A retrospective study using patient clinical notes / files for data collection

Setting: The Leprosy Mission Hospital, Naini, is a 110-bed referral Hospital with leprosy and non-leprosy medical facilities.

Participants: 304 leprosy affected people, who had completed or taking MDT, with a claw hand deformity of more than 8 months duration. These people are from the rural community and residents of nearby small towns and cities.

Procedure: The lasso procedure of looping the Flexor digitorum superficialis tendon through the proximal pulleys of the digits has been in use for decades. We analyzed the procedure of 304 operations done over a 4-year period from 1998 to 2001. An analysis of physical appearance by measurement of joint angles and the level of patient satisfaction was done. All operations were done in the same setup with uniformity of the Surgeon, Physiotherapist, Physiotherapy technician, Occupational Therapist and pre and post-operative exercise regimen.

Outcome measures: The percentage of people with good physical appearance of hand (>90% improved physical appearance of hand) and good level of patient satisfaction (>80% patient satisfaction level), following lasso surgery

Results and conclusions: The analysis is in progress and the results will be presented at the Conference.

PPOD 14

ANALYSIS OF DISABILITY CASES IN AN URBAN LEPROSY PROJECT

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Active search was incorporated in the urban Leprosy project as surveys to detect patients with early signs of Leprosy so that the patients could be detected at earlier stages and treated appropriately to cure the patients with out any consequences like deformities. Social stigma in majority of the cases of Leprosy is due to visible deformities. Disabilities were presenting symptoms in a proportion of cases.

In the present study patients identified in the active search programmes and also the patients who have reported themselves for treatment were analysed retrospectively for the past ten years. The analysis was done to define the trend of disability among newly detected cases. The clinical profile of disabilities was compared with trends in rural projects. Age sex distribution of the cases with disabilities would be dis-

cussed to understand the operational aspects of care services to disability cases.

In the present study it was observed that though the actual number of cases with disability has come down from 98 to 25 the proportion of disability cases among newly detected cases still remains between 8-10%. 7453 patients were registered in the project and 752 patients (10%) had GII disabilities. 103 patients had plantar Ulcers. 26% of these new cases with disabilities have self reported for treatment at Urban leprosy clinics voluntarily.

The clinical profile and age sex distribution of the disability cases is a used as an important data base for planning care services for the patients affected by disabilities caused by Leprosy in the health programmes.

PPOD 15

AVALIAÇÃO DE INCAPACIDADES FÍSICAS NEURO-MÚSCULO-ESQUELÉTICAS EM PACIENTES COM HANSENÍASE NO DISTRITO FEDERAL

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A Hanseníase é uma doença conhecida por gerar incapacidades físicas devido às peculiaridades e preferências de seu agente causador, o *Mycobacterium leprae*. Este estudo tem como objetivo estimar a prevalência destas incapacidades em mãos e pés em pacientes com Hanseníase do Distrito Federal. A metodologia utilizada foi de um estudo transversal descritivo, com registro do exame físico em protocolo próprio, em 81 pacientes portadores de Hanseníase nas suas várias formas clínicas, atendidos no Hospital Universitário de Brasília entre julho de 1996 a agosto de 1997. Observou-se que os graus 1 e 2 de incapacidades foram os mais freqüentes (19,8%), e que 56,6% não possuíam incapacidades físicas. Houve predomínio das lesões nos pés e os nervos mais acometidos foram o tibial posterior bilateral (22,2%), fibular profundo direito (18,5%) e nervo ulnar direito (12,3%). A perda sensitiva foi o acometimento isolado mais encontrado (19,8%) e a mão em garra a deformidade mais freqüente (9,8%). Deformidades associadas estavam presentes em maior quantidade em membros inferiores do que em membros superiores ou ambos. As formas clínicas que apresentaram maior grau de incapacidade física foram a Virchowiana e Dimorfa. É, portanto, importante uma avaliação minuciosa, nos segmentos de mãos e pés, a fim de evitar ou reduzir esta alta prevalência de incapacidades nos pacientes do Distrito Federal, através de medidas educativas e curativas pertinentes à terapia física e reabilitação.

PPOD 16**BACTERIOLOGICAL AND HISTOPATHOLOGICAL STUDY OF LEPROSY PATIENTS WITH LEG ULCERS AND ALSO IN VARIOUS PRE-ULCER STAGES**

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Leg ulcers are a serious problem for patients with Hanseniasis. They can become very large and fester for decades. Some become malignant and amputation of the limb is indicated. The social disability of these patients with odorous discharge, together with unavailability of dressing material in the poor areas is very great. The physiopathology of these ulcers is poorly understood and is more frequent in South America than in the rest of the world. We have shown in a previous presentation that 15% of leprosy patients present ulcers and another 20% show the pre-ulcer stage (glossy skin – edema of the lower leg – hardening of dermal and subdermal layers – concentration of Lamprene in the distal third of the lower legs). We studied 19 patients in all stages in the evolution of their disease. They all had chronic ulcers in their legs or pre-ulcer stage. Skin smears were taken from both legs and the earlobe. The BI was the same in the ear and legs in all positive patients. Some healthy bacilli were seen in some leg smears. A 6mm punch biopsy was taken from the distal third of one leg on each patient. The histological studies showed thick subdermal lepromatous granulomas in the early stages of the disease. As the disease advanced the granuloma was seen to be transformed into fibrosis with islands of granuloma persisting in some cases. In old cases the fibrosis measured up to 1½ cm in thickness. In the early stages veins were seen with bacilli in the endothelium. In older cases the veins disappeared and only very few arteries with very thickened media persisted. The whole field had an avascular aspect. Even in old cases bacilli could usually be found. We believe, that the cause for the ulcers in the legs of lepromatous patients is related to the intense and deep fibrosis produced by the lepromatous granuloma, obliterating the subdermal lymphatic net and ultimately all perfusion. Early elevation in the ulcer stage might prevent some ulcers from occurring. Resecting the fibrosed tissue in toto and skin grafting is a successful treatment in our experience.

PPOD 17**BAMBOO PROSTHESIS FOR USAGE BY AMPUTEES PEOPLE AFFECTED BY LEPROSY**

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The Christian Leprosy and Reconstructive Surgery Hospital in Mawlamyine, Myanmar is a referral hospital for the person affected by leprosy. Almost 80% of admissions to the hospital are by people suffering from Plantar Ulcers.

The follow-up of 2,000 people affected by leprosy treated in this hospital has been completed. Of these, 64 people with Planter Ulcers had undergone amputations due to varied reasons. Seven persons of the 64 had confirmed histopathology, as malignant carcinoma.

All the people affected by leprosy with amputations used bamboo prosthesis and a follow-up of this has been conducted for a period of 10 years.

Conclusion: The bamboo prosthesis is the only form of prosthesis available in the interior of Myanmar. It is easily available, technologically less expensive and only 10% of the people suffered ulcers due to its usage. A majority – 60% of the people were satisfied with the prosthesis. It is also easily repaired.

The drawback is that these prosthesis are not accepted by the urban people due to cosmetic reasons. The bamboo prosthesis lasts between 8 to 10 months. It is suitable for day to day work but not during farming activities.

On the overall, the bamboo prosthesis is ideal for the poor person especially those living in the rural areas of Myanmar.

PPOD 18**BASES ANATÔMICAS E CIRÚRGICAS DA LIBERAÇÃO ENDOSCÓPICA DO TÚNEL CUBITAL: SISTEMATIZAÇÃO DAS ESTRUTURAS INTERNAS**

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Um estudo endoscópico de liberação do túnel ulnar foi realizado em 29 cotovelos de cadáveres não formalizados, seguindo-se de dissecação aberta para comprovação macroscópica e sistematização das estruturas internas seccionadas. Neste estudo constatou-se uma liberação total do sépto intermuscular (SI) em 65.5%; do retináculo epicôndilo olecraniano (REO) em 65.5%; da fácia do flexor ulnar do carpo (FFUC) em 66%; da aponeurose profunda do flexor pronador (APFP) em 66.7%.

Quando se padronizou os portais proximal e distal respectivamente, com 1,0 cm proximal (D₁) e mais lateral (Id₂) à linha epicôndilo olecraniano (D₂) e 2,5

cm distal (D_3) e 1,0 cm mais radial (rd_3) à linha epicôndilo olecraniano (D_1), foi observado 82% de liberação total do nervo utilizando esta técnica. O índice de complicações de lesão parcial ou total do nervo foi de 16%, observados principalmente nos casos iniciais de padronização da mensuração topográfica. Conhecimento anatômico, habilidade cirúrgica e treinamento desta técnica em espécimes cadavéricas é recomendado antes da prática clínica.

PPOD 19

BIOMECHANICAL PROBLEMS OF THE FOOT AND PLANTAR ULCERATION IN LEPROSY: USE OF PROSTHETIC INSOLES IN MCR FOOTWEAR

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All the joints of the foot contribute to effective heel-toe walking. Pathogenic destruction and malfunctioning of some of these joints as a result of leprosy will produce 'bio-chemical problems' and effect walking. This results in abnormal movements in the other joints of the foot leading to their malfunction, destruction, deformities and the development of abnormal pressure points prone to ulceration.

The aim of this study was to identify the different biomechanical problems encountered in the foot in leprosy patients, to study its impact on plantar ulceration and to assess the benefit of using prosthetic soles in MCR footwear to counter these biomechanical problems.

The biomechanics of the foot were assessed in 91 leprosy patients (Grade 0 - 41, grade I - 27 and grade II - 23 patients) in terms of inversion and eversion at the mid tarsal joint and pronation and supination at the mid talar joint. Biomechanics were found to be normal in 65 patients (71.4%) and abnormal in 26 patients (28.6%). Inversions of the foot was the most commonly encountered biomechanical change (8 out of 26 (30.7%)).

A simple assessment of the foot for identifying 'bio-mechanical problems' and principles for the use of MCR prosthesis (plantar metatarsal pad (PMP), Arch support, 'Hathi' or 'elephant' pad, tarsal platform, shaft pad and rocker bar) based on the abnormality are discussed. The applications of these principles will contribute significantly to improve POD and POWD activities

PPOD 20

CENSO DE INCAPACIDADES DOS DOENTES DE HANSENÍASE DO ESTADO DE SÃO PAULO EM REGISTRO ATIVO NO ANO 2.000

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As mudanças nos sistemas de informações nacional e estadual e a padronização da classificação das incapacidades em Graus I, II e III vêm dificultando o conhecimento da prevalência das incapacidades decorrentes da hanseníase o que tem levado a dificuldades na organização de sistema de referência e contra-referência a níveis regionais e estadual. Este trabalho apresenta a proposta desenvolvida no Estado de São Paulo para conhecer a prevalência das incapacidades dos doentes de hanseníase em registro ativo no ano 2.000 com objetivo de subsidiar as necessidades e a organização de serviços secundários e terciários para a assistência aos portadores de incapacidades físicas. Para tanto foi constituído um Grupo de Trabalho para definição do instrumento a ser utilizado. Posteriormente, este instrumento de registro de incapacidades foi implantado em todas as regionais de saúde para ser aplicado no primeiro comparecimento no ano de todos os doentes em tratamento encaminhando-o ao nível central. O Programa de Controle elaborou software para consolidação dos dados, permitindo, por sucessivas aproximações, a identificação dos tipos de incapacidades, por município e por local de tratamento. Os dados consolidados foram posteriormente apresentados e discutidos com os serviços de referência regionais e estaduais para organização da assistência a estes doentes, permitindo um monitoramento desta assistência pelo nível central. Participaram deste censo 3110 doentes do total de 5902 doentes em registro ativo neste ano.

PPOD 21

CHARACTERISTICS OF THE PLANTAR PROTECTIVE SENSATION IN LEPROSY CASES WITH AND WITHOUT ULCERS ATTENDED IN THE INSTITUTO LAURO DE SOUZA LIMA

Ary de Souza, Cristina Maria da Paz Quaggio, Anaely Maricato Camargo, Marcos Virmond

Objective: To be acquainted with the characteristics of the plantars protective sensation in leprosy cases with and without ulcers.

Methods: A retrospective study was done in the Instituto Lauro de Souza Lima, through review of the medical records of 150 patients attended during 1995 and 2001. The clinical forms of the cases studied were distributed as tuberculoid (41), borderline (39), lepromatous (67) and indeterminate (3). The age of

the patients ranged from 19 to 80 years, being the mean age 49 years. The characteristics of the patients were analyzed in respect to the presence or absence of plantar protective sensation evaluated by use of the Semmes Weinstein monofilaments and plantar ulcers.

Results: Plantar protective sensation was present in 29 patients (19.33%) and absent in 121 (80.66%). The analysis of 121 patients with loss of plantar protective sensation demonstrated that 38 (25.33%) presented plantar ulcers and 83(55.33%) did not. In regard to the 29 (19.33%) patients with preserved plantar protective sensation, the absence of ulcer was noted in all of the cases.

Conclusion: Since the majority of the cases without plantar protective sensation did not present ulcers, and the same occurs with those with preserved protective sensation, the preliminary conclusion is that methods for prevention of incapacities seen to be efficacious to prevent/treat ulcers in such conditions.

PPOD 22

CHOICE OF OPERATION FOR CORRECTION OF CLAW HAND

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During the 1950's and 1960's, only a few procedures involving tendon transfers, described or prescribed by Brand, were being practised for correcting the claw hand deformity and disability in leprosy. Today a variety of procedures are available and in this paper an attempt has been made to provide some guidelines for choosing the "right" procedure. Four different kinds of variables influence the choice. They relate to: (i) the patient, (ii) the surgeon, (iii) the infrastructural facilities and (iv) the procedure. Patient-related factors include their expectations (only cosmetic or some functional improvement, restoration to normalcy etc.) needs (grip, pinch, or any other specific requirement), capabilities (age, ability to follow our explanations and instructions), motivation level etc., and the state of the affected parts (presence of complicating features like contractures, hypermobile joints etc.). The surgeon-related factors include his/her familiarity with hand and hand surgery and experience in this kind of rehabilitation/tendon transfer surgery. The infrastructural facilities relate to providing pre- and post-operative therapy (at least essential physiotherapy if not physio- and occupational therapy) and operating conditions. Claw fingers are corrected using one of the following four strategies: (i) stabilizing the MCP joint or the PIP joint or both, (ii) providing an independent flexor for the proximal phalanx and thus abolishing the 'intercalated bone', or (iii) abolishing the biarticular system. The procedures may involve tendon transfer or they may not.

Each of these procedures has its advantages and disadvantages. Guidelines are suggested taking all these factors into consideration of which patient motivation is of paramount importance.

PPOD 23

CIRURGIAS NA HANSENÍASE: AVALIAÇÃO GERAL

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Objetivos: Avaliação geral de cirurgias realizadas na prevenção e reabilitação em hanseníase.

Introdução: A doença de hansen é uma doença crônica causada pelo *Mycobacterium leprae* (*M. leprae*), infecciosa em alguns casos, e afetando o sistema nervoso periférico, a pele e alguns outros tecidos (JOPLING, Mc DOUGALL, 1991). O Brasil é o segundo país no mundo em incidência de Hansen, só perdendo para a Índia, concentrando cerca de 85 % dos doentes do continente americano. No Ceará são registrados cerca de 1500 casos novos por ano, deste total 9,0% são crianças e 30% apresentam incapacidade física (MELO, J., et al., 1995). Estas seqüelas levam à morte social do portador do bacilo de Hansen, que em geral perambulam muitos anos em busca de um tratamento cirúrgico sem obter sucesso.

Material e Métodos: Foram realizado 200 procedimentos cirúrgicos, no período de março de 1999 a dezembro de 2001, em pacientes portadores de neurites hansênicas com ou sem deformidades instaladas. Todos os doentes tiveram diagnóstico e matrícula no Centro de Saúde Dona Libânia, unidade de referência no Estado do Ceará, e do Hospital Universitário Prof. Walter Cantídio da Universidade Federal do Ceará. A indicação cirúrgica obedeceu ao protocolo recomendado pela OMS (1998). A avaliação pré-operatória constando de anamnese, exame-dermato neurológico, inclusive sensitivo com monofilamento, rotina laboratorial, estudo de incapacidades. Uma avaliação fisioterápica pré e pós-operatório foi estabelecida e tratamento preventivo e de reabilitação programados. As cirurgias realizadas a céu aberto foram neurólises, tenoplastias, tratamento de mal perfurante plantar e/ou infecções ósseas, levou-se em consideração índices de nervo acometido, sexo e idade dos pacientes.

Conclusão: Diversos são procedimentos cirúrgicos que podem ser utilizados nos pacientes portadores de hanseníase, tendo a importância da viabilidade na prevenção e reabilitação do dano neural agudo e crônico, bem como suas deformidades, na detecção precoce dos sintomas.

PPOD 24

CLAW-HAND CORRECTION. A MODIFICATION

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Claw-hand deformity is possibly the commonest in leprosy-patients.

There are various techniques for the correction of this deformity. The modification proposed by us applies to all such techniques wherein a tendon graft is sutured to the dorsal expansion. Therefore it is applicable in cases of Brand's EF4T, Sublimis Transfer (Stiles Forester-Browne) Fowler and the Palmaris Longus + Fascia Lata.

It is not applicable where Zancolli's Lazo and capsulorrhaphy are used.

Rationale: The central tendon of the dorsal expansion is the single most important structure for the extension of Proximal Interphalangeal (PIP) joint. The Lumbricals act over the central tendon to achieve PIP extension; the Intrinsics contribute only when the Metacarpo Phalangeal (MP) joint is in extension. In patients with long-standing flexion deformity of PIP, the central tendon is lax and hence incompetent. Suturing a graft to a lax central tendon will not bring about extension of the PIP joint. The laxity has to be corrected. We use the 'Salafia's test' or the 'curtain' test to assess this laxity.

Method of correction of laxity: Plicate the dorsal expansion unto itself by taking a suture from one side to the other, and then suture the graft onto this plicated expansion; this is done circa 8-10 mm proximal to PIP joint; i.e. closer to PIP than to MP.

In severe forms it is advisable to take a sort of triangular suture (slides will be clearer).

We have operated more than 780 cases of claw-hand. Plication of dorsal expansion has been done in more than 1140 fingers: not all fingers need plication.

The aesthetic results are significantly better, and there is no deformity of restrain, following plication, in any of the fingers.

Excellent results: PIP at 180° in 1032 fingers: 90.52%

Good results: PIP at 160° in 93 fingers: 8.16 %

Poor results: PIP at < 160° in 15 fingers: 1.32%. In all these cases sepsis - due mainly to suture material - was the cause. Photos will illustrate the laxity of the dorsal expansion and the technique used to correct it, along with clinical photos.

PPOD 25

COMMUNITY BASED REHABILITATION IN VADODARA AND SABARKANTHA DISTRICTS OF GUJARAT (INDIA)

Paresh V. Dave, Abraham Thomas, Srinivasan, T. Jayraj Devdas Field Area of Vadodara and Sabarkantha districts of Gujarat (India).

Health and Family Welfare Department of Government of Gujarat and German Leprosy Relief Association (GLRA-India), jointly planned to start Community Based Rehabilitation with Interest Free Loans in Vadodara and Sabarkantha districts of Gujarat. Two days Training Workshop for Community Based Rehabilitation of Chief District Health Officers, Regional Deputy Directors, Civil Surgeons, District Leprosy Officers, District TB Officers was organized at Vadodara by German Leprosy Relief Association - India. Rs. 1.50 lacs for each district had been sanctioned by GLRA-India for Community Bases Rehabilitation. In Vadodara district 29 patients and in Sabarkantha district 23 patients were selected for Interest Free Loan. Every month patients contribute a small installment as a loan repayment to District Leprosy Officers. At the end of every month from the collected recovered amount, new eligible patients are provided with Interest Free Loan. Thus, a smooth Community Based Rehabilitation system had been established in these two districts. The detail results will be discussed during the Congress

PPOD 26

COMMUNITY BASED REHABILITATION OF PHYSICALLY HANDICAPPED INCLUDING LEPROSY DISABLED CASES - A REPORT

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*Kushtarog Niwaran Samiti, Shantivan, Taluka Panvel,

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In view of minimizing leprosy stigma, an attempt has been made to practice Community Based Rehabilitation for leprosy and non-leprosy physically handicapped persons in a combined program. In taluka Panvel, 29 physically handicapped persons (4 with leprosy and 25 without leprosy) were identified during routine leprosy survey conducted by leprosy field workers covering 13150 populations. Further surveys identified 125 disable patients. This report present and discusses an account of efforts further taken to:

1. arrange Handicap Certificate of the disabled,
2. evaluate their rehabilitation needs with the help of experts,
3. arrange for their vocational training,
4. provide financial assistance,
5. arrange reconstructive camps.
6. arrange experts visits for confirmation of disability,
7. Peoples participation through local bodies like Gram Panchayat, Panchayat Samiti etc.

The entire rehabilitation programme could be possible due to active community participation.

PPOD 27

COMPARAÇÃO DA FUNÇÃO DE DUAS ÓRTESES NA REABILITAÇÃO DA MÃO EM GARRA MÓVEL DE HANSENIANOS

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O estudo objetivou a comparação da função de dois tipos de órteses dinâmicas 9^{de} couro e de termoplástico) utilizadas para a correção da garra móvel em indivíduos acometidos pela Hanseníase. Comparou-se a medida do ângulo de movimento (extensão) das articulações interfalângicas proximais dos dedos acometidos (goniometria), testes de força de preensão, de pinça lateral, ponta a ponta e três pontas com aparelhos de medição disponíveis no comércio (dinamômetro) e também desenvolvido um teste de função da mão previamente testado e padronizado em 42 voluntários. A mostra de estudo foi constituída de 30 hansenianos que apresentavam garra móvel, ulnar ou ulno-mediana em uma das mãos, com idade entre 20 a 81 anos, de ambos os sexos, submetidos ao uso das órteses de couro e de termoplástico. Primeiramente foi comparado o desempenho imediato de duas órteses e posteriormente reavaliada a capacidade funcional após seu uso por um período de três meses. Os resultados foram analisados estatisticamente nas duas etapas, mostrando na comparação do desempenho imediato que as órteses melhoraram o padrão de garra dos dedos acometidos e a órtese de termoplástico obteve maior correção da garra (85,5%) que a órtese de couro (53%). Após o uso das órteses por três meses, na garra ulnar foi obtida uma melhora de 76% e para ulno-mediana foi de 37%. Constatou-se que as órteses auxiliam tanto na correção da garra como na função motora e na melhora da auto-estima.

PPOD 28

CONCOMITÂNCIA ENTRE NEUROPATIA HANSÊNICA E NEUROPATIA COMPRESSIVA MECÂNICA OU ESTADO DE DOR CRÔNICA

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Em pacientes com neuropatia hansênica pode haver concomitância com neuropatia de origem compressiva mecânica, originada das regiões cervical e lombar, e com estado de dor crônica, onde dor de longa duração é causada por fatores não-mecânicos relacionados a sensibilização dos sistema nervoso periférico ou central ou fatores psicossociais. O diagnóstico diferencial com essas duas condições é importante em pacientes com neuropatia hansênica persistente que não responde ao tratamento com imobilização nem com corticosteróides ou mesmo descompressão cirúrgica. Se o sintoma é causado predominantemente por uma dessas duas condições e isso não é reconhecido precocemente, há uma tendência a aumento progressivo da dose e cronificação do uso de corticosteróides, que além de não influenciar na natureza real do problema, ainda contribui com possíveis efeitos adversos advindos do uso dessa droga. Na neurite hansênica, que é um estado inflamatório, repouso e tratamento químico são necessários, enquanto a dor mecânica e estado de dor crônica são tratados com determinados movimentos. O presente trabalho apresenta casos em que o principalmente mecanismo responsável pela presença dos sintomas resultou da deformação mecânica em tecidos moles e/ou estado de dor crônica, identificados por meio de testes mecânicos desenvolvidos pelo fisioterapeuta Robin McKenzie. São 4 pacientes com diagnóstico de hanseníase na sua forma dimorfa, 3 deles do sexo feminino, 3 em alta por cura. Estes pacientes apresentavam sintomas neurais em membros superiores e/ou inferiores, com suspeita de reação com neurite, e não tiveram regressão satisfatória da dor com tratamento medicamentoso. Em tais pacientes o teste de movimentos repetidos alterou os sintomas diminuindo ou abolindo rapidamente a dor o que esclareceu que o fator predominante gerador do sintoma não era inflamatório/infeccioso e sim mecânico.

O diagnóstico diferencial entre problemas de natureza patológica hansênica, mecânica ou estado de dor crônica é importante na identificação e tratamento do paciente com neuropatia hansênica persistente que não responde ao tratamento com corticóide, nem com imobilização ou descompressão cirúrgica. No paciente com hanseníase pode ocorrer con-

comitância de neuropatia específica, de origem compressiva mecânica, originada das regiões cervical e lombar, e pode também, desenvolver estado de dor crônica, de longa duração causada por fatores não-mecânicos relacionados a sensibilização do sistema nervoso periférica ou central ou fatores psicossociais. Quando o sintoma é causado por estes fatores o paciente não responde ao tratamento medicamentoso e a tendência é cronicar o uso do corticóide que não influenciará a natureza real do problema. O presente trabalho apresenta casos em que o mecanismo responsável pela presença dos sintomas resulta da deformação mecânica em tecidos moles e/ou estado de dor crônica, identificados por meio de testes mecânicos desenvolvidos pelo fisioterapeuta Robin McKenzie. O valor clínico em diferenciar os sintomas originados do estado de neurite hansênica, dor mecânica ou crônica é que no primeiro caso, sendo um estado inflamatório, repouso e tratamento

PPOD 29

CONTEMPORARY DESIGNER MCR FOOTWEAR FOR LEPROSY PATIENTS WITH GRADE I AND II DISABILITY

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Leprosy is a disabling neuropathy. Damage to the sensory component of the nerve results in loss of sensation or anesthesia; damage to the motor fibres leads to muscle paralysis and deformity and autonomic nerve damage results in dryness and cracks. The ultimate triad of anesthesia, deformity and ichthyosis predisposes the hands and feet to formation of localized points of excessive pressure, tissue destruction and trophic ulceration.

Micro cellular rubber (MCR) footwear has been used to effectively redistribute the pressure over a large area and thus prevent ulceration. Conventional models have been found useful but have carried with it the stigma of the disease. As a result, patients have often refused to wear them since they are easily recognized as leprosy patients and are socially distanced.

The need was felt to provide contemporary designer footwear, incorporated with MCR. After careful study of the different models available 4 models were chosen (2 models for men and 2 for females) for use in patients with Grade I disability. In patients with grade II disability velcro straps were incorporated in two of the models to enable opening from the top and incorporation of appropriate kinds of prosthesis (Hathi pad, Plantar metatarsal pad, Rocker Bar, Tarsal platform or Arch support).

The details of the above models, the advantages of each model will be discussed in terms of their usefulness and acceptability.

PPOD 30

CORRECTION OF LAGOPHTALMUS AND ECTROPION IN LEPROSY BY THE TARSAL STRIP TECHNIQUE

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Três Corações - Brazil

Blindness, one of the worst complications of leprosy, is most commonly originated by eyelid palsy. Inability to close the lids (lagophthalmus) is commonly accompanied by eversion of lower lid (ectropion). Both are caused by direct bacillary damage to the facial nerve, with paralysis of orbicularis oculi muscles. The eye becomes dry and is easily attacked by infections. Therefore, it can be said that correction of eyelid palsy is truly a surgical emergency in Hansen's disease. There are many operative techniques that may achieve this goal. Given the common circumstances of meager resources, lack of specialized personnel and scarcity of hospital environments, an operation to correct eyelid palsy in leprosy should be simple, ambulatory, effective and reproducible. Such qualities can be applied to the "tarsal strip" procedure, first described by Anderson and Gordy. The author has used this technique in facial palsy, either caused by Hansen's bacillus or from other reasons. In this work, the operation is described in detail and patient's cases are presented. The results have been satisfactory. The tarsal strip procedure can be performed in outpatient wards, under local anesthesia, with a very small set of surgical instruments and is easily learned. It can be repeated, when the case demands. It may help to preserve the patient's vision, something important under any circumstances and the more so when many patients may already be devoid of their touch sensation.

PPOD 31

DEFORMIDADES ADVINDAS DE DANO NEURAL EM PACIENTES COM HANSENÍASE ATENDIDOS NO C.D. D.LIBÂNIA - CEARÁ, 2000 E 2001

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Hanseníase é uma doença infecciosa crônica que compromete nervos, pele e outros tecidos. No en-

tanto, a lesão neural constitui o maior problema pelo risco de incapacidades que podem ter caráter definitivo. Assim, correlacionamos todos os casos de pacientes com grau de incapacidades nível 2 – baseado nos atuais critérios do OMS – com sexo, idade, forma clínica e troncos neurais acometidos nos anos de 2000 e 2001, atendidos no C.D.D.L. Em 2000 foram atendidos 732 casos e, em 2001, 698, cujas avaliações de grau de incapacidades no início do tratamento registraram 46 (6,3%) pacientes com deformidades nível 2 em 2000 e 40 (5,7%) em 2001. Nos dois anos acumulados: 86 pacientes com grau 2 em 1430 casos (6,0%). Por ordem decrescente de troncos neurais mais acometidos, citamos: ulnar (55,8%), fibular (27,9%), tibial posterior (26,7%), mediano (23,3%), facial (4,7%) e radial (3,5%). Dos 86 casos analisados, 63 eram do sexo masculino e 23 do sexo feminino. Pacientes com idade entre 15 e 49 anos predominaram sobre a infância e a terceira idade. A forma dimorfa predominou entre casos e deformidades. Verificamos que havia frequência significativa maior para os idosos com acometimento de troncos neurais de membros inferiores e, para a faixa etária ativa, de membros superiores. Observamos ainda que havia correlação significativa do nervo fibular com o sexo masculino o que não ocorreu com os demais troncos avaliados.

PPOD 32

DISABILITY MANAGEMENT PROGRAM – A MULTIPURPOSE SOFTWARE

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The disability management programme facilitates keeping track of the leprosy situation on a geographical basis - whether village, taluka, district or even state level. One can monitor the impact of campaigns by keeping track of suspected and confirmed cases in a special directory. Key epidemiological indicators can be easily calculated such as NCDR, new cases per 10,000 population, type of leprosy, gender, disability grade for any area. It also helps one estimate the requirements of health education materials or physical aids such as splints, grip-aids, self-care kits. Simple data entry forms are part of the software. The 'Disability Analysis Report' shows which body parts are affected, as numbers and percentages among the total cases, as well as rates in a given population. "At a glance report" helps keep track of early recognition of reactions and helps enlist the cases with established disability for reconstructive surgery. The follow-up of patients, improvement or deficiency can be analyzed quickly through service rendered report and other reports. Appropriate corrective actions can be

taken following analysis. DMP also has correction features for wrong data entry and import export facilities making it user friendly for multiple centres. Since program is only 2.5 megabyte in 3 floppies one can create different databases for different purposes or areas.

PPOD 33

DISABILITY PREVENTION, CARE AND REHABILITATION ACTIVITIES IN THE INTEGRATED SET-UP: INITIAL EXPERIENCES

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Our project has developed the appropriate approaches for providing disability prevention, care and rehabilitation services in the integrated set-up. It includes the use of key modalities of disability prevention and care services for leprosy disabled to be extended to other disabled at the referral center. The camp or group therapy approach for reaching the backlog of cases also includes reconstructive surgery. The basic training of the general health care staff up to a level useful to cater to new and old cases is simple and field based. The initial experience with these approaches indicates that acceptance and proper management of disabled leprosy cases through the integrated set-up is feasible. The details of the approaches, key modalities and experiences will be presented.

PPOD 34

DOES SSOD PREVENT PLANTAR ULCERS?

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Vellore district used to be hyper endemic for Leprosy prior to introduction of MDT. Though the prevalence has declined there are a large number of individuals with palmo plantar anaesthesia in this area. The Leprosy Control Unit of Christian Medical College, Vellore has been encouraging them to practice regular Soaking, Scraping, Oiling and Dressing (SSOD) to prevent damage to their feet. A cross sectional study was carried out to measure the effect of this practice. 93 patients with plantar anaesthesia were followed up in their homes. Their adherence to SSOD was measured using a structured interview schedule. Health of the feet was also simultaneously measured in terms of presence of callosities, cracks and ulcers.

Results:

38.7% of the patients practiced SSOD regularly at the time of the study. There was a strong association between knowledge and practice related to foot care. There was no difference in the frequency of callosities, or cracks between those who practiced SSOD regularly and those who did not. Those who practiced SSOD had significantly higher prevalence of plantar ulcers as compared to the rest.

It is possible that scraping with the stone itself could have caused injuries to the foot. On the other hand it is also possible that those who had ulcers were practicing SSOD more regularly. There is a need to evaluate the usefulness of SSOD using a longitudinal study design.

PPOD 35**DROP FOOT CORRECTION BY TIBIALIS POSTERIOR TRANSFER TWO YEAR FOLLOWUP STUDY**

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Drop foot is one of the most disabling deformities among the leprosy affected. Paralysis of lateral popliteal nerve, the cause of this deformity, is quite often associated with paralysis of posterior tibial nerve and anaesthetic foot. Uncorrected dropfoot results in altered gait, equinovarus deformity, recurrent forefoot ulcerations and ultimately mutilations. Timely surgical correction prevents these complications. Tibialis posterior transfer is the most commonly performed surgical procedure to correct drop foot.

At Hoina Leprosy Research Trust Surgical Unit, Tibialis posterior transfer is one of the commonest surgeries performed, more than 300 such procedures having been done since 1994. In this study, data collected from 125 operated feet, with followup ranging from two years and more were analysed. Gait pattern, position of foot at rest and range of dorsiflexion were the criteria adopted for grading results. Results were good in 34.4 % (43), fair in 56 % (70) and poor in 9.6% (12). Good and fair results were considered satisfactory as they positively improved gait pattern, prevented abnormal weight distribution and consequent ulcers. Irregular followup, inadequate aftercare and infection accounted for poor results in the majority. Reasons for poor results were further analysed and discussed. More regularly. There is a need to evaluate the usefulness of SSOD using a longitudinal study design.

PPOD 36**EHF DISABILITY SCORE NOT USEFUL IN THE EVALUATION OF POD ACTIVITIES**

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The EHF disability score of patients attending a specialised leprosy clinic in the capital of Sudan were used to evaluate the usefulness of the EHF score in the evaluation of POD activities. From 1997 to 2000, annually 6% to 18% of the patients attending Aburof Leprosy Clinic had a deterioration in EHF score between the start and end of MDT treatment. A comparable percentage of patients had an improvement in EHF score. The change in EHF score did not always reflect accurately the change in impairment. Moreover, there was no obvious change in care between the year with 6% and the year with 18% deterioration in EHF scores. The number of patients with full details was small (25-40 annually) and it is likely that inaccuracy of the impairment testing/ recording, and chance, have more influence on the change in EHF score than POD care. It is therefore argued that the EHF score is not useful in the evaluation of POD activities in integrated leprosy control programmes.

PPOD 37**ESCOLARIDADE DO DOENTE DE HANSENÍASE, E PREVENÇÃO DE INCAPACIDADES: ESTUDO EM UM AMBULATÓRIO DE ESPECIALIDADES**

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A Hanseníase constitui sério problema de saúde do ponto de vista físico, psicológico, econômico e social, considerando inclusive a escolaridade. Nas ações da Prevenção de Incapacidades (PI), observamos que o grau de escolaridade, interfere tanto no autoconhecimento sobre a doença quanto na sua aderência aos cuidados preconizados. O presente estudo teve como objetivo identificar o grau de escolaridade do doente, relacionando-o com o grau de incapacidade instalado e o diagnóstico inicial. Trata-se de uma análise retrospectiva, com ênfase na epidemiologia, abrangendo uma população de 300 doentes (sendo que em 108 doentes em registro na década de 90, não encontraram o dado de escolaridade).

dade disponível). Houve maior predomínio da faixa etária entre 30 a 49 anos (48,2%), sendo 60% do sexo masculino e 40% do sexo feminino. A maior ocorrência foi nas formas avançadas da doença com 43,5% na forma Virchowiana, 25,5% Tuberculóide e 23,3% Dimorfa, prevalecendo os graus de incapacidades mais severos (2 e 3). A pesquisa é quantitativa com análise das variáveis qualitativa. A coleta de dados foi embasada nos prontuários, fichas epidemiológicas e avaliação de PI. Os resultados encontrados identificaram um percentual significativo de doentes com ensino fundamental incompleto (57,7%) e analfabetismo (15,2%) portadores das formas mais avançadas da doença e dos graus de incapacidades mais severos (grau 2 e 3). Os dados mostraram que à medida que o grau de escolaridade aumentou, o diagnóstico foi feito precocemente e houve diminuição significativa dos graus de incapacidades

carry out early detection and treatment of neuritis, self-care of eyes, hands and feet, application of footwears, treatment of complicated plantar ulcers, and installation of prosthesis. The study was based upon the national uniform protocol. Among 8 cases with neuritis, nerve function was fully recovered for 20 nerves and significantly improved for 2 nerves. The secondary impairment on eyes, hands and feet was improved at different levels. 66.7% of complicated plantar ulcers were cured, among which 19.82% relapsed. The rate of cases with the suitable prosthesis was 83.79%. The leprosy rehabilitation pilot project is effective for preventing occurrence and worsening of disability and has play a positive role to strengthen the life quality of patients. However, there is still some difficulties in extensive implementation, and it should be integrated with socio-economic rehabilitation.

PPOD 38

ESTUDO COMPARATIVO DA EVOLUÇÃO DA FUNÇÃO NEURAL EM PACIENTES COM HANSENÍASE NO INTERVALO DE 1990 A 2002

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O objetivo do trabalho é reavaliar 85 pacientes com diagnóstico de hanseníase em tratamento no período de julho de 87 a julho de 90 na Unidade Básica de Saúde de Citrolândia – Betim/MG, que tiveram a função neurológica avaliada e monitorada naquele período, e comparar com a mesma avaliação realizada no 1º semestre do ano de 2002, determinando se houve melhora ou piora. Objetiva, ainda, determinar se o grupo de pacientes que apresentou alteração neural na última avaliação em 1990 tinha maior risco de desenvolver perda da função neural, e se tiveram algum problema com a função neural após esta data, se souberam identificar o problema e procurar o serviço e se tratar adequadamente.

PPOD 39

EVALUATION OF EFFECTIVENESS OF LEPROSY REHABILITATION PILOT PROJECT FOR 3 YEARS IN FOUR COUNTIES IN YANGZHOU PREFECTURE OF CHINA

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To evaluate the effectiveness of leprosy rehabilitation pilot project for 3 years in order to provide scientific basis for further implementation. A total of 3125 active or cured leprosy cases were selected to

PPOD 40

EXAME OFTALMOLÓGICO EM HANSENÍASE: COMPARAÇÃO DAS ALTERAÇÕES ENTRE CASOS PAUCIBACILARES E MULTIBACILARES

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Centro Colaborador Nacional em Hanseníase – IOC – FIOCRUZ – RJ.

Estudo descritivo dos achados oftalmológicos realizados no momento do diagnóstico entre casos paucibacilares e multibacilares. Foram examinados 107 casos no momento diagnóstico e o exame realizado por oftalmologista utilizando padronização (OMS). Do total de 107 pacientes, 77 foram classificados como multibacilares, sendo 75,4% do sexo masculino e 24,6% do sexo feminino. E entre o total de casos paucibacilares (30) 54,5% eram do sexo masculino e 45,5% do feminino. A média de idade dos pacientes foi semelhante entre os grupos 36,0: 41,0. As queixas oculares foram relatadas em percentual significativamente maior entre os pacientes paucibacilares (67,5%) em comparação com os multibacilares (36,3%). O percentual das alterações encontradas no exame oftalmológico foi semelhante entre os casos paucibacilares (60%) e multibacilares (55,8%). A ceratite de exposição, nódulo iriano e a atrofia de íris só foram observadas nos casos multibacilares, o que sugere, serem essas alterações, características dessa forma da hanseníase. A presença dessas alterações oculares deve ser diagnosticada e tratada precocemente para prevenir seqüelas irreversíveis. Assim sendo, o exame oftalmológico deve ser priorizado para todos os casos de hanseníase, independente da forma clínica.

PPOD 41**FASCIA AND APONEUROSIS RELEASE FOR LONG FLEXOR CONTRACTURE IN CLAW HAND**

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In the long standing cases of the claw hand one often come across the long flexor contracture. The clinical test of MP flexion and IP extension often demonstrate that tendon contracture exist. Springing back of finger in flexion after passive stretching demonstrate that the 'tendon' contracture needs to be released. While release of deep fascia may help to a certain extent it is necessary to explore the deeper roots of the origin. The author's technique is carried out through a longitudinal "S" shaped incision anteriorly in front of elbow to avoid veins. The deep fascial envelope of about an inch is excised from the middle of the forearm to the ulnar border. The fingers are moved passively and tightness in the long flexors is noted. With careful dissection the aponeurotic fibres of the long flexors is incised till the tension in the passive stretch on the table is decreased substantially. The entire procedure is in the forearm and muscles are not slid as opposed to muscle slide operation. The plaster cast with fingers in extension completes the operation. The technique and results will be presented.

PPOD 42**FOLLOW UP OF LEPROSY PATIENTS AFTER RECONSTRUCTIVE SURGERY**

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Long term follow up of patients who have been helped by surgical correction of their deformities is not well documented. We have made an attempt at this in a study.

The number of surgeries done was 169 from December 1996 to the end of 2001. The follow up was done at intervals of 3, 6, 12 months and then every year, thereafter. This was done by Physiotechnicians from projects from where the patients were referred. For those patients coming from outside the project areas, follow up was done by Physiotechnicians attached to the surgical centres. The parameters assessed include appearance, function, possible social and economic effects on the patients after the operations.

Over 90% of patients had restoration of the original appearance and function on the operated limbs.

Further details will be discussed.

PPOD 43**GRAU DE INCAPACIDADE DOS PACIENTES DE HANSENÍASE NA ALTA POR CURA ACOMPANHADOS NO HRAN NO PERÍODO DE 2000/2001**

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Estudo retrospectivo e descritivo dos oitenta e quatro (84) pacientes que obtiveram alta por cura do Serviço de Hanseníase do Hospital Regional da Asa Norte (HRAN), Brasília – DF, Brasil, entre 2000/2001.

Tem como principal objetivo estudar comparativamente o grau de incapacidade física (0, I e II), no início e final do tratamento de hanseníase, discutindo as condições de alta dos pacientes, traçando um perfil da qualidade da assistência prestada pelo Serviço.

Analisa-se também, algumas variáveis tais como episódios reacionais e classificação operacional que interferem na evolução das incapacidades durante o tratamento.

Utiliza indicadores epidemiológicos e operacionais preconizados pelo Ministério da Saúde para avaliação do Serviço.

PPOD 44**HANSENÍASE: CIRURGIA DE PREVENÇÃO E REABILITAÇÃO/ HUCFF/UFRJ**

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Desde 1992 o HUCFF tem se solidificado como referência para a região metropolitana do Rio de Janeiro, na assistência ao paciente portador de hanseníase. Enquanto órgão formador de recursos humanos, tem se organizado no sentido de integrar uma solicitação da demanda (o Brasil é o segundo país em número de casos), com a responsabilidade de formar profissionais aptos ao diagnóstico e tratamento da endemia.

Cumprindo o objetivo de treinar profissionais das áreas cirúrgicas e de reabilitação, o HUCFF realizou, no período de 30/11/98 a 04/12/98, o primeiro seminário de prevenção e reabilitação cirúrgica em hanseníase, envolvendo os serviços de dermatologia, ortopedia, serviço social e medicina física, bem como a Secretaria Municipal de Saúde/RJ.

Ao longo deste período de 3 anos foram realizadas 47 cirurgias, em pacientes submetidos ao pré e pós-operatório, no serviço de medicina física, após seleção no ambulatório de dermatologia.

Os autores apresentam a metodologia utilizada no primeiro seminário (foram realizadas 18 cirurgias em 5 dias), o processo de seleção dos pacientes, critérios utilizados, a implantação das cirurgias-fluxo na rotina do hospital, os resultados das cirurgias do ponto de vista funcional para o paciente e equipe, com ampla discussão do processo de pré e pós-operatório fisioterápico, da técnica cirúrgica utilizada, motivação inicial do paciente e suas expectativas quanto à cirurgia.

PPOD 45

HELPING DISABLED LEPROSY PATIENTS WITH ADL – ASSESSMENT

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Leprosy cured persons with deformity or disabilities due to leprosy look forward to a “normal” day-to-day living. It is a known fact that ‘misuse’ and ‘disuse’ of insensitive and paralytic limbs are the main cause for deterioration of deformities and disabilities. The activities of daily life and the occupation of the patient are greatly altered by the type and gravity of their deformity and disability. The study examines the relationship between the ADL and the type and severity of deformity.

Specifically the study examines 209 leprosy patients with Grade-II deformities on the basis of International Classification of Impairments, Activities and Participation (ICIDH – 2 – WHO 1997). It outlines the ADL (Activities of Daily Life) of the patients in terms of self care, work and leisure activities and relative impact on the deformities and disabilities. Further, the study analyses the role and the impact of the socio-economic factors on their daily life. It suggests deformity related remedial steps for their ADL – to prevent further deterioration of their condition

PPOD 46

HOW TO ORGANISE REHABILITATION SERVICES

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Disabled persons are located through an organized case finding programme and offered rehabilitation service, if unemployed or under employed.

An expert diagnosis is made of their employment needs and of their physical, mental and vocational resources.

Corrective surgery of therapeutic treatment may be provided or secured, if necessary for employment.

Prosthetic devices [limbs, aid etc.] may be provided or secured, if necessary for employment.

Expect counseling or guidance assist them to decide upon a suitable employment objective.

A plan is prepared outlining the steps or service needed to enable the disabled person to secure suitable employment.

Training carefully planned and supervised, is provided to those, who need such preparation for employment.

Maintenance during training may be provided in case of need.

Other necessary services, incident to the solution of personal or family problems are provided or secured.

The culminating factor and essential step in every case is entry in to suitable remunerative employment such placement is followed up to determine its lasting success or to provide any needed adjustment.

PPOD 47

IDENTIFICAÇÃO DE INCAPACIDADES EM PORTADORES DE HANSENÍASE

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A hanseníase é um sério problema de Saúde Pública pelas complicações e deficiências físicas que gera. Este trabalho tem como objetivos levantar áreas de comprometimento em pacientes acometidos pela hanseníase em tratamento no ambulatório de controle e alertar profissionais da área da saúde quanto a necessidade da avaliação de incapacidades. Foram estudados 8 pacientes portadores de hanseníase, em tratamento quimioterápico no Ambulatório de um Hospital-escola, com idades entre 22 a 66 anos, no período de junho a agosto 2000. Utilizou-se o método descritivo exploratório de dados referentes a pacientes portadores de hanseníase em tratamento. O instrumento de coleta de dados foi baseado em um roteiro oferecido pela Secretaria de Estado da Saúde, para identificação das incapacidades, com 53 itens para determinar lesões em órgãos como o nariz, os olhos, as mãos e os pés. Os resultados obtidos mostraram que 87% dos pacientes faziam tratamento multibacilar, 50% já possuíam algum tipo de lesões em nariz ou mão ou olhos ou nos pés. No nariz as maiores ocorrências foram obstrução e formação de crostas; nos olhos, a diminuição da produção de lá-

grima e a perda da sensibilidade; nas mãos e nos pés, os nervos foram os mais lesados. Concluiu-se que a prevenção de incapacidades é um fator importante para a avaliação do portador de hanseníase, pois detecta elementos que não aparecem nas suas queixas.

Unitermos: Enfermagem, hanseníase, prevenção de incapacidade.

PPOD 48

IMPLEMENTATION OF COMPUTERIZED HAND SCREEN

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Along with the efforts that have gone into eradicating HD, surveillance could be improved by the identification of patients who have peripheral nerve changes. Monitoring of peripheral nerves for changes and early treatment is an integral part of the prevention of disability in Hansen's Disease. The Hand Screen has been utilized at the National Hansen's Disease Programs for the last twenty years to document sensory and motor function in the hand. Data from the screen has been analyzed to establish the level of disability in the United States HD population and to review treatment outcomes. An electronic screen form is in development to allow the direct input of screen data into a database for subsequent analysis. The system utilizes an internationally available software program (Microsoft Access) for the input of information in the simple form of the Hand Screen and for the storage of data. The program allows easy entry of information, printing, and sharing of reports. Data is displayed in tables and can be easily exported for statistical analysis to review treatment outcomes and for surveillance activities. The process of the development of the screen, the input of data as well as the application of stored information will be presented.

PPOD 49

INSTITUTIONAL STUDY ON NEW IMPAIRMENTS SEEN AMONG PATIENTS WITH ESTABLISHED NERVE FUNCTION LOSS

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Fifty-one patients with leprosy were admitted to LEPROA - HOINA Reconstructive Surgical Unit with nerve function loss during the period 1st Oct' 2000 to

30th Sept' 2001. All these cases were referred from different SET projects of Orissa for correction of their established deformities. During our initial assessments it was also found that these patients had disease involvement impairing other nerves besides those causing their deformities.

All the cases were commenced on steroids as per guidelines of 1mg/1kg body wt. to the maximum of 40 mg, with an initial trial period of one month. If no improvement was shown then the steroids were tapered off over 6-7 weeks. However with improvement the same dose was continued for a further 2-4 weeks and then tapered to ensure an administration period from 3 to 6 months.

Routine physiotherapy and protective splints were also given. All the patients who were included in the study additionally taught to rigorously care for their anaesthetized areas of skin.

At the end of treatment 27 cases were found to have improvement in motor status and 18 cases were shown to have improved sensation. 15 cases showed improvement in both areas. Three cases were given steroids only for tenderness of multiple nerves and all recovered completely without any surgical intervention.

11 patients reported that they had difficulties in daily activities at the time of detection of nerve function loss. Six of these had recovered by the end of treatment.

PPOD 50

INTEGRATED REHABILITATION THROUGH VOCATIONAL TRAINING OF THE DISABLED INCLUDING LEPROSY - AN EXPERIENCE IN BOMBAY

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Physical handicap due to disabilities caused by a disease often perpetuate lack of confidence and dependency among the disabled persons including leprosy-affected persons. Regaining self-reliance is a slow process and does not occur spontaneously unless an opportunity is given to acquire technical skills. As literacy levels are admittedly higher among urbanites, the computer technology is penetrating even into the heart of the slums. Computer literacy as a qualification for job prospects becomes the felt need of normal individuals as well as the physically disabled including leprosy victims living in the slums. Our initial attempt to rehabilitate the handicapped youths along with leprosy cured in an integrated manner by offering vocational training in computer have enabled them to secure gainful employment and thereby improving the quality of their lives (Ganap-

ati et al, 1998). 42 disabled persons, of whom 13 were disabled due to leprosy, living in the slum has undergone 6 months computer training till January 2002. The training is conducted in collaboration with the local Computer Institutes situated in the slum as well as at the BLP's Vocational Training Centre. The training fees were raised through public donations.

A questionnaire study revealed that out of twenty trainees, nineteen (95%) trainees preferred computer training as it has better scope for jobs than the other vocational trades. Although 6 (30%) trainees secured job in the related field using the acquired skills, all the trainees felt that the training had given them the basic foundation necessary to pursue further career oriented training.

We present our experience on how the NGOs can help the disabled leprosy patients and handicapped persons through computer training, which have enabled them to lead a productive life.

PPOD 51

INTEGRATED, HOLISTIC REHABILITATION ENDEAVOURS IN P.R. OF CHINA

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In this mountainous province of Yunnan in China, the Government reports 15,000-18,000 persons as being disabled as a result of former leprosy. Around 500 new patients are detected each year. 3,500 of the disabled who were treated prior to the introduction of MDT, live in isolated 'leprosy villages', many in mud housing built during the 1960s and little repaired, some lacking clean water and electricity. The remaining persons with nerve impairment were treated by MDT and live at home, most in isolated villages, many facing discrimination. The government has focused attention to new case finding and cure. With fewer new cases, skin department staff are now busy coping with other skin diseases and giving AIDS education. Thus they are able to give little care to the cured, disabled. The Disabled Persons Federation are giving support by ways of grants for surgery and aids such as some footwear, wheelchairs and walking sticks.

This paper outlines the leprosy work of Project Grace which is an international, Christian umbrella group with teams working in seven areas of the province in cooperation with the Government Poverty Alleviation Department. Their work is varied. Most teams run courses to train village doctors and school teachers. Some organise community development projects, and they have an expanding rehabilitation programme in support of the deaf, of

some younger persons disabled by poliomyelitis, of persons with serious burn scars and of persons with below-knee amputation.

This paper describes how the project is now initiating work together with persons disabled or socially isolated as a result of leprosy, integrating that support where feasible with that for the other disabled persons served by the project. Support is holistic and includes measures to minimise physical impairment, to maximise function, to improve income in ways that give minimal risk of injury, to improve social participation, to mend or replace some older, mud housing and in some areas to improve access to safe water. Plans are under way not only to work with village doctors but also to train some leprosy disabled persons as village doctors

PPOD 52

IS LEPROSY MORBIDITY LESS? THREE DECADES OF HOSPITAL EXPERIENCE

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Though there is low leprosy prevalence all over, the deformities and ulcers is a major concern today. Thirty years of hospital data regarding the number of patients treated in O.P.D., I.P.D., deformities status and positive cases was analyzed to evaluate the change in the trend.

Nº. of patients per year	1972	1982	1990	1992	1995	1996	1997	2000
Total Out-Patients	4704	6974		4892				4668
Total In-patients	2383	2547		2500				2023
Ulcer treatment	1493	1775		1716				1514
Positive cases			184			102		81
Grade II deformity						1730	2512	3160

On Analysis, New active untreated cases are still present. No reduction in the number of patients with deformity and ulcers. Reaction cases are less. After the closure of Control Units, patients with severe ulcer and deformities attend the hospital despite availability of government treatment centres nearby.

Points to Ponder:

1. Strict vigil is needed in the field by skeletal staff to diagnose fresh cases and early nerve involvement.
2. Voluntary reporting and self-care practices are re-emphasised.
3. Complicated cases need care in specialized centres which are to be supported for sustained work.
4. History has taught lesson about hurried closure of programmes (e.g. resurgence of TB and Malaria).
5. Consumption of resources is high to restart than to maintain.

PPOD 53

IS THERE A RELATIONSHIP BETWEEN LIGHT TOUCH-PRESSURE SENSATION AND FUNCTIONAL HAND ABILITY?

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Introduction: The Semmes Weinstein Monofilaments are designed to test light touch-pressure sensation. Thresholds measured by this tool have been related to levels of functional sensibility. It is known, that loss of sensation does not influence merely functional sensibility, it has also an impact on motor precision, control of grip force and fine coordination. For this reason a correlation between the sensory thresholds measured by Semmes Weinstein Monofilaments and manual function tests would add an important predictive functional value to this tool.

Objective: The purpose of this study was to investigate and compare the level of light touch-pressure sensation as tested with Semmes Weinstein monofilaments with the level of functional hand ability.

Methods: Thirty leprosy patients with some loss of sensation and 30 healthy controls were tested with Semmes Weinstein Monofilaments to determine their sensory threshold on the palms. All subjects were measured by the Medical Research Counsel muscle grading scale to exclude any motor impairment. Then their functional hand ability was tested via the Functional Dexterity Test and the Jebsen-Taylor Hand Function Test.

Results and Discussion: Statistical analysis comparing the sensory thresholds and their relationship to the scoring on the manual function tests will be performed. The results will be reported and discussed.

PPOD 54

KUSHTROG KAYAKALP KARYAKRAM (RECONSTRUCTIVE SURGERY CAMPS) – THREE YEARS EXPERIENCE IN GUJARAT STATE (INDIA)

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Under the banner of Kusthrog Kayakalp Karyakram, Reconstructive Surgery Camp approach was successfully done in Gujarat, India. Three Mega Camps continuously 300 hours non-stop in January 1999, 500 hours non-stop in January 2000 and 300 hours non-stop surgery camp in January 2002 were organized at S.S.G. Hospital, Vadodara. In January 1999, 514 deformed leprosy patients were operated, in January 2000 total 1001 deformed leprosy patients were operated and in January 2002, 467 patients were oper-

ated during these mega camps. The eminent surgeons from all over India had attended these camps. The detail results and planning of these camps will be discussed in the Congress.

PPOD 55

LAGOPHTHALMOS IN LEPROSY - A CURRENT STATUS REPORT FROM EASTERN INDIA

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Next to Cataract, Lagophthalmos is one of the major ocular complications in leprosy encountered in Eastern India where 8 0% of the Leprosy sufferers are PB patients and 20% are MB variety. But most of these leprosy sufferers remains untreated due to the lack of proper eye health care delivery system for lagophthalmos surgery and patient's apathy towards surgery. In a random rapid epidemiological assessment conducted in this part of the country in the October-November 2001, 125 patients with lagophthalmos in one or both eyes were examined. The associated ocular lesions include corneal exposure in 60%, cataract of different degree in 30%, exposure keratitis in 40%, hyposthetic cornea in 70%, corneal opacity in 56%, panuveitis in 10% and phthisis bulbi in 10% of cases. Lagophthalmos surgery was found to be performed only in 26 patients. With a few exception of Temporalis Muscle Transfer (TMT), the lagophthalmos correction was mostly limited to tarsorrhaphy. The Lagophthalmos Surgical Coverage (No. of operated eyes with lagophthalmos \times 100 divided by Total No. of eyes with Lagophthalmos + No. of operated eyes with lagophthalmos) was only 15.7%. So there was an urgent need to provide proper surgical care for these neglected leprosy sufferers with lagophthalmos and high risk eyes. In this respect a special unit of Ocular Leprosy has been developed recently in a Non Government Eye Hospital to conduct screening camps by mobile team of Eye health Care personnel at the different aftercare leprosy colonies and clinics so as to identify and motivate the patients to undergo mass surgery in a camp fashion in the base eye hospital. The encouraging outcome of this model show an average outcome of five to six cases of lagophthalmos surgery per week.

PPOD 56

LEPROSY FOOT DISABILITY IN NEPAL

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Aim: To document existing foot disability suffered by person affected by leprosy in Nepal, and to highlight factors most likely to endanger their feet.

Methods: Two hundred and fifty seven leprosy patients who received protective footwear were enrolled in this study. Five hundred and fourteen feet were examined and recorded. Data collected included altered foot mechanism, geographical location and occupation.

Results: Of the 257 subjects, 218 (85%) were male and 39 (15%) female. The average age was 42, ranging from 11 to 71. Grade 2 disability (WHO) was found on 75% and 25% had grade 1 disability. More than 2/3 (73%) had fairly normal gait (heel strike, midstance and toe off). Ninety-two (36%) of those examined had either unilateral or bilateral foot drop and 45 of these (49%) had surgical intervention. Almost 30% of feet (146/514) were found to have single or multiple claw toes. The forefoot was observed to be most liable to plantar ulcers: 50% of ulcers were found on the metatarsal head, 26% on toes, with heel (16%) and lateral border (8%) less commonly affected.

Sixty percent of those enrolled were farmers, 7% labourers, and 7% housewives. Sixty four percent lived in the Terai (plains), while 36% in hilly regions of the country.

Conclusion: This study has sought to document foot disability among Nepali leprosy patients, and to examine factors which may contribute to foot destruction. A further follow up study on the same subjects after a period of time is planned, to compare whether the state of foot disability remains the same or deteriorates further.

PPOD 57

LEPROSY VILLAGE IN SHANDONG PROVINCE—PAST, PRESENT AND IN FUTURE

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In the late phase of leprosy control program in Shandong Province, there are few old and disabled ex-patients affected by leprosy in the 54 leprosy villages/leprosaria. This makes the running of these leprosy village/leprosaria more costly. In this paper, we reviewed history of the development and the roles of leprosy village and leprosarium. And then we analyzed the present situation of leprosy-affected people living in these leprosy villages/leprosaria in Shandong province, using the information collected from a questionnaire-based survey. Finally, we made

some suggestions and recommendations for policy makers concerned and leprosy control managers, in order to improve the present situation and better use of existing resources.

PPOD 58

LESÃO DO NERVO FIBULAR EM HANSENÍASE: RESULTADOS OBTIDOS ATRAVÉS DE UMA ABORDAGEM FISIOTERAPÊUTICA

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A hanseníase é uma doença infecto-contagiosa, provocada pelo *Mycobacterium leprae*, de evolução crônica, caracterizada por manifestações dermatoneurológicas. O nervo fibular quando acometido acarretará alterações sensitivas, motoras e autonômicas, dentre as quais a motora é a mais incapacitante, causando o pé caído por paralisia ou paresia da musculatura dorsiflexora e/ou evertora do pé. O fisioterapeuta, profissional integrante da equipe de tratamento atua auxiliando o diagnóstico precoce das neurites, através de uma avaliação específica e traçando um programa cinesioterapêutico, que associado ao tratamento medicamentoso, promove a recuperação do paciente. Objetiva-se demonstrar as principais características da lesão do nervo fibular, devido à hanseníase, bem como a frequência desta lesão no Hospital Clementino Fraga/PB, enfatizando a importância da fisioterapia neste agravado. Fez-se revisão bibliográfica e análise da incidência dessa lesão nos anos de 2000 e 2001. Oito pacientes apresentaram paresia/paralisia dorsiflexora até o mês de Maio de 2001, estando em fase de estudo o período de Junho a Dezembro do citado ano. A partir disto elaborou-se uma conduta fisioterapêutica baseada em cinesioterapia (exercícios, marcha com uso de órtese e preparação para cirurgia). A hanseníase é uma doença curável, porém suas complicações nem sempre podem ser revertidas totalmente, dependendo da intensidade do dano neural, da precocidade do diagnóstico e de um tratamento eficaz.

PPOD 59

LIPOENXERTO PARA AMIOTROFIA DO 1º ESPAÇO INTERDIGITAL

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A técnica consiste em retirada do enxerto gorduroso da região para – umbilical com incisão transversal de

5 cm de comprimento. Retira-se o lipoenxerto de aproximadamente 10 ml, conforme a necessidade da área receptora. Sutura por planos da área doadora, e faz o preparo do lipoenxerto retirando todo o tecido conjuntivo. Faz-se uma incisão de 4 cm na prega interdigital palmar do 1º espaço entre a pele volar e dorsal (na área de intersecção) e diseca-se o espaço cutâneo onde injeta, com uma pinça o lipoenxerto. Sutura-se o subcutâneo e a pele. Com 7 anos de follow up não foi observada reabsorção do enxerto.

PPOD 60

LONG TERM EVALUATION (17 YEARS) OF A PERSONAL TECHNIQUE FOR OPPONENS PLASTY

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Low median nerve palsy is usually accompanied by low Ulnar nerve palsy causing Ulnar and Median Claw and Opponens palsy.

None of the techniques wherein Intrinsic muscles are used pro Opponens can be applied to leprosy because all the Ininsics are usually paralyzed. In hyper-mobile fingers, the route of the graft and the attachment as suggested by Bunnel and Brand- may lead to a 'Swan-neck' of thumb (Tsuge) because -we believe- one of the tails presses dorsally over the Metacarpophalangeal (MP) while the hyper-flexion of the distal phalanx is not attended to.

Our modification: aims at correcting these deformities.

The chosen motor tendon - the Sublimis or the Extensor Indicis Proprius- are routed through a small incision just distal and medial to Pisiform bone and split in 3 tails; the pisohamate ligament will be acting as a pulley. One tail is sutured on the dorsal expansion at the level of Interphalangeal (IP) joint, after plicating the dorsal expansion and thus correcting the hyperflexion. The other two tails are sutured at the level of MP joint. Of these, one tail is routed dorsally to MP under minimal tension, while the other is passed ventrally under tension; this will act as a tenodesis of the MP, further will replace -partly- the action of the paralyzed adductor and thus prevent the 'Swan-neck' deformity. In the last 17 years we have operated 595 cases; in 87 cases (prior to 1987) the Brand's technique was used, our technique in all other cases.

The results: 508 cases were operated with our technique: 472 (93%) had excellent functional and aesthetic results; 36 (7%) had poor results due mainly to sepsis and not technical errors. We achieve excellent extension of PIP joint and have never had a case of Swan-neck deformity of the thumb following surgery. In order to assess the pre and post operative function of the thumb we use a modified Kapandji

scale. Clinical photos and drawings will highlight the mechanical problems leading to opponens palsy and the significance of the proposed corrective steps.

PPOD 61

LONG TERM FOLLOW UP OF PATIENTS WITH MALIGNANT CHANGE IN PLANTAR ULCERS IN LEPROSY

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Malignant change is a known complication of plantar ulcers in leprosy. Often the plantar ulcer is chronic and becomes a cauliflower growth or a flat lesion with everted edges. On clinical suspicion of malignancy a biopsy is done. If the ulcer is found to be malignant, it is usually a well differentiated squamous cell carcinoma of the skin. The treatment of choice is a wide excision providing a 5 cms margin.

In this study, 110 cases who underwent surgery for malignancy in plantar ulcer are studied retrospectively. The age, sex, duration of the ulcer, site and size of the ulcer, histology and the presence or absence of metastasis at the time of diagnosis were analysed. Depending upon the site and size of the ulcer either a wide excision and skin grafting (24%) or a radical procedure was done (76%)

Long term follow up of 90 patients is presented. The duration of the follow up ranged from 10 to 20 years. Four patients died of causes not related to malignancy of plantar ulcer. Four patients who had poorly differentiated squamous cell carcinoma developed metastasis. 12 patients were lost to follow up.

Adequate wide local excision and skin grafting where possible or local radical excision give good results in treatment of malignancy arising in plantar ulcers.

PPOD 62

LOSS OF DORSAL SENSATION COMPARED TO LOSS OF PALMAR/PLANTAR SENSATION OF LIMBS IN LEPROSY PATIENTS

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Introduction: Loss of light touch sensation in the limbs is a frequent consequence of nerve function impairment. In leprosy programs, sensory testing is routinely performed on the palmar/plantar aspect, usually not on the dorsum.

In Israel, dorsal sensation is routinely tested.

Objective: This study compares loss of plantar/palmar sensation to loss of dorsal sensation in hands and feet, and investigates the relationship between them.

Material and methods: Data was collected from 125 leprosy patients' files.

These patients were tested with SW Monofilaments. The threshold of loss of sensation was defined as a lack of response to 4.31 filament.

Results: Prevalence of loss of dorsal sensation in hands was 63.2% compared to 46% loss of palmar sensation. In feet, the prevalence of loss of dorsal sensation was 70.4% compared to 66.8% loss of plantar sensation, heels excluded. In 31.9% of patients with normal palmar sensation, loss of dorsal sensation was present. In feet, loss of dorsal sensation was found in 12.5% of patients with normal plantar sensation.

Conclusion: In hands and feet, loss of light touch sensation on dorsum occurs more frequently than loss of palmar/plantar sensation. Full nerve function assessment will therefore be incomplete if dorsal sensation is not tested, especially in patients with normal palmar/plantar sensation.

PPOD 63

MAGNITUDE, TRANSCENDENCE AND VULNERABILITY OF THE LATE REACTION IN LEPROSY PATIENTS: IMPLEMENTATION OF A SPECIFIC CARE PROGRAM

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The leprosy, cronical infection disease, is a large public health problem. If not diagnosed and treated, it may cause physical disabilities in Hansen's diseased patients, due mainly to reaction episodes. The leprosy reaction and its grievance, may happen before, during and after multidrug therapy treatment. The aim was to evaluate the magnitude, transcendence and vulnerability of late reactions; calculate the epidemiological and operational control indicators; implement action for monitoring the patients after treatment, through the analysis of charts of 335 leprosy patients in the Jaraguá Health School Center (CSE - Jaraguá) and 256 leprosy patients in the Clinical Center of the University Hospital (HC-UFU). A total of, 84 patients (25%) attended in CSE - Jaraguá and 66 patients (25.7%) attended in HC-UFU, due to reactive episodes after treatment. In terms of transcendence, the disability grade 1 was found in 21.2% and grade 2 in 25.8% of patients that presented reaction after treatment in the HC-UFU. In the CSE -

Jaraguá the disability grade 1 was found in 15.5%, grade 2 in 6% and grade 3 in 2.5%. About the vulnerability, the implementation of the Associated Macroregional Referral Center in UFU, involving both the CSE - Jaraguá and HC-UFU, was able to subsidize the implementation of a specific leprosy control program for follow up of these leprosy patients after treatment in city district and region.

PPOD 64

MANAGEMENT OF LAGOPHTHALMOS

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205 Leprosy cured persons with ocular complications were treated in Surgical Unit, HOINA Leprosy Research Trust, Muniguda, Orissa, between 1997 July to Aug' 2001. They were referred from different Projects of LEPRO India viz. Koralep, Junlep, Bolep, HOINA and Mayurlep. Out of 205, 56 persons had Lagophthalmos. 36 had bilateral and 10 had unilateral. 10 cases were unfit for operation due to other ocular complications. In total 62 eyes were operated for Lagophthalmos giving benefit of doubt to 10 persons having one eye incomplete paralysis. The patients operated were predominately males and elderly age group (40-50 Yrs.). 52 were MB cases. 60 operations of TMT-2T (Johnson's method) were done and 2 lateral tarsorrhaphy in rest 2 cases. The maximum period of follow up was +3 Yrs.. Results were analysed after last follow up. Integration was good in all cases. Think blink was fair in maximum number of cases. Only 2 cases needed retightening of suture and one patient had opening problem. It can be concluded that TMT-2T Johnson's method is a very effective procedure for correction of Lagophthalmos by a skilled and experienced surgeon.

PPOD 65

MEDIAL PLANTAR ARTERY ISLAND FLAP FOR CHRONIC HEEL ULCERATION

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Green Pastures Hospital, run by the International Nepal Fellowship, is one of three tertiary referral centres in Nepal to which people affected by leprosy are admitted for reconstructive surgery.

Chronic heel ulcers can be a difficult problem for the leprosy patient, necessitating many admissions to hospital with resulting loss of time at work. The risk of subsequent squamous cell carcinoma is also present in chronic ulcers.

To correct the defect and prevent continuing ulceration both removal of underlying bone spurs and coverage with healthy sole skin with underlying fat pad are often indicated. We report nine patients with chronic ulcers of the heel or carcinoma who underwent medial plantar artery island flap from the instep to the heel. Operations were carried out between 1997 and 2001. The average size of the ulcer was 3.5 cm and the average duration was 6.8 years. Eight of the patients had an associated bone spur excised. There was one minor post-operative wound infection and one minor dehiscence, both of which healed without further intervention. Follow-up at an average of 14.5 months demonstrated no recurrence of ulceration.

We would recommend this flap as suitable in the treatment of recurrent or chronic heel ulcers as it removes the ulcer with the associated scar tissue and restores full padding to the heel.

PPOD 66

MEDIAN NERVE REPAIR USING MUSCLE GRAFT IN LEPROSY

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Median nerve paralysis results from segmental (localized) lesions in leprosy. Nerve repair could not be successfully done in these hands as the nerves used conventionally as grafts were also affected by the disease. In this study, denatured autologous muscle, established as graft in the surgery of peripheral nerve injuries was used to repair leprosy affected median nerves in selected hands, primarily to restore sensibility in the palm.

At Sacred Heart Leprosy Centre, autologous muscle was used as graft to repair median nerves in 10 hands with total irreversible paralysis due to leprosy, during the period between 1989 and 1994. Objective sensory assessments with graded nylon filaments, weighted pins and biothesiometry and subjective assessments were done prior to surgery and at six monthly intervals thereafter.

Follow-up data were available for 9 hands, for periods ranging from 7 years to 11.5 years (mean 8.25 years) and were analyzed. For grading the results, both objective and subjective sensory assessments were used as criteria. Results were successful in 5 hands, Grade I in 2 and Grade II in 3. This study showed that the technique of using muscle as graft works in nerves affected by leprosy and remaining part of the nerve including distal sensory apparatus remains viable.

PPOD 67

METHODS TO PREVENT NERVE FUNCTION IN LEPROSY BY DETECTING EARLY SENSORY NEUROPATHY – AN OVERVIEW

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Although the early detection and prompt treatment has considerably minimized the proportion of disability among new cases, invariably certain number of cases develops neuropathy leading to deformity and disability. It is mandatory for instituting special intervention as well as to monitor the response to such interventions to evaluate the nerve function status of individual patients. Since the earliest manifestation of nerve damage in leprosy is mainly sensory neuropathy, it is important to detect and treat before it becomes irreversible. The availability of different methods to evaluate the nerve function loss to judge the actual neuropathy status can be misleading. The reliability and reproducibility of sensory testing is dependent upon a standard method of application. Studies on the use of SWM Filament to detect the early sensory changes indicate that it is sensitive and reliable. However the limitations of such tests have made it difficult to incorporate these modalities in a routine leprosy control programme. Efforts have been made to device a standard tool to make the sensory testing more sensitive and reliable. There is no uniform pattern of sensory neuropathy and the severity of loss in terms of duration and extent is always uncertain. It is also necessary to differentiate whether the sensory loss is directly a consequence of the peripheral neuropathy or due to other factors.

We made an attempt to review different sensory testing methods published in literature to compare their merits and adaptability in routine leprosy control programmes. The advantages and efficacy of various studies will be analyzed and presented with a suitable recommendation.

PPOD 68

MR IMAGING OF NEUROPATHIC FEET IN LEPROSY PATIENTS SUSPECTED FOR OSTEO-MYELITIS

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The MRI of 12 leprosy patients with 18 events of suspected osteomyelitis were retrospectively analysed.

All patients had longstanding neuropathic feet with neuro-osteoarthropathy. All patients underwent contrast enhanced MRI with Two Point Dixon Chemical Shift Imaging as fat suppression technique. For the analysis of osteomyelitis primary and secondary MRI signs known from diabetic feet literature were used. Golden standard for the diagnosis osteomyelitis was a positive culture and/or histopathology. Clinical outcome after 6 months, using a combination of clinical criteria, was retrospectively evaluated when the golden standard was not available or not conclusive.

MRI was positive for osteomyelitis in 17 of 18 events and negative in 1 event. Compared to the golden standard and/or clinical outcome there was agreement in 16 of 17 events positive for osteomyelitis and in 1 of 1 event negative for osteomyelitis.

We conclude that MRI can serve as a one step diagnostic strategy to diagnose osteomyelitis in leprosy patients with a longstanding neuropathic foot and neuro-osteoarthropathy suspected for osteomyelitis.

PPOD 69

MRI IN CLINICALLY ASYMPTOMATIC NEUROPATHIC LEPROSY FEET

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MRI examination was performed in clinically asymptomatic neuropathic feet of leprosy patients. Ten adult leprosy patients with normal or nearly normal shaped neuropathic feet, without a history of osteomyelitis or clinical symptoms of inflammation at the time of MRI were analysed. All patients underwent the MRI protocol with the inclusion of Two Point Dixon Chemical Shift Imaging as fat suppression sequence.

In 90% of the patients MRI-abnormalities were found in the MTP 1 region. Abnormalities ranged from degradation and interruption of the subcutaneous fat, plantar fascia, and small fistula to effusion/synovitis in the MTP 1. Bone marrow enhancement was seen in 3 patients.

Our study reveals significant MRI findings, which may possibly be related to the development of ulcerations. We conclude that with the use of MRI important changes are found in clinically asymptomatic neuropathic feet of leprosy patients. The conse-

quence of this study could be that more attention is paid to the clinical examination and longitudinal follow up of leprosy patients with asymptomatic neuropathic feet.

PPOD 70

NASAL RECONSTRUCTION IN LEPROSY

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Green Pastures Hospital, run by the International Nepal Fellowship, is one of three tertiary referral centres in Nepal to which people affected by leprosy are admitted for reconstructive surgery.

Destruction of the nasal septum and nasal bones by mycobacterium leprae and subsequent infection is still regularly seen in leprosy endemic areas. The social stigma associated with this deformity is significant in many countries. Different procedures have been developed to reconstruct the nose.

Patients operated on at Anandaban Hospital (Kathmandu, Nepal) and Green Pastures Hospital (Pokhara Nepal) between 1986 and 2001 were reviewed. There were 49 patients with an average age of 47.5 years, operated by 6 different surgeons. Deformities were mild (14), moderate (23) and severe (12). Bone grafting with skin flaps was done in 14 cases, bone grafting alone in 10 cases, flaps alone in 7 cases and cartilage grafting in 10 cases. In 3 patients a prosthesis was inserted and in 3 patients a gullwing forehead flap was performed. Grafting with conchal cartilage was associated with the best cosmetic results and had minimal complications. Bone grafting either with or without flaps was associated with a 50% complication rate, of infection or graft resorption. In mild to moderate deformities cartilage grafting is recommended while for more severe deformities cone grafting with fixation and skinflaps is recommended. In very severe cases reconstruction with a forehead flap gives good results. These procedures should only be carried out by an experienced surgeon and peri-operative antibiotics must be used.

PPOD 71

NEED FOR REHABILITATION OF LEPROSY PATIENTS

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As in other diseases or conditions associated with disability and/or deformity, rehabilitation services are also needed for leprosy patients. The introduction

of effective methods of treatment-medical, surgical and physical has brightened the prospects of cure of the disease. As a result, rehabilitation of a leprosy patients has now become practicable. Cure of the disease does not have much meaning for the patient if he still remains socially and economically dislocated.

The general principles of rehabilitation of leprosy handicapped persons are no doubt the same as those for other handicapped persons. However, there are two significant and vital differences. First, while other handicapped persons do not carry any stigma and/or are not socially dislocated, leprosy is unfortunately associated with a stigma and patients suffering or having suffered from this disease are apt to be socially ousted and considered as outcasts from society.

In other diseases, the question of rehabilitation is considered after the treatment of the patient has been completed, but in leprosy the process of rehabilitation should start as soon as a diagnosis of the disease has been made. Because of the immense difficulties in rehabilitation after he has been socially and economically debilitated or dislocated, efforts should be made to prevent debilitation.

There are vast numbers of leprosy patients representing an enormous waste of human resources who are disabled physically, socially, spiritually, vocationally or economically. We are to prevent this from occurring in the first place.

PPOD 72

NEW CONCEPT IN FOOT WEAR FOR LEPROSY PATIENTS WITH PLANTAR ULCER

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Custom made Microcellular rubber foot wear with rigid sole has established their importance in healing plantar ulcers and prevent recurrence.

Arch support has the important role of increasing weight bearing area and scooping is helpful in making the ulcer to take less weight.

Our concept incorporates all the above plus use of silicone gel inside the arch support and scooping is done on the bottom side rather than the foot contact side of the MCR.

The silicone gel is incorporated in the area of scooping and the sole. That is in between the insole and the sole. This helps in creating a water bed like effect in the areas where it is required. This has the positive effect of decreasing the friction effect as well as reducing the weight bearing. Such effect is given where ever it is required.

The criteria involved, methods, patient acceptance and the benefits will be discussed.

As seen in 500 patients will be discussed.

Color slides on the whole procedure will be shown.

PPOD 73

NOSE RECONSTRUCTION IN LEPROSY

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Among the many deformities caused by leprosy, facial ones are the most evident and stigmatizing, as they are easily seen. Patients with facial deformities, even when bacterially cured, see themselves, and are seen by other people, as still being sick. Leprosy causes loss of eyebrows, excessive facial wrinkling, eyelid paralysis, ear and nose deformities. These last ones are ugly and mark their bearers. They are caused by direct bacillary destruction of nasal lining and framework, generally sparing the skin. Surgical reconstruction includes a new lining for the nasal cavity and a new framework. The author presents nine cases of nose reconstruction in leprosy. Lining reconstruction was achieved by nasolabial (Farina's) flaps. A new bone support was built either with ulnar, tibial or skull grafts. A complete sequence of surgical techniques illustrates this presentation. Before and after pictures are exhibited. One complicated case is also detailed. Nose deformities, which are very stigmatizing, can be satisfactorily corrected through the utilization of presented techniques. Surgical reconstruction must be a part of leprosy patients' rehabilitation.

PPOD 74

ORTHOTIC INTERVENTION IN NEUROPATHIC FOOT OF LEPROSY AND OTHER DISEASES

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Total of 124 patients of leprosy (65 with ulcers, 52 with callosities, 5 with knee and calf pain and 2 with corns) and 26 non-leprosy patients (9 with rheumatoid arthritis, 4 each of polio and diabetes mellitus, 6 with corns and 1 each with tabes dorsalis, calcaneus spur and pain at first metacarpal head) were assessed clinically and radiologically. Harris mat footprints were taken. Custom made orthotic devices were prepared from MCR. Harris footprints were taken with orthosis in place. These devices were fitted in appropriate footwear. Patients were followed up six monthly for one and half year. They were reassessed and given new orthotic devices and footwear at every follow up. Clinical photographs were taken periodically.

cally to record the findings. In leprosy group ulcers showed healing in 55 patients, improvement in 6 patients and development of new ulcer due to nail injury in 1 patient. All showed reduction in callosities. Size of corns was reduced and patients were relieved of pain. Non-leprosy patients were relieved of pain and could walk comfortably. Patient of tabes dorsalis could walk with stability and with minimum support. Those with corn showed reduction in size. Diabetic ulcers showed complete healing and were free from recurrence. The benefits obtained from orthotic devices are attributable to redistribution of planter pressure achieved.

PPOD 75

PAUTAS DE INTERVENCIÓN DEL EQUIPO DE PREVENCIÓN DE INCAPACIDADES Y REHABILITACIÓN EN LA ENFERMEDAD DE HANSEN

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La lepra es una enfermedad discapacitante e invalidante al presentar un compromiso específico de los nervios periféricos denominado "neuropatía hanseniana", al ser las células de Schwan el blanco específico del *Mycobacterium Leprae*.

Esto implica que la persona que lo padece tiene un alto riesgo de presentar disfunciones sensitivas- motoras y vegetativas que comprometen su autonomía.

La patología neurítica responsable de la mayoría de los casos de la discapacidad, requiere de control y seguimiento permanente por parte del médico y de la intervención precoz del equipo de Prevención de las incapacidades y rehabilitación (PIR).

El objetivo principal de este equipo es "mantener las capacidades funcionales intactas a fin de evitar la pérdida de independencia de la persona".

Para el logro de este objetivo se implementan pautas de intervención específica que se desarrollan a través de cuatro programas

1. de educación
2. de prevención
3. de recuperación funcional
4. de reeducación funcional.

Se desarrollan en este trabajo los mismos y se evalúan los resultados de 7 años de actividades inherentes a esta propuesta.

PPOD 76

POST OPERATIVE OUTCOME OF CATARACT EXTRACTION WITH POSTERIOR CHAMBER INTRA OCULAR LENS IMPLANTATION IN LEPROSY PATIENTS AS COMPARED TO NON-LEPROSY PATIENTS

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A retrospective analysis of the post operative outcome of a sample number of leprosy and non leprosy patients who underwent cataract extraction with posterior chamber intra ocular lens implantation over three years in the eye unit of ALERT will be presented. Sample groups will be studied with respects to age sex and type of leprosy. Postoperative outcome will be divided into visual outcome and post-operative complications

PPOD 77

PRELIMINARY PROBE ON INVOLVEMENT OF GRASS-ROOTS LEVEL HEALTH DOCTORS IN POD AND REHABILITATION FOR PALS

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Purpose: To probe the feasibility of involving the grass-roots level health doctors in the prevention of disability (POD) and rehabilitation for the persons affected by leprosy (Pals).

Method: Taking the advantage of the opportunity supplied by Handicap International Organization's project, to train the health doctors while involving them in the POD and rehabilitation for the Pals from community.

Result: Totally 108 pals have been assessed about the disability. 15 Pals have been found with disability grade 2, which covers 13.9% of the total number, 16 Pals with disability grade 1, covers 14.8%. The situation of all of the pals with disability have been proven to be much more better than before.

Conclusion: The active involvement of the grass-roots level health doctors will be surely favorable to POD and rehabilitation for Pals. Reinforcement of the doctors training and a mechanism to improve the doctors' motivation is essential for our work in the future.

[Key words] the health doctor POD and Rehabilitation for Pals

PPOD 78**PREVENÇÃO DE INCAPACIDADES**

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A hanseníase representa um grave problema de saúde pública no Brasil. A cada ano, são registrados no país cerca de 40 mil novos casos da doença. Trata-se de uma patologia infecto-contagiosa crônica causada pelo bacilo de Hansen. A transmissão acontece via contato direto e prolongado com pacientes bacilíferos não tratados. O bacilo apresenta afinidade pela pele e nervos periféricos, o que pode levar a alterações sensitivas, motoras e autonômicas que predispõem a incapacidades físicas severas. Dessa forma, ressalta-se a importância das técnicas de prevenção, controle e tratamento das incapacidades físicas na hanseníase. O projeto de extensão "Prevenção de Incapacidades" tem como objetivo facilitar o acesso dos acadêmicos de fisioterapia às ações de controle das incapacidades físicas em hanseníase. São desenvolvidas atividades no Centro de Saúde Jardim Montanhês (CSJM) e no Anexo de Dermatologia do Hospital das Clínicas da UFMG (ADE/HC/UFMG). No CSJM, além do acompanhamento dos pacientes, tem-se a proposta de treinamento dos funcionários e agentes comunitários de saúde, sensibilizando-os para a busca ativa de casos novos e acompanhamento dos pacientes em tratamento e pós-alta. O ADE/HC/UFMG constitui um serviço de referência do programa de controle da hanseníase em Minas Gerais.

Nas ações de prevenção de incapacidades físicas em hanseníase a fisioterapia pode atuar precocemente através da avaliação neurológica periódica dos olhos, membros superiores e membros inferiores; acompanhamento das reações e/ou neurites; orientação quanto às atividades de auto-cuidados; e abordagem das alterações da função neural durante o tratamento e após a alta. Uma das formas de avaliação da efetividade das ações de controle em hanseníase é o registro do grau de incapacidades físicas, que tem como objetivo traçar um perfil epidemiológico da população assistida.

Com a ação integrada dos participantes do projeto e da equipe de saúde dos serviços pretende-se contribuir com o Programa Nacional de Controle da Hanseníase do MS na tentativa de erradicação da doença.

PPOD 79**PREVENTION AND MANAGEMENT OF DISABILITY - ANGOLA**

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Disability has been measured for the last 4 years in leprosy patients. The National Leprosy Control Program has trained health workers to recognise and treat leprosy with MDT. It is noted that as the number of newly detected cases rise, the proportion of patients with Grade II disability tends to gradually drop.

On the other hand patients with open ulcers on hands and feet continue to give a horrible image of the disease. Neuritis and reactions are present in approximately 20 % of patients. Prevention of disability is part of the training health staff receive when trained in leprosy care.

Care of ulcers in the Health Centres is frequently forgotten for lack of dressings and dressing instruments. Instrument and dressing Kits have been introduced into 56 Health Centres in 9 Provinces. The impact is measured in the number of ulcers found and the time ulcers take to heal. After one year the number of ulcers has reduced by 50 % and health education has encouraged patients suffering from ulcers to develop self-care groups.

By the end of 2002 it will be possible to manage ulcers and prevent disability in all 18 Provinces of Angola.

PPOD 80**PROBLEMS RELATED TO PHYSICAL REHABILITATION AMONGST PALS AFTER RELEASE FROM TREATMENT**

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A study was conducted to assess problems related to physical rehabilitation in Subang district, West Java, in 2001. In 8 Health Centres 53 PALS were identified, of which 43 participated in this study. The results show that 37.2% are young adults, presenting as having the highest priority for physical rehabilitation. The majority of PALS are poor with a low level of education, work in heavy manual jobs and walk long distances to works. Of the 43 examined, 9 PALS had additional disability grades while the others had remained 3 years after RFT. Of the 43 interviewed, 38 PALS presented with great hopes of finding help at the HC's. The performance of HC's are poor in

physical rehabilitation, the district general hospital doesn't cater for leprosy and isn't actively involved in physical rehabilitation for PALs. The level of knowledge about physical rehabilitation amongst the PALs was as follows: 74.4% had heard about the possibility of rehabilitative surgery, 65.8% said the result of surgery must be good, 65.1% said that surgery must be very expensive. Of the 43 interviewed, 22 are ready to undergo surgery, under the conditions of: free of charge (100%), hospital must be close to their homes (72.7%), a preference for Subang general hospital (63.6%). The remaining 21 are not ready for the reasons: fear of operation (25.6%), no indication as they only have G-1 disability (16.3%), a feeling of hopelessness (2.3%), have adapted with the presence of deformities (2.3%), must earn a living for the family (2.3%). Currently most patients' needs are physical rehabilitation with ulcer care, septic surgery including protective shoes. Many PALs present with recurring ulcers, but 79.1% have never been referred to the hospital, as the referral system is not working well.

PPOD 81

PROTECTION OF FOOT FROM DEVELOPING THE FIRST ULCER

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Plantar Ulceration is a common complication in leprosy due to peripheral nerve damage causes impairment of sensory, motor and sudo-motor function of the hands and feet, may occur in all types of Leprosy often the ulcer become infected with micro organisms that produce recurrent episodes of cellulitis of the surrounding tissues, osteomyelitis and destruction of bones results in deformities.

In our hospital out of 108 patients admitted during the year 2000. 63 were admitted for ulcers and most of which were plantar ulcers. As we see ordinarily, ulcers will not be so common, if the patient takes care of his feet. But once the patient allows an ulcer to form in his foot, the foot becomes more prone to develop a recurrent ulcer. Thus it becomes necessary to take all precautions to prevent the formation of the first ulcer, this is what Paul Brand refers to as "The Doctrine of the first ulcer".

Anaesthetic foot patient should take some steps like avoiding long walks and fast walking. Wearing MCR chappal, trimming his toenails, everyday hydrotherapy and oil therapy for 15-20 minutes and most important is patient should examine his feet everyday to see whether any fissure or break in the skin has occurred etc.

Rest is the most important thing in the treatment of ulcers of foot. Depending upon the severity of ulcer-

ation the treatment should be followed. What ever may be the intervention advocated to treat the plantar ulcers, the ideal intervention is to emphasis more on selfcare.

PPOD 82

QUANTIFICAÇÃO DO GRAU DE MELHORA DA FORÇA DE PREENSÃO EM PACIENTES PORTADORES DE HANSENÍASE SUBMETIDOS À NEURÓLISE DOS NERVOS ULNAR E MEDIANO: APRESENTAÇÃO DE CASO

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Introdução: Nos últimos anos, as doenças do punho vêm merecendo destaque na literatura científica, com progressivo aumento do número de trabalhos clínicos e experimentais. Na avaliação dos resultados dos pacientes hansenianos submetidos à neurólise, são utilizados vários parâmetros clínicos, entre os quais destacamos a força de preensão palmar.

Objetivos.: Avaliar o grau de melhora após neurólise em um paciente hanseniano com seqüelas motoras da mão.

Métodos: Realizou-se um estudo de caso com um indivíduo jovem portador de hanseníase apresentando grau 2 de incapacidade nas mãos. O paciente foi submetido a avaliação da força de preensão na mão direita através do dinamômetro-JAMAR (posição 2), durante o pré e pós-operatório de neurólise dos nervos ulnar e mediano.

Apresentação do Caso: ANPS, 19 anos, sexo masculino, estudante, destro, procedente de Brasília/GO, MH Multibacilar, encontra-se na 8ª dose de PQT, Q.P: dormência com paresia de musculatura intrínseca e extrínseca na mão direita. Apresenta-se com neurite nos nervos ulnar e mediano direito há mais de 3 meses. Grau máximo de incapacidade 2 para as mãos com perda da sensibilidade protetora, garra móvel e reabsorção discreta.

Resultados: Houve melhora significativa da força de preensão palmar após a realização do procedimento cirúrgico (neurólise).

Conclusão: O uso do dinamômetro Jamar consiste em um método confiável na quantificação da preensão palmar de pacientes submetidos à neurólise dos nervos ulnar e mediano.

PPOD 83

REASONS FOR REFUSAL OF RECONSTRUCTIVE SURGERY IN LEPROSY

Dr Mannam Ebenezer and Mr Premraj Isaac

The objective of the study is to determine the reasons for refusal of surgery and to identify ways to overcome them. In this study 75 patients belonging to the leprosy control area of Schieffelin Leprosy Research and Training Centre, Karigiri with impairments requiring reconstructive surgery and who refused surgery were interviewed. All these patients were advised to undergo surgery during their regular visits to the leprosy clinic. A significant observation is that only 23% seem to have understood the benefits and risks of surgery.

The reasons for refusal included long duration of hospitalization (42%), loss of wages (18%), both long hospitalisation and loss of wages (20%), non availability of a family member to care (14%) and fear of surgery (6%). Of the patients who refused surgery 86% said that they had adapted with their impairment to carry out ADL and their vocation although at a lower level of efficiency. The reasons for refusal of surgery were also analyzed according to age, sex, occupation, literacy, type of paralysis and bilateral involvement the major reason being long duration of hospitalization (62%).

This study brings out the need to reduce duration of hospitalization in our situation to enable patients to undergo reconstructive surgery. Alternative methods required to release joint contractures in a shorter time prior to surgery and methods to reduce postoperative period of physiotherapy for re-education needs to be explored.

PPOD 84

RECONSTRUCTIVE SURGERY FOR BACK LOG PATIENTS

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Worldwide implementation of multidrug therapy (MDT) has resulted in a rapid increase in the number of persons cured of leprosy over a short period. A proportion of them have WHO grade 2 disability. In India alone about ten million patients have been cured of their disease since the inception of MDT in 1982. We may expect about two million of the still living eight million among cured persons to be having grade 2 disability. Our experience shows that only a proportion of these persons are fit and willing for surgery straight away and that this proportion may be about $15\% \pm 5\%$. Thus we may have about 0.8 to 1.6 million persons who are fit and willing for surgery. The problem now is how to make surgery available to them within a reasonable period. While no systematic efforts to solve this managerial problem have been made on a large scale, various kinds of efforts have been made to tackle this issue at different places at different times and for different peri-

ods by different organizations. The experiences of various strategies are examined here. They may be broadly described as under: (i) special institutions model, (ii) sensitizing and motivating the surgical community, (iii) sensitizing and motivating academic departments of surgical specialties, (iv) incentives to institutions and (v) camp/campaign approach. The first model has mostly outlived its utility. The next three models have had very limited success. The last model has been very successful in the State of Gujarat, but it may not be possible to replicate it in most other States. However, that model well illustrates the importance of political will and widespread participation of the medical and paramedical professionals as whole and wide public support for a satisfactory solution of this otherwise unsolvable problem.

PPOD 85

RECONSTRUCTIVE SURGERY IN THE LEP-ROSY NOSE, A NEW CONCEPT

G.J. Nolst Trenité, W. Fokkens, K. Ingels, M. Virmond

The typical pathologic-anatomical findings in the leprosy nose are due to the destruction of parts of the nasal skeleton.

In particular destruction of the nasal septum and the anterior nasal spine are responsible for a saddle nose deformity and an acute nasolabial angle with lack of columellar show.

In severe cases there is also a lack of projection of the bony pyramid and vestibular stenosis with typical vertical alar grooves due to scar tissue retraction. In the past different reconstructive techniques were used to reconstruct the nose, from forehead flaps to implantation of iliac bone to restore profile and form with varying success. Ideal would be to restore the normal cartilaginous skeleton. Endoscopic analysis of 40 leprosy patient in Brasil (1994) showed extensive destruction of the internal nasal framework, with makes reconstruction of the septum impossible.

From initial surgical procedures to restore function and form we learned that the soft tissue envelope could be freed and used after dissection of the scar tissues.

Depending on the severity of the deformity we were able to reconstruct the nose with autogenous material, (rib cartilage) and composite grafts from the auricle to restore the inner lining and to prevent retraction.

We classified the leprosy nose in four grades of severity of the deformity.

Depending on the severity, conchal cartilage alone (in moderate deformities) to rib cartilage combined with composite grafts (in severe deformities) were indicated for reconstruction.

From 1995 until 2000 23 patients were operated with a follow up from 2 – 5 years. In all but one case there was aesthetic and functional improvement. The technique with dorsal (rib) grafts attached to a columella strut (with extension to rebuild the anterior nasal spine) showed no resorption of the dorsal autogenous rib cartilage implant but a rather high percentage of partial resorption of the columella strut (rib), possibly due to the tension of the soft tissue on this graft. The composite grafts of the auricular survived in all cases.

PPOD 86

REHABILITATION IN THE EYES OF INSTITUTIONALIZED LEPROSY PATIENTS

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There are thousands of leprosy patients staying in colony today and new patients are also coming to the colony for their rehabilitation. This fact is disturbing in connecting with Community Based Rehabilitation of leprosy patients. In this direction a study is undertaken to know the opinion about the rehabilitation in the eyes of institutionalized leprosy patients in mine district of Vidarbha – Maharashtra, India. A data is collected from 175 institutionalized leprosy patients and analyzed. In this study, the knowledge of the patients, their experiences in the families and with society, the reasons for their dehabilitation from normal social environment, their opinion about their rehabilitation, their educational, economical and own status in the family and society etc. such factors are studied in detail.

However, it also found that not old or deformed patients are settled in colony but the patients with no visible deformities are also coming today in colony for stay and this is disturbing. It is also found that qualified patients have more psychological problems and today on the verge of elimination the patients are facing familial, social, physical, economical, psychological and medical problems. These patients have no hope about their acceptance in the family and society as one of them and don't believe that the concept of Community Based Rehabilitation will be seen in reality in future completely

PPOD 87

REHABILITATION PROGRAM OF JICA ON LEPROSY IN MYANMAR

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Leprosy Control and Basic Health Services Project in Myanmar, JICA

From 1st. April, 2000, JICA project named Leprosy Control and Basic Health Services Project was started as a pilot project covered 48 townships (4 townships in Mandalay Division, 19 townships in Sagaing Division and 25 townships in Magway Division).

Now the government of Myanmar is devoting all its powers to eliminate leprosy according to WHO's regimen in the not too distant future. After elimination of Leprosy, it will become to be important to control ex-patients with disabilities and deformities who are unclear the number in more than 230 thousand RFTs at the present. Therefore, we were starting to carry out some programs concerning rehabilitation on Leprosy in collaboration with the government of Myanmar. This project are stating to collaborate to control them within the project sites such as Reconstructive surgical training, Sewing training, Shoe making training, Physiotherapy training and so on using Yenanthar Leprosy Training Centre that was built up in 2001 by the government of Japan. Yenanthar Leprosy Hospital to which this training centre belongs is only one national leprosy hospital in Myanmar that has a responsibility to give medical services to leprosy patients.

Reconstructive surgical training for orthopedic surgeons in the divisional hospitals and district hospitals were conducted as first step of surgical training, Shoe making training for staff of Yenanthar Leprosy Hospital and physiotherapy training for physiotherapists of Myanmar were also conducted by Japanese experts dispatched from Japan. Sewing training for leprosy patients and their members of family were carried out in collaboration with Japanese NGO that are working in Mandalay city, Myanmar.

We would like to show the above activities and evaluation concerning with the rehabilitation on leprosy that we are just starting to carry out from this year.

PPOD 88

ROLE OF POSTERIOR TIBIAL NERVE DECOMPRESSION IN PLANTAR ULCER

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Plantar ulcers continue to be a major problem in leprosy. For various reasons Posterior Tibial Nerve (PTN) damage is neither noticed by the patient nor managed by the doctors early. The consequence is deformities and ulcers causing physical, social, financial and psychological problems to the patients. A study to assess the effects of PTN decompression was done. Patients with sensory loss of more than one year and plantar ulcers of varying duration were operated and followed up for 2 to 16 years. Total patients 78 (Male - 59, Female – 19). Total nerves 100.

Results: Fourteen out of 16 patients with two years duration of sensory loss had good sensory recovery and there were no ulcers. Among 44 who had single or recurrent ulcer of less than six months there was no recurrence in 30 and the recurrence was less in 14. Twelve with recurrent ulcers more than one year showed poor improvement. Six patients with sensory loss and ulcer of more than three years did not show any improvement.

PTN decompression has an important role in the management of early nerve damage. If done within two years of sensory loss and ulcer recurrence, the result will be tangible. PTN decompression at a later stage is beneficial to enhance the healing and reduction of occurrence. This surgery can be done in centres with a minimal infrastructure and trained team. By managing the PTN involvement effectively, the manpower and money spent on hospitalization and rehabilitation can be reduced to a large extent.

PPOD 89

ROLE OF SELF CARE CUM TRAINING CAMPS IN DESTIMATISING LEPROSY – AN EXPERIENCE WITH THE PATIENTS, PROVIDERS AND PEOPLE

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Back-ground: Leprosy is better known for deformity it causes to the patient, resulting in social stigma, discrimination and ostracism. This is a concern for all of us but the problem is actually faced by the patients and their families in the community.

In Orissa since implementation of MDT, 794485 cases have been detected and 85% have been cured with MDT. The deformity rate has come down from nearly 17% in 1983 to 1.8% by March 2001. This looks convincing. But there is huge load of already deformed patients who need both care and cure including community acceptance. To further worsen the situation roughly 800 cases are added each year. Inadequate vertical set up coupled with increasing disability burden calls for immediate attention of all. This is a real challenge to be faced.

Objective: To provide both curative and preventive services to the deformed patients through self care practices and counseling.

To equip the service providers with the technical knowledge and skill of disability care through learning by doing approach.

To make aware the community that leprosy is treatable, curable, and touchable and we really mean it ensuring community participation.

Strategy: Self-care practices including counseling for recently developed visible (gr-II) deformity cases.

Self-care teachings to the General Health Care providers based on learning by doing exercises.

Community participation ensured.

Observations:

Number of camps	12
Patients	338
Health provider	489
Community Participation	Community leaders, teachers, students, NGOs and others participated

Conclusion: These camps provided an excellent opportunity for patients, providers and people to interact with each other and enrich their knowledge and skills.

Generate a common understanding of disease and associated deformity.

PPOD 90

SENSATION TESTING OF HANDS AND FEET: EXPERIENCES WITH THE TRAFFIC LIGHT PRINCIPLE

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Assessment and evaluation of nerve function is important in the diagnosis and management of leprosy reactions/neuritis. Loss of sensory function is an early sign of nerve function impairment and often may precede motor function impairment.

In many projects graded monofilaments are used to (semi)-quantitate the sensory status of the nerves. Often the sensory status of the nerve is visualised by marking the selected points on the diagrams of the hands and feet with the colour that corresponds to the graded filament.

Hands and feet have different levels of normal, diminished, and protective sensation. When interpreting the sensory status of the ulnar, median and posterior tibial nerves, the examiner has to do a mental exercise because the different colours have a different meaning for hand and feet.

A colour pattern is proposed: green, orange and red, based on the colours of a traffic light. This harmonises the interpretation and can facilitate the evaluation of the sensory status of the nerves affected in leprosy. The recording and visualisation of the sen-

sory status respect the different levels of normal sensation of hands and feet. The advantages and disadvantages of this method of evaluating and monitoring sensory function of peripheral nerves will be discussed.

PPOD 91

SERVICES AUGMENTATION FOR INTEGRATION OF LEPROSY (SAIL) AN EPOCH MAKING VENTURE IN A DEVELOPING COUNTRY

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Introduction: The Government of India has set forth a parameter for integrating leprosy with general health care services in states where MDT is in operation for 5 years or more and where the prevalence rate has come down to less than 6 per 10,000 population. With excellent leprosy control and elimination activities carried out by the Government of Tamil Nadu during the last two decades, integration of leprosy has become a reality in the year 1997.

Objectives:

- To identify the high risk groups through the existing leprosy and public health staff in Tiruvallur, Coimbatore and Vellore districts.
- To assist in augmenting programs as an integral part of the medical campaign and to implement the field programs effectively through IEC assistance of the existing systems.

Operational Modalities: Advance programs were prepared to reach at the public health centres through a circuit plan drawn out and distributed among the PHCs one month in advance. These programs cover a population of over 10,000,000 in 3 districts where we had supplied over 16,000 MCR chappals and over 80,000 POD/Selfcare Kits. The services of SAIL have certainly enhanced involvement of the government health staff in

PPOD 92

“SWIFT” DISABILITY ASSESSMENT – AN NGO BASED STUDY TO OFFER EFFECTIVE POD SERVICES

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German Leprosy Relief Association (GLRA) and Swiss Emmaus Leprosy Relief Work (ALES) are two

International Organisations working for leprosy in India for more than 40 years. Through the projects supported by these organisations, 34607 disability patients were registered for treatment and care.

The objective of the “SWIFT” Disability assessment was to organise systematic special campaign to carry out the quality assessment of disability on a fast pace, so that a realistic picture of the disability particulars will be available from the supported projects. It could also cover all the deserving patients suffering with deformities under the medical, surgical, physio and rehabilitation services on priority basis.

The project physio technician and the field staff of the concerned projects were utilised for this assessment under the guidance of the Technical Advisory Unit (TAU) of GLRA/ALES – India, using a specially designed format. The assessment was done in two phases, an intensive phase of one week followed by an evaluation after one month.

The result showed that some of the old registered patients were not available in the given address for assessment and the number of deserving cases for reconstructive surgery was on the higher side. The teams also could identify the right candidates for different POD services.

PPOD 93

THE ACCEPTABILITY OF PROSTHETIC REHABILITATION AMONG PERSONS AFFECTED BY LEPROSY IN NEPAL

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Aim: To review the acceptability of prosthetic limbs among users, their families and their communities.

Methods: More than 150 leprosy and non-leprosy patients have had below knee amputation (BKA) and been fitted with prosthetic limbs at Anandaban Leprosy Hospital, Nepal. Sixty-two of these patients (52 leprosy and 10 non-leprosy patients) were interviewed using a standard questionnaire. There were 48 statements divided into seven categories to assess the difficulties faced as a result of the prosthesis in areas such as personal, domestic and social activities.

Results: Over 90% of those interviewed were able to do domestic activities but indicated inability to do field work; half of them possess no lands and cattle. More than 70% were allowed to partake in family and community ceremonies; 28% refused the invitation. Ninety percent had received a positive attitude from the community. Almost all patients managed to go to the toilet with the prosthesis, but found squatting difficult. Half of those interviewed felt physi-

cally able to carry on their work efficiently. Two thirds were capable of earning, while 25% depend upon leprosy and other social organisations. The average use of a prosthesis was 8.9 hours (range: 1-16 hours); walking distance was 3 km (range: 1-10) each day.

Conclusion: There is no significant change in the social, religious and cultural lives of patients with prosthetic limbs. Social integration seems to be positive and the nuclear family appears to be strong

PPOD 94

THE ANALYSIS OF EFFECT FOR 500 CASES WITH EYE, HANDS, FOODS DISABILITIES BY SELF CARE IN 3 YEARS

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Objective: To observe the effectiveness after the disability persons who affected by leprosy had eyes, hands and feet self-care.

Methods: The disability persons who affected by leprosy were guided termly by staffs to have self-care, then we registered their disability situation according to uniform standard.

Results: After observing for three years, total 500 persons, their red eyes were decreased 43.57%, cracks of hands and feet were decreased 33.33%, ulcers of thenar were decreased 37.14%, the proportion of implementing self-care consciously was 81.0%.

Conclusion: Eyes, hands and feet self-care can prevent from and control leprosy disabilities effectively.

PPOD 95

THE ANALYSIS OF REHABILITATION EFFECT FOR 823 CASES WITH DISABILITIES IN 3 YEARS

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Objective: Prevent and stop disability increase, improve and recover the physiological function so to get a higher life quality. **Methods:** teaching the care-self method of the Watson (eye, hand and foot care-self) to leprosy patients and treating the complex foot ulcer in a compositive measure. **Result:** disability was improved obviously, the cured rate of foot ulcer is 73.5%.

Conclusion: The Watson method is a effective measure to prevent and reduce leprosy disability. It could

improve patients' physiological function obviously and should be spread out.

[Key Words] Leprosy disability rehabilitation.

PPOD 96

THE APPLICATION OF THE INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY AND HEALTH IN LEPROSY

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In 1980, the World Health Organisation (WHO) published, for trial purposes, the International Classification of Impairments, Disabilities and Handicaps (ICIDH). During the last decade many international organisations have collaborated with WHO in the development of a definitive classification. This is now called the International Classification of Functioning, Disability and Health and will be known by the acronym ICF. In its 54th assembly (May 2001) WHO endorsed its international use. The overall aim is "to provide a unified and standard language and framework for the description of health and health related states".

The classification is divided into two parts:

- 1) Function and disability, consisting of the components a) body function and structure, and b) activities and participation.
- 2) Contextual factors, consisting of a) environmental and b) personal factors.

The important health-related terms impairment, disability, activity, functioning and participation are all defined. The classification shows how these are (inter) related and how the experience and evolution of 'health (problems)' is influenced by environmental and personal factors. To be able to assess the need for rehabilitation and to monitor and evaluate the effect of rehabilitative interventions, it is advised that the concept and definitions of the ICF be used.

Leprosy can affect the person in every important domain of functioning. In the past, much emphasis has been given to the assessment and treatment of impairments only. For a comprehensive or holistic rehabilitation, attention needs to be given to all domains of functioning.

Case studies will illustrate how the concepts of the ICF can be used and applied in the rehabilitation of leprosy affected persons.

PPOD 97

THE COGNITION AND DEMAND OF INPATIENTS WITH LEPROSY FOR REHABILITATION

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The rehabilitation is an important part of leprosy control and also an important point of our work now and onward. In order to exploring and demanding of rehabilitation of leprosy patient, through questionnaires of leprosy patients, through questionnaires made by ourselves, making dialogue with and investigating 96 patients. The result showed that most of the patients know general knowledge of self rehabilitation but lack of deep concern, and doing apart from knowledge. The demanding rehabilitation forms are most from medical professional performance and pamphlets, watching TV and listening tape records. The discussion indicated that the knowledge and doing of rehabilitation for leprosy patients should be in step.

We recommend that the time of rehabilitation should be in advance, contents should be systematically and the forms of performance should be multiplex

[**Key words**] leprosy rehabilitation exploration.

PPOD 98**THE EFFECT OF PREVENTION FOR LEPROSY DISABILITIES**

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Objective: To assess the effect of actual measure for prevention from leprosy disability.

Methods: Comparing the leprosy disability rate between now and before the measure of prevention from disability by using the retrospective research in new cases and relapse patients.

Result: Since a composite measure of prevention from leprosy disability was used in Guangxi, the rate of leprosy disability grade II has descended to average 13.02% of near this 10 years from 45.09% of before and the disability rate in new cases has been descended to average 10.95% of near this 10 years from average 23.14% of before 30 years ($P < 0.05$).

Conclusion: It is a composite result of many factors for the descending on leprosy disability in Guangxi, of it, measures of disability record form, early detecting and treatment for peripheral neuritis have played a key role.

[**Key Words**] Leprosy disability rehabilitation

PPOD 99**THE FOLLOW UP STUDY OF THE OUT COME OF INTRA OCULAR LENS IMPLANTATION AS A PART OF THE CATARACT SURGERY AMONGST THE LEPROSY SUFFERERS**

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At present Cataract is the major cause of blindness amongst the leprosy sufferers of Eastern India. In most of these cases it is due to senility. Complicated cataract possibly due to leprosy process is encountered in 20% of the cases. Extra Capsular Cataract Extraction (Can Opener Technique) with Intra Ocular Lens (IOL) Implantation with a Peripheral Button Hole Iridectomy and Interrupted Sclero Corneal Sutures was the surgery of choice in this study. In a rapid epidemiological assessment conducted in January, 2002, out of 300 eyes of 210 MB leprosy sufferers with operable cataract, 170 eyes of 120 patients were found to underwent cataract operation with Intra Ocular Lens Implantation. The Cataract Surgical Coverage (No of operated eyes with cataract \times 100 divided by Total No of eyes with Cataract + No of operated eyes with Cataract) was 36.6%. However all the 170 eyes of this series was operated by the same operative technique, surgical team, surgical atmosphere of a particular hospital with the single operation theatre and a single specific brand of viscoelastic agents, IOL and suture material and uniform post operative care (a course of oral steroid along with local steroid and cycloplegics). The post operative follow up period varies from two and half years to three months. The mean follow up period was one year. The visual outcome following surgery after mean period was 6/12 and above in 90% of cases. Posterior Capsular Opacity resulted corrected vision upto 6/12 in 5% of the study group. 4% of the cases had vision limited to 1/60 due to corneal opacity following corneal ulceration as a result of hyposphetic cornea, associated lagophthalmos. 1% had PL only due to blood staining of the cornea. Not a single case of post operative endophthalmitis or intractable uveitis was encountered. So Cataract Surgery with IOL implantation is a safe procedure in MB Leprosy sufferers even with the history of reaction.

PPOD 100**THE INFLUENCE OF PSYCHOLOGICAL STATUS OF LEPROSY CASES WITH DISABILITY ON REHABILITATION**

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Objective: Understand and mastery the influence of psychological status of leprosy cases with disability on rehabilitation.

Methods: Studied the influences of sex, age, educational level, disability and having or not close relatives on their mind in 82 leprosy cases with disability by using the disease self—estimate table of SCL-90.

Result: The suffering levels of the study object is higher than those in healthy status and the total mean score of psychological response was equal to 116.55 ± 47.21 . The degree of disability has made a direct impact on the patient's mind. As compared with the patients living at home, the patients isolated in leprosaria without close relatives have higher scores in compulsion, depression, phobic anxiety, bigoted ideas and psychosis. The longer the disease duration, the more severe the lost and phobic feeling and hostility. The illiterate patients have more serious lost and phobic feeling. According to eight factors in SCL-90, the most sensitive ones are interpersonal sensitivity, depression and phobic anxiety, and the next ones are compulsion, anxiety and hostility. After they firmly believed the diagnosis, a few cases began excessively drinking, became superstitious, gamble-some, hostile and even tending to suicide. Forty-eight of the 74 cases had suicide intentions and four committed suicide themselves (without completion).

Conclusion: For the psychological health of leprosy patients with disability it will be necessary to obtain the support of the public in removing discrimination against the patients through popular health education and to find and treat the patients as early as possible in the interests of prevention of the disability.

[Key Words] Leprosy Disability Psychological Reaction SCL-90 Form

PPOD 101

THE INTRINSIC PARALYSIS THUMB; A CHALLENGE FOR SURGEONS AND PHYSIOTHERAPISTS. A SUGGESTED APPROACH.

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A well functioning thumb is depending on stability in its joints to allow sufficient power in its function as an opposing finger in grips as well as sufficient joint mobility for dexterity. The ulnar nerve in its function as a metacarpophalangeal joint stabiliser also serves the first ray through the m. adductor pollicis, the m. flexor pollicis brevis deep head as well as (to some

extent) through the first dorsal interosseus muscle. Paralysis of those muscles, whether due to an ulnar paralysis or a combined ulnar and median paralysis, leads to Z-ing and weakness of the thumb. Stabilising procedures, dynamic or static, encounter risks for crankshaft deformity and/or less than desired dexterity. In an attempt to restore independent movements in the carpometacarpal, metacarpophalangeal, and interphalangeal joints 11 patients (6 with ulnar paralysis only, and 5 with combined ulnar and median paralysis) have had tendon transfers using the extensor indicis proprius routed trans-interosseus, trans-thenar, volar-ulnar to the metacarpophalangeal joint and inserted into the extensor pollicis longus on the basephalanx. The task of bringing back the skills of independent movements of the three joints present certain challenges for the physiotherapist both in terms of training as well as in terms of evaluating the result. The method and results are discussed.

PPOD 102

THE NEEDS AND COGNIZE ON REHABILITATION FOR 135 LEPROSY CASES

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Objective: to know the leprosy patients' cognizing and requirements to rehabilitation.

Methods: 135 leprosy patients were investigated by interview and questionnaire, the investigation form designed by national STD and leprosy control center was used.

Results: 60-85% patients knew normal knowledge of leprosy rehabilitation, they were lacking of deeper knowledge and can not implement rehabilitation as what they knew. About rehabilitation requirements, most of patients (72%) chose demonstration of doctors and nurses; simple books, 50-70% of them chose watching kinescopes and listening to records.

Conclusion: we ought to let leprosy patients implement leprosy rehabilitation as what they knew, which is very important. It is suggested that time of rehabilitation should be earlier, contents should be systematization and formats should be diversification.

[Key words] Leprosy Rehabilitation Cognize

PPOD 103

THE REVIEW OF EFFECT FOR INTEGRATING CONTROL OF FOOD ULCERS WITH LEPROSY

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The effect of a comprehensive protection measure on 608 leprosy cases with 423 plantar ulcers for three years was reported. Out of 423 ulcers, 370 ulcers healed, 4 had no changes, 13 deteriorated, 43 were newly-found and 34 relapsed. The improvement rate and the cure rate were 87.49% and 87.47%. The incidence of new ulcer and the relapse rate were 2.80% and 4.13% in the first year, 1.15% and 15.92% in the 2nd year and 3.13% and 4.35% in the 3rd year.

PPOD 104

THE USE OF PODIATRIC ORTHOSES IN THE MANAGEMENT OF PLANTAR NEUROPATHIC ULCERS IN LEPROSY

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Although the conventional methods of treating the neuropathic plantar ulcers in leprosy has been found effective, it does not compromise with the mechanical factors that is needed for pressure distribution. Podiatry orthoses (Custom insoles and padding techniques) are used widely particularly in most developed countries for the management of foot ulcers in diabetes. The rationale of this intervention is to keep the level of physical stress sustained by the foot below the tissue damage threshold thereby enhances the healing process. Podiatric orthoses can be manufactured from a range of materials, including compressed felt and microcellular rubber [MCR]. We present our experiences of a randomized control study with 20 leprosy patients having non-healing plantar ulcers conducted in Bombay to measure the use of Podiatry orthoses in the management of neuropathic plantar ulcers in leprosy.

20 subjects (10 - Study group and 10 - Control group) with non-healing plantar ulcers were recruited for the study. Size, location, surface morphology, pathological condition and duration were observed at regular intervals. Podiatric orthoses were designed using the self-adhesive compressed felt pad depend on the nature of wounds and provided to the study group patients. The healing rate was measured in terms of reduction in the mean area of plantar ulcers in both the groups. There was no change in the mean area of plantar ulcers in both the groups after 3 months, significant difference was observed after 6 months, however it is not statistically significant. Our finding highlights the importance of self-care measures to be practised by the patients themselves. It was also found that these podiatry devices fitted in the footwear could prevent recurrence of ulcers.

PPOD 105

THUMB WEBPLASTY: TECHNIQUE AND OUTCOME

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Green Pastures Hospital, run by the International Nepal Fellowship, is one of three tertiary referral centres in Nepal to which people affected by leprosy can be admitted for reconstructive surgery.

Patients with prolonged median (or median and ulnar) nerve palsy often develop a contracted web space and may also present with shortening of the thumb. While physiotherapy and splinting may be adequate in mild contractures, many cases will require surgical release. Thumb length is an important determinant of hand function and therefore lengthening of the thumb by deepening the web through web-plasty can be expected to improve function.

This review of the outcome of various types of web-plasty was performed in Green Pastures Hospital, Pokhara, Nepal, between November 2001 and January 2002. There were 14 operations on 11 patients (5 male, 6 female, average age 45 years).

Four z-plasties, eight dorsal flaps, one dorsal release with skin grafting with Z-plasty and one second metacarpal excision were performed. The average web angle was 33° pre-operatively and 56° post-operatively. The average thumb length was 2.7 cm pre-operatively and 4.2cm postoperatively. The average web distance 2.3 cm preoperatively and 4cm post operatively.

Following a dorsal flap procedure thumb length increased from 2.1 to 4.2 cm (+ 2cm) while following Z-plasty thumb length increased from 3.4 to 4.4 cm (+ 1cm). The web angle following a dorsal flap procedure increased from 27° to 53°, (+ 26°), whereas following Z-plasty the web angle increased from 38° to 55° (+17°). All patients were satisfied with the result. There were no post-operative complications. Dorsal flap web-plasties are ideal for creating length and release of severe contractures, and Z-plasties are adequate for mild to moderate contractures.

PPOD 106

TREATMENT OF COMPLICATED FOOT ULCERS WITH A COMPREHENSIVE MEASURE IN 1804 LEPROSY CASES

Yan Liangbin-Zhang Guocheng, Zheng Zhiju, *et al.*

Institute of Dermatology, Chinese Academy of Medical Sciences and Peking Union Medical College, National Center for STD and Leprosy Control, Nanjing 210042. PD Samson, J M Watson and A Piefer. The Leprosy Mission International

To approach the feasible methods to prevent plantar ulcers in leprosy patients according to the agreement between MOH and TLMI. The results of 2599 complicated foot ulcers in 1804 leprosy cases treated with surgical interventions, plastic fixation, supports, dressing, rest, provision of protective footwear and modified insoles were presented. The results showed that 1446 foot ulcers in 1055 cases healed, accounting for 55.64% of the 2599 foot ulcers. The cure rate in those who live in leprosy hospitals was 71.31%, 219 foot ulcers in 172 cases (15.15%) recurred. The recurrent rate in those who live at home was more than 18.35%. The comprehensive measure in treatment of foot ulcers had high cure rate and low recurrent rate. Reduction of workload, avoidance of long distance walking, intensification of education on foot self-care and provision of financial support are the main measures in prevention of recurrence of foot ulcer.

PPOD 107

TRIAL OF HOMOEOPATHIC MEDICINE IN THE PREVENTION OF DISABILITY

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Neural deficits are often found to result in episode of anaesthetic hand and foot which leads to cracks, ulcer, septic hand and feet, joint stiffness, mutilation of hand and foot. These anaesthetic extremities are a major source of disability in leprosy which is responsible for the rehabilitation of the leprosy affected person.

As no treatment is available for regain of nerve function so under NLEP sole emphasis is given to prevent disabilities by practicing hand and foot care. The principle of all disability prevention education programmes is to make leprosy affected persons aware about the protected use of hand and foot though in the field most of the affected persons do not follow the guidelines. To find out some practical solution towards prevention of disability, regain of nerve function to any extent would give real benefit. To augment disability management, a randomized controlled clinical trial was undertaken for a period of six months to study the effect of some selected Homeopathic medicine on patients with anaesthetic hand and foot.

Eighty leprosy cured persons with anaesthetic hand and foot who had been completed MDT or released from surveillance were randomly selected for this

trial. Out of these, forty patients constituted the study group. The patients with cracked foot were grouped in one and treated with a combination of three Homoeopathic medicines. The patient with cracked foot and ulcer were treated with another group of medicine. None of the patient was advised to give rest of the affected part. All the patients with cracked foot showed disappearance of the cracks with remarkable change in the texture. The other group with ulcer showed complete healing. The most noticeable change in all the patients recorded was regain of touch sensation and sweating of palm and sole of the feet. The two changes like sweating of palm and sole of the feet and regain touch sensation could take place only if the sensory nerves are functional. Therefore, it can be concluded that this line of treatment can be adopted for prevention of disabilities in leprosy cured persons with anaesthetic extremities.

PPOD 108

ULCER CARE THROUGH CAMP MODE WITH MINIMUM RECCURANCE RATE A STUDY OF 85 POD CAMPS

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Introduction: Recurring ulcer is a problem with LAPs. Ulcer reflects on MDT compliance. Image of leprosy is to be changed. Therefore it is priority.

Objectives:

1. To develop conviction among leprosy cases with planter ulcer that ulcer do heal (by demonstration, by counseling, by support)
2. To promote adoption of self care practice to cure and prevent ulcers.

Method: Counseling, demonstration, practices (training), group discussion, community support (removing apprehensions), rapport development, mutual counseling, encouraging and improving self steam (generating hopes). Ulcer care done in residential camps of 7 days and the main emphasis was to convince patients to heal the ulcer and made concern about no recurrence.

Results: A study of 85 POD camps 3192 cases with ulcer in hand, 3629 cases with ulcer in foot (Table-1) ulcer heals within 7 days (Table-2). Recurrence of ulcer in those patients was observed up to 3 years from the period of time. How many adopted self care, how many cover back with ulcers. MDT was not demanded to heal ulcers.

Conclusion: Self care, ulcer healing, POD is essential to remove fear and frustration which is barrier in leprosy elimination.

PPOD 109**USEFULNESS OF ALTERNATIVE THERAPY (HERBAL) FOR MANAGEMENT OF ULCERS AMONG LEPROSY PATIENTS**

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St. Josephs Leprosy Rehabilitation Centre. Nidadavole – West Godavari – Andhra Pradesh, India

The center has 216 Hansens disease patients who had completed their course of MDT under their care. 120 males and 96 female patients, 42 patients are inmates of the center, 36 patients from nearby patients colony, 36 patients from outside area frequently visiting, and 102 patients who had attended once the center for ulcer treatment. All the patients except 36 had grade-2 deformity of hands and feet. Chronic, complicated ulcers were constant problem, since the project was started in the year 1987.

From the year 1995 Herbal products were been used for ulcer dressings along with self-care practices and antibiotics or surgeries wherever needed. For ulcer dressings (external use) paste was made from Turmeric (*Curcuma longa*), Common salt (Sodium Chloride), Neem leaves (*Azadirachta indica*) (or) custard apple leaves (*Annona squamosa*).

The results proved that the herbal products when used were found to be useful along with regular ulcer management procedures. These products are locally available, easy to prepare, cheap, no side effects, well accepted, minimized use of antibiotics, and the healing time of the ulcers was reduced.

Methods and results of this alternative treatment have been discussed

PPOD 110**WHO 'DISABILITY' GRADING: OPERATIONAL DEFINITIONS**

J. Wim Brandsma, Wim van Brakel

Green Pastures Hospital & Rehabilitation Centre INF-RELEASE

A 'disability classification' for use in leprosy has been advocated by WHO since 1960. Two revisions of this grading system were subsequently published, a 4-point scale in 1970 and a 3-point scale in 1988. The original purpose was to record a baseline 'disability' status and monitor changes during follow up. The grading system was therefore quite elaborate. By 1988, the main purpose of the grading had changed to being an indicator to estimate delay in case finding. It is assumed that if patients delay in reporting, they are likely to have more impairment at diagnosis, so low rates of impairment in new patients at diagnosis are interpreted as an indication of early case reporting.

Usually, the 'maximum grade', which is the highest of 6 scores listed for eyes, hands and feet, is used as an indicator of severity of impairment. In recent studies, the individual grades for eyes hands, and feet have been totalled to get a 'sum-score'. The maximum sum score is 12 (2 for each eye, hand and foot).

This presentation provides operational definitions for the WHO grading, which are needed as the grades are often interpreted differently in different programmes. If programmes / projects follow definitions that are less prone to misunderstanding and different interpretations, the data they report will be more reliable, and more reliable comparisons with the individual grades, the maximum or the sum-score, can be made between programmes or cohorts of patients over time.

SOCIAL ASPECTS**PSA 1****A COMPARATIVE STUDY OF SOCIAL REPRESENTATION OF HANSEN'S DISEASE AMONG PATIENTS, HEALTH PROFESSIONALS AND POPULATION IN BRAZIL**

Oliveira, M.L.W.; Mendes, C.M.; Tardin, R.T.; Cunha, M.D.; Oliveira E.R.; Alves, A.A.

Federal University of RJ; Municipal Secretariat of Health- RJ/ D. Caxias and Reprehan/IBISS

The term "hanseníase" or Hansen Disease (HD) is considered to be the politically correct term at a nationwide level in Brazil. Using the test of "free-word- association", 119 health professionals, 436 women, mostly housewives, and 94 HD patients, were invited to express promptly their associations to

the word "hanseníase". Their answers coded as short phrases formed by one or two words was arranged by EVOC software in a spatial way, which allows us to understand this structural organization of social representation (SR) of the three groups. In order to apply the model focused on social psychology -the theory of social representation (SRT), the words distribution considers not only their frequency, but also the order in which they were evoked, and its co-occurrence.

The results presented in a special figure, denominated "garfos" shows an aggregate evocation being more pronounced in the population group regarding the elements, patch, skin, insensitivity and disease; but also presenting others as "itching" and "wounds" referring to leprosy RS. The elements such as "cure" and "treatment" presenting in both groups of health pro-

fessionals and patients, allow us to infer that patients avoid the term leprosy and are strongly influenced by the normative discourse of health institutions.

PSA 2

A CURA COMO CONCEITO VIVIDO: O EXISTIR DAS PESSOAS QUE SE SUBMETERAM A POLIQUIMIOTERAPIA PARA TRATAMENTO DA HANSENÍASE

Marilda Andrade

Universidade Federal Fluminense

Este estudo trata-se de tese de doutoramento, desenvolvido a partir das minhas inquietações enquanto enfermeira e professora de enfermagem, que atua na área de Saúde Pública, no ensino das DIP e no Programa de Hanseníase foi elaborado com base na abordagem fenomenológica e teve como objetivo compreender o conceito de cura, a partir do comportamento dos clientes submetidos a poliquimioterapia (PQT) para tratamento da hanseníase. O fenômeno estar curado foi investigado sob um olhar que privilegiou a pessoa em sua existência. Utilizou-se para análise e hermenêutica o pensamento filosófico de Martin Heidegger que possibilitou desvelar a impessoalidade que, no cotidiano, rege a aceitação da cura biológica denunciada pela fuga, esquiva, falatório, curiosidade, tagarelice, temor e desinteresse de seguir o tratamento. A partir de existir dos depoentes emergiu um conceito de cura existencial contrapondo-se ao conceito de cura biológica, regido pelos fatos da ciência e factual da doença. O conceito biológico, estabelecido pelo conhecimento, introduz a técnica provocadora em confronto com a técnica produtora. Esta se destaca como possibilidade para a assistência de enfermagem e de saúde, porque, valoriza o cliente de hanseníase que se submeteu a poliquimioterapia como pessoa, como ser-aí e, assim, libera-o do-ente no dizer filosófico do seu fechamento, dando, portanto assim, um novo entendimento do processo de tratamento e cura.

PSA 3

A EXPERIÊNCIA DO SERVIÇO SOCIAL NA BUSCA DE PACIENTES FALTOSOS AO TRATAMENTO DE HANSENÍASE - 1998 A 2001

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A meta de erradicação da hanseníase está relacionada a várias medidas no âmbito da saúde pública quanto

ao tratamento e controle da doença. Em face disto, na realidade específica do Centro de Dermatologia Dona Libânia, enquanto unidade de referência, o Serviço Social tem se voltado também, dentre as diversas preocupações e atribuições, para os usuários que fazem o tratamento de forma irregular ou que caracterizam situação de abandono. A partir de 1998 passou-se a sistematizar essa prática com o objetivo de aumentar a adesão do usuário ao tratamento e, conseqüentemente, aumentar o índice de cura o que incidirá positivamente sobre os dados epidemiológicos da doença. Para isso, vem-se utilizando como instrumentos de intervenção, levantamentos nos prontuários e fichas de aprazamento; contatos com esses usuários e instituições de saúde da área de origem, através de aerogramas, telefonemas e visitas domiciliares. Na perspectiva de fomentar a troca de experiências nas diversas práticas utilizadas, considera-se pertinente coletivizar o referido trabalho no 16º Congresso Internacional de Hanseníase.

PSA 4

A HANSENÍASE COMO ATRIBUTO AOS PROCESSOS DE EXCLUSÃO SOCIAL - A QUESTÃO DO TRABALHO

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Centro de Dermatologia Dona Libânia - SESA - Ce. Rua Pedro I, 1033 - Centro Fortaleza - Ce - CEP: 60035.101

Este trabalho refere-se a uma pesquisa realizada pelo Serviço Social a partir da necessidade de aprofundar o conhecimento da realidade vivenciada pelos usuários nos seus dramas cotidianos de dificuldades e preocupações com a questão da sobrevivência frente a um mercado de trabalho excludente. Sendo a hanseníase um problema de saúde pública que pode acarretar seqüelas físicas e sociais aos seus portadores, definiu-se a partir desse dado a temática a ser trabalhada. Delimitou-se então como objetivo do estudo, a questão da exclusão social em especial referência ao aspecto laboral e inserção no mercado de trabalho por considerar esse fenômeno conseqüência de situações e fatores que segregam e separam. Face ao número de usuários em tratamento foi necessário delimitar um grupo representativo, por amostragem, a partir de critérios estabelecidos e pertinentes para a investigação. Procedeu-se num primeiro momento a um estudo exploratório, cujos dados subsidiaram o estudo qualitativo, valorizando-se o universo de percepções e experiências sociais dos sujeitos envolvidos, através de entrevistas cujos resultados encontram-se em processo de análise. A preocupação em abordar o referido tema deve-se à percepção de que a incapacidade para o trabalho é traumática não só para o indivíduo, mas para todo o seu contexto familiar.

PSA 5

A IMAGEM CORPORAL DO HANSENIANO - ESTUDO PSICOLÓGICO

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Almeida, J.A.

Instituto Lauro de Souza Lima – Bauru-SP

Caminhamos para uma medicina com abordagem holística, na qual a saúde física está ligada ao bem estar emocional. No enfoque à hanseníase, este fator deve, também, ser considerado, uma vez que ela é uma patologia dermatoneurológica, que acarreta lesões de pele, vísceras e do aparelho locomotor, espelhando, principalmente, problemas de ordem psicológica. Didaticamente o sistema nervoso é dividido em central e periférico, mas na realidade eles atuam juntos, como a hanseníase atinge os nervos periféricos, os hansenianos perdem a aferentização cortical necessária para preservação da imagem corporal. Neste estudo foram avaliados dez pacientes de uma amostra por conveniência, todos internados no I.L.S.L., objetivando analisar, por meio do desenho da figura humana, até que ponto esta falta de informação periférica interfere na imagem corporal do paciente. Concluímos que, apesar da amostra ser pequena, sugere-se que a falta de aferentização pode levar a desintegração da imagem corporal.

PSA 6

A PRIVATE BUDDHIST LEPROSY HOSPITAL IN LATE MEIJI JAPAN: WHY WAS IT SET UP AND HOW WAS IT FUNDED?

Trevor Murphy

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Background: There were an estimated 30,000 leprosy sufferers in Japan around 1900, possibly many more. Japanese government policy to deal with leprosy commenced in 1907; however, religious-inspired non-governmental activity began as early as 1889. There were six private (non-government and non-profit) leprosy hospitals in Japan; five were established by Christian missionaries and one by a Japanese Buddhist priest.

Q: Why was there so little Buddhist leprosy relief activity in late Meiji Japan?

In the long term, I want to answer this question fully, looking at both "philosophical reasons" (e.g. the development of the "bodhisattva" ideal and the changes it underwent in its passage from India to Japan) and "system reasons" (e.g. the legal system of late Meiji Japan, practical difficulties of fund-raising).

In this paper, as a first step, I undertake a case study of the Buddhist leprosy hospital (Minobu "Jinkyō" Hospital, founded in 1906 by Nichiren priest Tsunawaki Ryumyo), considering broadly:

1) What were the main influences on the founder that led to the establishment of the hospital? In particular, I will concentrate on the influence of Christianity and the extent to which the founder regarded his hospital work as a "mission".

2) How was the hospital funded? Here, I will focus on "ju-man-ichi-rin-ko", a unique method of fundraising devised by the founder. It was difficult to sustain.

PSA 7

A REPERCUSSÃO DA HANSENÍASE NO CONTEXTO FAMILIAR: A PERCEPÇÃO DO DOENTE

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Instituto Lauro de Souza Lima

Esta investigação tem por objetivo entender o impacto da Hanseníase na organização familiar dos indivíduos afetados. Trata-se de um estudo qualitativo cuja população – alvo constitui-se pelos indivíduos internados, no Instituto de Pesquisa Lauro de Souza Lima, no mês de junho de 2002. A análise qualitativa fundamentada no discurso do sujeito coletivo foi utilizada nesta pesquisa.

PSA 8

A STUDY OF MENTAL HEALTH AND ITS INFLUENCING FACTORS IN CURED LEPROSY PATIENTS

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Objective: To explore mental health and its related factors in cured leprosy patients.

Methods: 155 cured leprosy patients were investigated by symptom checklist 90(SCL-90), social support questionnaire and EPQ.

Result: The ratio of mental health problems in cured leprosy patients was 23.23%. The common problems were depression, anxiety, somatization and interpersonal sensitivity. By controlling age and sex, the scores of factors in SCL-90 were correlated negatively with social support, but positively with unstable personality feature. Stepwise regression analysis showed that factors influencing mental health were personality feature, social support, sex, occupation, marriage, cultural level and body's deformity respectively.

Conclusion:

1) Mental health problems are common in cured leprosy patients. These problems indicated the relationship with personality feature and social support.

2) The work of mental health education for cured leprosy patients should be strengthened for improving their rehabilitation level and life quality.

[Key Words] Leprosy; Mental health

PSA 9

AS ONGS E O VOLUNTARIADO COMO ARTICULADORES DO PROCESSO DE MOBILIZAÇÃO SOCIAL

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O Movimento de Reintegração das Pessoas Atingidas Pela Hanseníase – MORHAN procura atuar no sentido de acabar com o preconceito contra a doença Hansen. O trabalho é feito por pacientes, ex-pacientes e pessoas interessadas no combate a discriminação e o preconceito contra as pessoas portadoras de hanseníase. Realizam ações educativas em centros de saúde, escolas, associações, sindicatos, movimentos e igrejas.

O núcleo de Sobral, no Ceará, participou do processo de descentralização das ações de diagnóstico, tratamento e prevenção de incapacidade da Secretaria de Desenvolvimento e Saúde de Sobral, e buscou junto aos grupos organizados apoios para trabalharem a mobilização social. Em 1999 contribuiu com a Secretaria de Saúde de Sobral durante o I Encontro Sobralense de Rezadeiras e Curandeiras na luta pela Eliminação da Hanseníase, Tuberculose, e Mortalidade Infantil por Diarréia, que contou com 250 rezadeiras já cadastradas pelo ACS e foram treinadas a reconhecerem sinais e sintomas das doenças já citadas. O encontro favoreceu a aproximação entre este grupo e os profissionais do PSF, hoje elas fazem encaminhamentos através de cartões de cores variadas que identifica a patologia suspeita.

Dentro dessa perspectiva, mobilizamos as trabalhadoras do sexo, que já realizavam atividades educativas e preventivas das DST/AIDS nos prostíbulos e comunidade, e as capacitamos para suspeitarem de lesões sugestivas de hanseníase entre seus clientes e comunidade, encaminhando-os aos postos de saúde do PSF. Durante o I Encontro Estadual do MORHAN, em 2000 mobilizamos os portadores de hanseníase que naquela data se encontravam na 6ª e ou 12ª dose

da PQT/OMS para uma avaliação neurodermatológica, e receberem alta conforme o resultado da avaliação. Foi um fato histórico na saúde pública do município e um privilégio para o MORHAN em ter contribuído com o evento de tal magnitude. 130 pacientes receberam alta por cura na ocasião.

PSA 10

ASPECTOS SOCIALES DE LA LEPRO EN ESPAÑA. FINALES DEL SIGLO XIX HASTA LA ACTUALIDAD. ESPECIAL REFERENCIA A LA COMUNIDAD AUTONOMA DE CATALUÑA

E. Fuster (T.S.); L. Casañas (P.S.); A. Torroja (D.E.); M. Pérez (M.D.)

Servicio de Dermatología del Hospital de San Pablo (Barcelona)

Conselleria de Sanitat de la Generalitat de Catalunya

Introducción, en la península, por los fenicios, griegos y romanos.

Durante siglos, podemos considerar la lepra endémica en parte del territorio peninsular.

Fechas clave para el estudio de la enfermedad en España.

Primer tratado científico sobre la lepra publicado en 1881.

Fundación sanatorio en Fontilles (Alicante)

Distribución geográfica hasta el primer cuarto del siglo XX.

Referencia a Cataluña.

Guerra civil española (1936-1939)

Cambios importantes en la estructura social como consecuencia de la contienda

Fuertes corrientes migratorias dentro de la península debidas a la penuria y escasez.

Mapa de localización modificado per estas corrientes.

Incremento de problemas sociales.

Iniciativas particulares y Organismos Públicos.

Labor específica del T.S.

Finales siglo XX: inmigraciones actuales. Actuación rápida de los equipos médicos-sociales para su detección.

Drástica reducción del número de enfermos activos

PSA 11

BETWEEN MADNESS AND LEPROSY: HISTORICAL INTERFACES OF INSTITUTED PRACTICES AND POLICIES

Garcia, J.R.L. – Instituto “Lauro de Souza Lima” – Bauru – Brazil.

Madness and leprosy, two very different pathological pictures, present in its history several similarities and complementation in respect to practices and health public policies. This study aimed this relationship. By reviewing the literature it verified the interfaces existent between both, in regard to historical, social and cultural aspects. Among the main similarities it was verified a context of social isolation, segregation, stigma, and in many moments negligence with the policies for Mental Health and Sanitary Dermatology. Since the dissemination of the ancient European leprosariums in the middle age, which later belonged to the insane by historical inheritance, is that leprosy and madness are relegated to asylums. Nowadays, we see that those two realities maintain traces of its historical processes, specially in the Brazilian context, where we still detect an enormous epidemiological index of leprosy and the Movement Antimanicomial for more than one decade have tried to grant basic citizenship rights to mentally impaired people. The physical incapacity and pain in leprosy, and the mental struggle are not the only distress faced by its carriers. They continue at the margin of society, still not comprehended by a social context that segregates the difference.

PSA 12

BUMPY EXPERIENCE OF LIFE

Sheng-fu Chen

Yihuang County Station for Skin Diseases Control, Yihuang, Jiangxi, China

One year after being enrolled at the Jiangxi Medical College in 1972, I unfortunately was diagnosed as leprosy. Because of the long established stigma in the society towards leprosy, I discontinued his study and was accepted in a leprosy village for isolated treatment.

Since then I did not give himself up as hopeless but put up a tenacious fight against the illness, and served patients warmheartedly inside and outside the village with his knowledge. His selfless service has benefited the health of a great number of people including saving an youth's life from freezing river. His untiring efforts and contributions to leprosy control and general health care for more than 20 years made him trusted by related authorities. I has succeeded in physical and social rehabilitation both

PSA 13

CAPACITAÇÃO PROFISSIONAL DE PESSOAS COM HANSENÍASE EM HOSPITAL COLÔNIA E EM UNIDADE DE SAÚDE PÚBLICA

Zoica Bakirtzief, Sandra Magalhães Cairo, Maria Regina de Carvalho Rossi, Rosemary Claudino Nunes

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Cursos de educação profissional foram realizados para pacientes de hanseníase residentes de hospital colônia e usuários de centro de saúde. Os cursos foram desenhados para atenderem pessoas da comunidade e pessoas com hanseníase. O recrutamento dos alunos foi realizado tanto na unidade de saúde e hospital como na comunidade vizinha. Turmas mistas foram montadas e três cursos foram realizados com êxito. Questões relacionadas a programas de educação profissional/geração de renda são discutidas a partir dessas experiências e outras da Sorri Sorocaba que vem oferecendo essa modalidade de cursos há mais de quatro anos. Sugestões de como desenhar programas de geração de renda que contenham cursos de capacitação são propostas

PSA 14

CIÊNCIA E RELIGIOSIDADE UMA PARCERIA NO PROCESSO DE ELIMINAÇÃO DA HANSENÍASE NO MUNICÍPIO DE SOBRAL-CE

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Apoio: Fundação Novartis

Estudos antropológicos e epidemiológicos realizados no Ceará (Nations, 1988, Barreto, 1997) têm demonstrado a importância das rezadeiras e curandeiros enquanto agentes não formais de saúde. Baseada nestas evidências, a Secretaria de Desenvolvimento Social e Saúde, em parceria com o Movimento de Reintegração das Pessoas Atingidas pela Hanseníase (MORHAN), foram buscar nas rezadeiras apoio para aceleração da eliminação da hanseníase em Sobral. Foram cadastradas 250 rezadeiras pelos Agentes de Saúde da Secretaria, que participaram das discussões sobre processo de eliminação da hanseníase. Em 10 de outubro de 1999 foi realizado o I Encontro Sobralense de Rezadeiras e Curandeiros na Luta pela Eliminação da Hanseníase, Tuberculose e Mortalidade Infantil por Diarréia. Esse encontro favoreceu a integração entre rezadeiras e profissionais das equipes da saúde da família, constituindo assim, mais uma rede de apoio às ações de atenção primária à saúde. Hoje, estas lideranças espirituais populares, utilizam como instrumento de trabalho um álbum seriado ilustrativo, confeccionado em tecido, com linguagem e termos populares referentes a estas patolo-

gias adotadas por elas. As rezadeiras também utilizam cartões de cores diferentes, que, pela cor, identificam o tipo de encaminhamento; se é hanseníase, tuberculose ou desidratação. Serão apresentados dois estudos de casos identificados pelas Rezadeiras que tiveram diagnóstico confirmado posteriormente pela equipe do Saúde da Família.

PSA 15

COMMUNITY PARTICIPATION IN LEPROSY CARE SERVICES

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The objective of the study is to assess the effect of community participation in case detection, awareness about leprosy and change in the disabilities status of new cases.

In the year 1997, a project was initiated in our leprosy control area spread over 1789 square kilometers having a population of 375000 approximately. In the beginning of this project, there was a meeting with the community leaders to find ways to address the high prevalence of leprosy in the area and what can be done about it. From our side we presented before the community leaders the facts of leprosy prevalence in the area. We encouraged them to come out with solutions to solve their own problem. It was suggested that we would give orientation to leaders on the early signs and symptoms of leprosy, scientific facts of the disease and benefits of early case detection and regular treatment. These leaders in turn would give orientation to others in the villages especially women on the same topics. So this was a two tier orientation of the community leaders and members to participate in leprosy care.

As the study was started in the year 1997, the preliminary result was presented and discussed in the ILC in Beijing in the year 1998. Since then, more data have been collected in terms of voluntary reporting, awareness of leprosy and reduction in the deformity rate among new cases. The study discusses the participation of the community in terms of levels of community participation and the problems encountered during this process. It also suggests measure for future community participation projects.

PSA 16

COMMUNITY PARTICIPATION IN LEPROSY ELIMINATION PROGRAMME IN CHHATTISGARH

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DANLEP M.P., India

Introduction: Knowledge and experience of leprosy is not shared – no openness.

-Person do not come forward for examination, treatment.

-Community behaviour effects leprosy cases and he is forced to take untoward course of life leading of debilitation.

-Ignorance, stigma which a barrier in reaching leprosy elimination is attacked with community rational behaviour.

-There is need of community involvement – not option but essential.

Method: Developing concern, developing sense of responsibility, involving community, follow up of continuing (pursuing, appreciating and reaching achievements)

No. of camps, rallies and other social activity done, involving community/through community (Table-1&2).

Result: Segregation of LAPs prevented, social stigma removed, voluntary reporting of cases increased.

Conclusion: Propaganda spread further, a fear free environment for leprosy elimination obtained.

PSA 17

CONSIDERAÇÕES PSICOSSOCIAIS SOBRE A PESSOA PORTADORA DE HANSENÍASE

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A hanseníase é uma patologia que ultrapassa a necessidade de um olhar apenas biológico ou médico sobre ela. As consequências sociais e psicológicas às quais todo processo se remete, a expõe à necessidade de uma atenção que possa abrangê-la de maneira global, de forma não unilateral. Uma visão voltada apenas pela ótica do discurso médico clássico, pode restringir muitas ações viáveis a qualquer profissional de saúde. Não podemos mais entender hanseníase apenas como um bacilo, mesmo sabendo que os conhecimentos da microbiologia sejam de extrema importância, porém a compreensão do ser humano como um todo se faz necessária. Neste sentido, este texto tem como objetivo apontar uma série de questões relacionadas à pessoa acometida pela hanseníase no que tange a seus aspectos psicossociais. Não pretendemos que este seja, apenas interesse de psicólogos ou assistentes sociais, pois nossa intenção é de que os diversos profissionais da saúde possam refletir e instrumentalizar-se dos conteúdos apresentados. Entendemos, assim, que o paciente

hanseniano necessita do apoio profissional, também no que diz respeito à prevenção de suas deficiências e incapacidades no enfrentamento das restrições psicossociais que ele vivencia.

PSA 18

CONSTRUINDO ESTRATÉGIAS COLETIVAS DE COMBATE AO ESTIGMA - A EXPERIÊNCIA DO GAPH

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O GAPH (Grupo de Amigos e Portadores de Hanseníase) surgiu a partir da demanda dos usuários do programa de Hanseníase, em reabilitação física, no Centro de Dermatologia Dona Libânia, acompanhados pelo Serviço Social, como resposta às situações de discriminação e preconceitos vivenciados na cotidianidade. Esta experiência vem apontando como um dos caminhos para o enfrentamento da questão social da hanseníase a nível local, com um real processo de participação de usuários já tratados e/ou em tratamento, bem como de seus familiares e voluntários, o que vem permitindo o pensar e o agir coletivos, através da discussão e elaboração de propostas concretas de intervenção e assim atingindo os objetivos propostos quando da sua formação há dez meses: entidade permanente, sem fins lucrativos, com encontros sistemáticos e de livre acesso tendo como principal eixo de luta o combate ao preconceito, permitindo a troca de experiências, ajuda mútua, estudo de temas pertinentes aos interesses dos seus membros, atividades de socialização, defesa dos direitos do cidadão, desmistificação da hanseníase e do preconceito que a acompanha.

PSA 19

DE tsara'at A HANSENÍASE... O IMPACTO DA REPRESENTAÇÃO SOCIAL E A CRISE IDENTITÁRIA (O REPENSAR DO ENFERMEIRO)

Clélia Albino Simpson de Miranda

O presente trabalho de caráter qualitativo tem por objetivo analisar o impacto da representação social (senso comum) da Hanseníase e a crise identitária e o de aduzir uma prática alternativa de assistência de enfermagem ao doente de Hanseníase. Utilizei a técnica de entrevista semi estruturada junto a seis pacientes, sendo três que receberam tratamento em asilos (passado) e os demais em tratamento ambulatorial (presente). Empreguei a análise temática para trabalhar os dados. Dos depoimentos

identificados destacaram-se três temas principais: preconceito, estigma e mito. Os dois grupos apresentaram representação social semelhante, tendo como idéia central a "praga" e a exclusão definida pelos aspectos: físico, hetero-reconhecimento e psicológicos/afetivos, atindo três dimensões da sua identidade: imagem corporal, desvalorização social e auto-reconhecimento.

PSA 20

EMPOWERMENT TO CHANGE LIVES: IDEA NIGERIA ADOPTS KOREAN MODEL.

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This poster made up of "candid" pictures depicts the current situation of persons affected by Hansen's Disease (HD) in Nigeria.

It documents some of IDEA's multifaceted socio-economic intervention in Nigeria and the effects of these interventions on the lives of the beneficiaries.

IDEA Nigeria has studied the Korean Model of comprehensive economic empowerment and the socio-economic milieu in which it had taken place, and has adopted this method of effectively setting people free from HD, with relevant adjustments to suit the Nigerian situation. This poster is a record of IDEA Nigeria's experiences in the early stage of the business of restoring the dignity of persons displaced and disadvantaged by HD.

PSA 21

ESTUDIO SOCIOECONÓMICO DE LOS CASOS DIAGNOSTICADOS DE LEPRO. CAMAGÜEY. CUBA 1998 - 1999

Dra. Nieves Atrio Mouriño; Lic. Iris Vidal Camero; Dr. José Raúl de Armas Fernández; Dr. René David Sifontes Mejías

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Se realizó un estudio longitudinal y retrospectivo, cuyo universo estuvo constituido por los 83 casos de Lepra diagnosticados en 1998, 1999 para esto se confeccionó un fichero donde se recogieron los datos consistentes en: grado de escolaridad, condiciones de la vivienda, número de dormitorios, número de personas en la vivienda e ingreso del núcleo familiar, estos datos se obtuvieron de la Encuesta Epidemiológica del enfermo de Lepra del Departamento Provincial de Estadística en la Dirección Provincial de Salud. Los mismos se procesaron mediante un programa EPINFO, los cuales después de procesados y analizados se vio que el mayor número de casos

tenían una escolaridad primaria, las condiciones de la vivienda eran buenas en un 61.4% de los casos, sin embargo, vivían hacinados ya que en un 45.4% de los casos duermen más de tres personas en un dormitorio y el mayor porcentaje (61.1%) tienen un per cápita de ingreso familiar de menos de cien pesos para tres personas y mas.

PSA 22

EXPERIENCE WITH LEPROSY ELIMINATION AND COMPREHENSIVE CARE

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The Leprosy elimination and comprehensive care project is a collaborative effort between the Directorate of Health Services, Goa Medical College and CLCP. Since its initiation in 1991, efforts have focused on the elimination of leprosy and providing disability prevention services in an integrated manner. Key activities include using communication campaigns and community mobilization events to detect new cases, improving access to diagnosis and treatment as well as introducing MDT blister packs. The systematic introduction and provision of POD services has lead to a decrease in the overall disability load in the community. Reconstructive surgery for leprosy is an integral part of routine services provided at the Goa Medical College following numerous workshops over the years. Economic rehabilitation has been provided to those in need. Efforts currently focus on integrating leprosy services within the general health services. The paper will also discuss the impact of efforts over the past decade, current status and constraints in achieving the leprosy elimination.

PSA 23

FIRST RESULTS OF A KNOWLEDGE, ATTITUDES AND PRACTICE STUDY ON LEPROSY AND OTHER DISABILITIES IN DARFUR, WEST SUDAN

Omar Sa'ad, Margriet Coppoolse and Henk Buddingh

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Early 2002 The Leprosy Mission (TLM) will carry out a KAP study on leprosy and other disabilities in Darfur, West Sudan. During the research Focus Group Discussions will be held with disabled people to find out about their ideas and experiences. Also, 120 physically disabled persons and 120 matching

non-disabled persons in 20 villages/towns will be interviewed using a questionnaire. Knowledge, attitudes and practice related to leprosy will be compared with those related to polio. Also the participation in community life of disabled and non-disabled adults will be compared. At the same time the research will measure the number and types of disabilities in 1200 household in these 20 villages. The results of the research will be used to plan and evaluate future health education and socio-economic rehabilitation programmes. During the conference the first results will be presented.

PSA 24

HANSENÍASE: A MÍDIA E A MOBILIZAÇÃO SOCIAL CRIANDO DEMANDA

Nelsina Vaz da Silva (SECRETARIA Estadual de Saúde - Pi.); Lucimar Costa (MORHAN - Pi); Lúcia Possídio (8ª Dires – Petrolina Pe); Geania Rocha (15ª Dires – Juazeiro Ba); Tâmara Stélvia (Secretaria Estadual de Saúde - Pi); Vera Andrade (GT/HANSEN/CONASEMS)

Considerando-se a necessidade de informação da comunidade, buscou-se levar à população mensagens claras sobre os sinais e sintomas precoces da hanseníase, informar que tem cura e, o diagnóstico e o tratamento, são oferecidos gratuitamente em todas as unidades públicas de saúde.

Nesta perspectiva, definiu-se que a partir do momento que os serviços estivessem organizados para atender a demanda, todos os canais de mobilização social e comunicação seriam utilizados, pois são fatores importantes no processo de criação de demanda.

Após veiculação na mídia efetuou-se uma pesquisa com o objetivo de conhecer o grau de satisfação e de compreensão das mensagens pela comunidade, nas principais cidades. A associação da mídia de TV aos cartazes, panfletos spots de rádio, produziu uma boa cobertura, expressa pelas altas taxas de pessoas que recentemente viram alguma propaganda sobre hanseníase. A taxa de aprovação de veiculação de mensagem sobre os sinais e sintomas da hanseníase foi de 82%, contrariando alguns especialistas em comunicação, que empiricamente declaram ser este tema “ pauta negativa e de pouco interesse da população”. O conteúdo das mensagens e, ou, material de divulgação cumpriram seu objetivo educacional em 84% dos casos.

Em relação aos meios de comunicação, a TV foi o meio mais visto pela comunidade entrevistada.

A articulação com outros atores sociais e com outros programas da secretaria, como PSF/PACS e DST/AIDS foram componentes importantes no processo de mobilização social.

PSA 25**HANSENÍASE: A VISÃO DO PORTADOR**

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Hanseníase é uma doença infecto-contagiosa de diagnóstico basicamente clínico e requer abordagem multidisciplinar a fim de evitar seqüelas biopsicossociais, as quais foram fundamentais na sedimentação do estigma dessa doença, o qual é evidenciado já nos relatos bíblicos. Para a realização desta pesquisa foram selecionados, por amostra intencional, três pacientes diagnosticados antes de 1982 e três diagnosticados após tal ano, quando tiveram início as campanhas educativas sobre a doença no Brasil, para comparar o nível de conhecimento e preconceito dos dois grupos. Foi aplicado um estudo qualitativo através da análise das transcrições integrais de entrevistas semi-estruturadas e de desenhos temáticos, enfocando: preconceito, aspectos psicológicos, conhecimento da doença e limitações. A análise do resultado foi do tipo: análise temática do discurso. Em todas as entrevistas foi evidenciado preconceito, raiva, vergonha, medo ou desesperança em relação à doença, assim como desconhecimento do profissional de saúde sobre a hanseníase, o que implicou em demora ou ausência de diagnóstico. Mesmo após o início do tratamento, em todos os casos, com ou sem seqüelas, foi possível evidenciar o desconhecimento sobre a doença e em alguns a insatisfação com a falta de campanhas educativas. Tanto antes como após o início das campanhas educativas, e criação das ONGs de apoio aos portadores e combate ao preconceito, não foram observadas diferenças significativas nos resultados. Portanto, as campanhas educativas se mostram ineficazes e insuficientes, o que aliado a falta de conhecimento dos profissionais de saúde sobre a doença, compromete o diagnóstico e tratamento e por conseguinte o controle do estigma da hanseníase.

PSA 26**HANSENÍASE REACIONAL, QUANDO A DOR IMPEDE O LAZER**

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A hanseníase é uma doença milenar que ao atingir a pele e os nervos, criando um quadro de dor e o pa-

ciente muitas vezes passa a conviver com este estigma. O objetivo deste trabalho foi levantar as mudanças ocorridas no cotidiano da vida dos portadores de hanseníase reacional, em relação ao lazer e a convivência com a dor. Trata-se de um estudo descritivo-exploratório realizado em um hospital-escola, no Programa de Controle da Hanseníase, com 28 pacientes adultos. Fez-se um roteiro sobre as mudanças experimentadas pelos portadores de hanseníase decorrente à crise reacional, onde o mesmo fazia uma síntese, através de um sistema de cores. A coleta de dados foi de outubro de 1997 à março de 1998. Obtendo-se que: (57,1%) dos pacientes optaram pelas cores de mudança no lazer. Na variável convivência com a dor, as mulheres escolheram mais que os homens "não estarem adaptadas para a convivência com a dor", modificando dessa forma o comportamento de suas vidas. Ao se relacionar o lazer e a convivência com a dor, observou-se que 78% dos pacientes entrevistados modificaram o lazer quando não conseguiam conviver com a dor. A doença leva o indivíduo a mudanças de comportamento e na qualidade de vida é muitas vezes alterada. O paciente que abandona o lazer provavelmente tem mais dificuldade em conviver com a dor. A equipe que cuida dos portadores de hanseníase reacional deve estar preparada e disposta em orientar e estimular a prática de qualquer atividade de lazer, visando o bem estar dos pacientes.

PSA 27**HOW EASY IS IT TO REMOVE STIGMA?**

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Teachers are involved building concepts about leprosy amongst the students.

Through many seminars hold for those concept-builders, after several hours teaching about leprosy (including stigma) we asked them to answer a questionnaire about their eventual new attitude regarding leprosy or leprosy patients. Around 20 % of the participants decided to follow demonstrating through deeds that leprosy sufferers need to be avoided (and the same attitude they will teach to the children?).

PSA 28**ILA GLOBAL PROJECT ON THE HISTORY OF LEPROSY**

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The Global Project on the History of Leprosy is the initiative of The International Leprosy Association (in conjunction with WHO and the Nippon Foundation) and the Wellcome Unit for the History of Medicine at Oxford, England. From the beginning of October 2001, the project has been operating out of the Wellcome Unit for the History of Medicine at Oxford, which is currently building a research program focused on the history of tropical medicine and infectious diseases. The Global Project on the History of Leprosy is developing an online database of locations where leprosy archives can be found in order to facilitate historical research into leprosy. This can be seen at <http://www.leprosyhistory.org>. The database is to be a working tool for researchers who are interested in the early modern to modern history of leprosy (from 1847 when Danielssen and Boeck published *Om Spedalskhed*). It will also be of interest to those connected with leprosy and its impact.

While the database creates pathways for researchers, the project will also encourage the preservation of archives and a network of researchers.

This poster presentation is designed to disseminate information about the Project and to encourage participants to visit our website, make use of the database and contribute to the archival collection. It will exhibit maps from the late nineteenth century and display entries from the database which refer to leprosy work in Africa, Brazil, India and Japan, dating from the turn of the last century.

PSA 29

INCENTIVAR E ESTIMULAR A MÃE TRABALHADORA NA PERSPECTIVA DE MELHORIA DA QUALIDADE DE VIDA

Abreu, Luiza Cláudia Bernardo; Sena, Zelina Batista; Soares, Iranyr Maria

Coordenação Estadual do MORHAN Ceará

O Movimento de reintegração das pessoas atingidas pela Hanseníase (MORHAN) - Coordenação Ceará, em apoio ao núcleo do Município de Maracanaú criado em 06 de janeiro de 1987 e quebrando barreiras sociais na então Colônia Antônio Justa (Maracanaú - CE) criamos a escola comunitária em 02 de julho de 1996, para crianças de 03 a 06 anos de idade (ESCOLA COMUNITÁRIA NOVO TEMPO).

Com intuito de contribuir para efetivação dos direitos sociais e vida digna a população em situação de risco de vida e saúde dos cidadãos no estado do Ceará na perspectiva de geração de emprego e renda, melhoria da qualidade de vida.

No Ceará o nível de renda e pobreza, podemos analisar que a evolução das condições de vida a partir do variável rendimento, requer o estabelecimento de um parâmetro de renda familiar per capita abaixo da qual

os cidadãos são considerados pobres, ou seja, a linha de pobreza, é de aproximadamente vinte e cinco reais mês, segundo pesquisa junto ao consumo alimentar de orçamento familiar. Neste contexto a incidência de pobreza e indicadores sociais estão a requerer fortes inversões, a evolução das condições de vida da população depende de renda, emprego, políticas sociais bem sucedidas, para reverter os indicadores sociais, reduzir o índice de pobreza, buscando formas de melhorar a qualidade de vida da população em relação ao desenvolvimento social, é imperativo a nossa visão integrada sob a ótica social com percepção em educação popular e da expectativa de vida. A geração e acesso ao emprego, a distribuição de renda, a educação, a saúde, a justiça e a cidadania se fazem os nossos desafios. É de exigir-se, então, do Estado o compromisso, e cumprimento da sua função de estar a serviço da sociedade, especialmente em favor dos menos favorecidos (Lei n.º 8.742/93 LOAS)

O Nosso objetivo é socializar as crianças e seus familiares quanto ao preconceito, o estigma da Hanseníase, mantendo-as em meio expediente na sala de aula (alfabetizando-as) de forma a garantir a integração social das mães para desenvolver atividades produtivas, tirando-as da ociosidade, vindo a desempenhar sua busca de renda, quer seja, no mercado municipal com venda de frutas e verduras/asseio e conservação domiciliar/manicure e quando qualificada profissionalmente buscando melhoramento (curso de auxiliar de enfermagem, almoxarife, cabelereiro, etc.).

Já atingimos 60% de mães que garante uma renda familiar.

Nosso movimento tem por desafio trabalhar as questões sociais: combater as desigualdades, estimular a produção de alimentos, qualificação de mão de obra, programas educacionais para adultos, dirigir curso para donas de casa, cultivo de hortas caseiras, fazendo com que todos juntos, com uma conscientização em políticas públicas venham a efetivar seus direitos sociais na busca da integração social solidariamente.

PSA 30

"LONG TERM FOLLOW UP OF PATIENTS WITH MALIGNANT CHANGE IN PLANTAR ULCERS IN LEPROSY"

Valsa Augustine

Schieffelin Leprosy Research And Training Centre

Malignant change is a known complication of plantar ulcers in leprosy. Often the plantar ulcer is chronic and becomes a cauliflower growth or a flat lesion with everted edges. On clinical suspicion of malignancy a biopsy is done. If the ulcer is found to be malignant, it is usually a well differentiated squa-

mous cell carcinoma of the skin. The treatment of choice is a wide excision providing a 5 cms margin.

In this study, 110 cases who underwent surgery for malignancy in plantar ulcer are studied retrospectively. The age, sex, duration of the ulcer, site and size of the ulcer, histology and the presence or absence of metastasis at the time of diagnosis are analysed. Depending upon the site and size of the ulcer either a wide excision and skin grafting (24%) or a radical procedure was done (76%)

Long term follow up of 90 patients is presented. The duration of the follow up ranged from 10 to 20 years. Four patients died of causes not related to malignancy of plantar ulcer. Four patients who had poorly differentiated squamous cell carcinoma developed metastasis. 12 patients were lost to follow up.

Adequate wide local excision and skin grafting where possible or local radical excision give good results in treatment of malignancy arising in plantar ulcers.

PSA 31

MORADORES DO ANTIGO HOSPITAL COLÔNIA SANTO ÂNGELO: CAMINHANDO PARA UMA NOVA REALIDADE SOCIAL

Posso, A.P., Silveira, A.A., Ribeiro, S.O., Stefoglu, V.A.O.

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O Hospital Dr. Arnaldo Pezzuti Cavalcanti foi fundado em 1928, com a missão de internar os pacientes de hanseníase, dentro da política de internação compulsória. Apesar dos avanços científicos, tecnológicos e do tratamento ambulatorial, este hospital mantém uma estrutura atípica, ou seja, ao mesmo tempo em que cumpre suas funções como hospital de retaguarda atendendo a população local ainda permanece no seu interior a antiga colônia de moradores. Partindo desta realidade, profissionais do hospital com orientação da Secretaria da Saúde- Centro de Vigilância Epidemiológica-Programa de Hanseníase discutiram essas contradições. O objetivo do presente estudo foi resgatar e propiciar o exercício da cidadania à comunidade de ex-portadores de hanseníase do Hospital Dr. Arnaldo Pezzuti Cavalcanti, por meio de ações sociais. Para a viabilização do presente estudo, foram programadas atividades lúdicas a fim de reunir o maior número de sujeitos para integração com os profissionais; reuniões periódicas com a comunidade; aplicação de um questionário fechado, contendo 20 questões onde se preocupava em extrair informações sobre a realidade social, seqüelas oriundas da doença, idade e sexo. No que tange aos resultados, o censo propiciou o conhecimento da população, sendo 50% idosos, 32% adultos, 11% adolescentes e 7% crianças. Dos ex-

portadores de hanseníase, 60% apresentaram alguns tipo de seqüela relacionada à doença. As atividades desenvolvidas cumpriram o objetivo de integração entre moradores e profissionais, culminando com a elaboração de um seminário englobando os assuntos pendentes sobre a referida população, com a participação de moradores, profissionais do hospital, representantes das autoridades do Ministério da Saúde e MORHAN e autoridades estaduais e municipais. Em síntese, fica explícito a necessidade de um gerenciamento social devido às características de uma área comunitária com uma população diferenciada, o que leva a conflitos internos não administrados anteriormente.

PSA 32

O CEDOPE/HCI E O RESGATE DA MEMÓRIA EM UMA INSTITUIÇÃO DE SAÚDE

Artur H.F. Barcelos e Viviane T. Borges

PSA 33

O ESTIGMA DA HANSENÍASE NO BAIRRO DOS MACACOS - MUNICÍPIO DE SILVEIRAS-SP

Guisard, Carmen L.M.P.; Almeida, Débora C.; Podboi, Fernanda; Macklouf, Jaqueline B.; Schmidt, Laura, T.; Orientadores: Guisard, Carmen L.M.P.; Moreira, Maria Elisa.

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A hanseníase é uma doença infecciosa causada pelo mycobacterium leprae e associada a imagens de deformidade, reforçada por conceitos populares e religiosos de castigo divino. Os doentes no passado eram isolados da sociedade, mereciam cerimônias de defunto e eram verdadeiros mortos em vida. A importância da pesquisa está na prevalência da doença, são 6000 casos no Estado de São Paulo e o Brasil é o segundo país no mundo em número absoluto de doentes. O objetivo é conhecer o estigma e suas implicações psicossociais em uma população onde foram isolados os indivíduos doentes no passado. O estudo foi qualitativo com amostra intencional e os instrumentos utilizados foram: grupo focal com dinâmica do desenho coletivo e entrevista semi-estruturada. A discussão realizada foi do tipo análise temática de discurso e estabeleceram-se categorias que abordam os aspectos psicossociais da doença, a evolução da mesma, e a atuação do sistema de saúde. Observou-se falta de conhecimento geral sobre a doença e presença do estigma. Frente a esta realidade foi proposta e aceita uma ação educativa imediata, com posterior capacitação dos funcionários da saúde do local para o diagnóstico precoce e tratamento da hanseníase.

PSA 34

O PAPEL DA GERÊNCIA SOCIAL NO PROCESSO DE REESTRUTURAÇÃO DO HOSP. DR. FRANCISCO R. ARANTES.

Ferreira, Maria Emília; Costa, Dezelenia Capistrano da; Santos, Maria Aparecida Hilário dos; Cypreste, Dora Martins.

Hospital Dr. Francisco Ribeiro Arantes; rodovia Waldomiro Corrêa de Camargo, Km 55, Itu/S.P.; CEP13.308-905; Brasil - PABX (11) 4019.1016; FAX (11) 4019.1006.

A Gerência Social começou o seu trabalho em meados de 2.000, com o objetivo de proporcionar à população de 582 moradores, distribuída em 250 residências, o resgate da cidadania e a reinserção social. Através de um levantamento censitário foram constatados que do total de 582 moradores, 72 estão em tratamento da hanseníase, 313 estão curados e 197 são comunicantes. Dentre estes 234 são adultos; 221 idosos, 43 adolescentes e 84 crianças; o grau de escolaridade é baixo e a renda mensal em torno de 2 sal. mínimos. E através das percepções dos profissionais, foram observadas várias problemáticas sociais como: violência psíquica e física, dependência química/tráfico de drogas, desemprego, gravidez precoce, falta de lazer, dependência institucional e familiar, estigma, preconceito, discriminação, falta de informação sobre a doença, entre outras. Estas representações foram apresentadas e discutidas com a comunidade, para serem planejadas ações e compreendidas que para executá-las seria necessário a realização de parcerias das quais foram firmadas com as Secretarias do Município de Itu, como: da Segurança e P.M. do Estado (rondas diurnas, de BO por assalto, roubo, agressão e invasão domiciliar), da Educação (supletivo 1º grau), da Saúde (P.S.F., V.E. e VISA), de Obras e Serviços Públicos (limpeza de áreas verdes e saneamento), Promoção Social (clube de mães e ginástica), Conselho Tutelar (intervenção com crianças, adolescentes e família) e ONGs.(cursos profissionalizantes). A proposição está sendo, reinserir os moradores num caminho de trocas com a G.S., voltadas para uma reflexão conscientizadora, dirigida para a sua própria ação, respaldadas na aceitação e prevenção das doenças, e conseqüentemente na sua promoção de dignidade humana, como: "Ser" atuante na conquista de seu próprio ideal.

PSA 35

PARADOJAS DE LA LEPRO: AVANCES MÉDICOS Y PERCEPCIÓN SOCIAL

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Conselleria de Sanitat. Generalitat de Catalunya.

Introducción: La realidad de la Lepra en nuestro país, así como en la mayoría de los llamados países ricos, ha cambiado de forma radical, con una reducción drástica del número de casos y una mejora sustancial en la rehabilitación física de los pacientes.

Por el contrario, estos cambios no se han visto reflejados en la percepción social de la enfermedad, hecho que repercute directamente en la calidad de vida de los afectados.

Objetivos: Observar y reflexionar la manera en que los medios de comunicación, a los cuales tiene acceso la mayoría de la población, contribuyen a mantener una visión estática de la Lepra. Así, reforzando los viejos estereotipos, se perpetúa el rechazo y los temores alrededor de la enfermedad a lo largo de los años.

Discusión: Con esta reflexión queremos poner de relieve la manera en como se contribuye a reforzar el colectivo imaginario alrededor de la Lepra, quizás de una forma inocente, pero a la vez inconsciente.

PSA 36

PERCEPÇÕES DE PROFISSIONAIS NÃO MÉDICOS SOBRE FRAGMENTO DO CAMPO DA HANSENÍASE

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A institucionalização do campo da hanseníase, como em outras especialidades médica, gradualmente excluiu os discursos de profissionais de outras áreas de saber. Nesse momento em que se buscam caminhos para promover a qualidade da atenção ao paciente de hanseníase faz-se necessário criar espaços para a produção de saberes a partir do diálogo com outras disciplinas. O contexto desse trabalho se insere em uma investigação multicêntrica para a qual foram contratados profissionais e pesquisadores não especialistas em hanseníase. Os investigadores realizaram entrevistas com portadores de deficiência por seqüela de hanseníase e outras causas em duas unidades de tratamento para hanseníase e três centros de reabilitação pelo período de pouco mais de um mês. Nesse período, vivenciaram intensamente o cotidiano dos serviços além de interagirem com os usuários e profissionais da saúde. Ao término da fase de entrevistas, realizamos reunião de avaliação com a técnica de grupos focais com os integrantes da equipe. As impressões dos pesquisadores apontaram para uma série de necessidades dos profissionais da saúde bem como dos portadores da hanseníase que podem facil-

mente ser introduzidas no cotidiano dos serviços para melhorar as ações de controle e atenção ao doente.

PSA 37

PERFIL DO USUÁRIO DO PROGRAMA DE CONTROLE DA HANSENÍASE

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O presente trabalho foi realizado na perspectiva de superar as dificuldades no serviço do Centro de Dermatologia Dona Libânia, com relação às informações básicas sobre os usuários do Programa de Controle da Hanseníase. Esta sistematização viabilizou um conhecimento mais profundo da realidade, permitindo melhor qualificação da prática cotidiana, subsidiando as ações desenvolvidas. Buscou-se o que foi chamado de perfil do usuário do programa em um universo delimitado - fichário de aprazamento da medicação supervisionada - relacionando-se o número de todos os prontuários em registro ativo até maio de 1998, perfazendo um total de 1261 registros. Posteriormente passou-se a pesquisar os prontuários, verificando-se que dos 1261, 197 estavam de alta por cura; 02 óbitos; 21 transferências e 19 com outras situações de tratamento (dermatoses, tuberculose, erro de diagnóstico e prontuário não localizado). O universo da pesquisa passou então a ser de 1021 prontuários dos usuários em tratamento dos quais extraiu-se as seguintes informações: atendimento do Serviço Social, município de origem, forma de tratamento, grau de incapacidade, avaliação de fisioterapia, abandono, faltosos, avaliação de alta, faixa etária e sexo. Os resultados foram tabulados e consolidados em tabelas e gráficos.

PSA 38

PROJETO DE CAPACITAÇÃO PROFISSIONAL OU SEMIPROFISSIONALIZANTE NO PROGRAMA DE HANSENÍASE - S.P.

Guisard, Carmem Luíza M. P.; Metello, Heleida Nobrega; Clemente, Tânia Maria G.; Ferreira, Maria Emília; Lopes, Angelina; Santos, Maria Aparecida H. dos; Ito, Liria Suzana; Peixoto, Edna Silveira; Nogueira, Wagner

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Apesar do advento de novas políticas de saúde para Hanseníase, os portadores da doença continuam a sofrer conseqüências dessa história, como a discriminação e a dificuldade de inserção no mercado formal e informal de trabalho. A partir do reconhecimento dessa realidade, um grupo de profissionais de seis serviços de saúde, localizados em diferentes regiões e ligados ao Programa Estadual de Hanseníase da Secretaria da Saúde do Governo de São Paulo, financiados pela American Leprosy Mission - Projeto São Paulo, propôs um projeto piloto de Capacitação Profissional ou Semi-Profissionalizante para onze usuários do programa (em tratamento, com alta e/ou comunicantes). O projeto desenvolve uma pesquisa quali-quantitativa a partir da coleta de história oral desses sujeitos e realização de entrevistas com instrumental padronizado (formulário). A população alvo do projeto freqüentou cursos por eles escolhidos de acordo com habilidades e interesses próprios. Os dados coletados encontram-se em fase de análise pelo grupo. Apesar disto podemos inferir que: o desconhecimento sobre a doença por parte tanto da população como do profissional de saúde ainda é significativo, o que se expressa em preconceito, discriminação e exclusão social.

No entanto, pela atenção possibilitada pelo projeto e valorização do sujeito, alguns dos participantes denotam aumento na sua auto-estima, vislumbrando a possibilidade de inserção no mercado de trabalho.

PSA 39

PROJETO HOSPITAIS - COLÔNIAS DE HANSENÍASE NO BRASIL: "UMA PROPOSTA DE GERENCIAMENTO"

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Programa de Controle da Hanseníase: Av. Dr. Arnaldo 351 - 6º andar - sala 614 - CEP: 01246-000 - São Paulo - SP

O presente projeto, atualmente desenvolvido no Estado de São Paulo, através do programa Estadual de Controle da Hanseníase, especificamente nos Hospitais Dr. Francisco Ribeiro Arantes - Itu e Dr. Arnaldo Pezzutti Cavalcante, em Mogi das Cruzes, tem como objetivo definir uma nova forma de gerenciamento junto a estes Hospitais-colônias, reorganizando os serviços, garantindo uma atuação mais efetiva a esta população, que ao longo dos anos viveu isolada compulsoriamente, garantindo-lhe, desta forma, o seu direito de cidadania.

Há necessidade imperativa da criação de um novo modelo de atuação, identificando os serviços e dividindo as ações em duas áreas distintas: Hospitalar e Social. Cabe a área Hospitalar o gerenciamento do Hospital, Asilo, e Lares Abridados e a Área Social com ações voltadas para o Abrigo temporário, Moradias Coletivas, Residências e as Terras.

Para tanto houve a necessidade da criação de uma Gerência Social que terá a frente um técnico com formação específica, voltada para esse fim.

Para a implantação deste novo modelo foram utilizados instrumentos como: reuniões comunitárias, aplicação de questionários, seminários, que contribuíram na construção de um diagnóstico completo destes Hospitais – colônias permitindo uma ampla participação no processo de transformação desta realidade.

PSA 40

PSYCHOLOGICAL REPERCUSSIONS AND COPING PATTERNS OF LEPROSY PATIENTS

Valsa Augustine, P.S.S.S. Rao, J. Richard, A. Zechariah Jebakumar, S.L.R. and T.C. Karigiri

Due to centuries of prejudice, leprosy leads to various psychological trauma in the patients resulting in maladjustments within self and in the context of family and society. A study was undertaken to find out the emotional reactions of patients and the nature of their coping or support system, using a questionnaire with a checklist. This was done on 100 patients and they mentioned multiple answers.

The results showed that immediate reactions on diagnosis of leprosy were 'grief' (98.4%), 'fear' (54.9%), 'shock' (40.2%) and anger (7.8%). The reasons for emotional reactions were 'fear of consequent problems of leprosy' (96.1%), 'society's image about leprosy' (52.0%), 'disruption of normal life' (27.5%) and 'attitude of people' (4.9%). Subsequent feelings were 'depression' (98.0%), anxiety (54.9%), 'guilt' (48.0%), 'loss of self-esteem' (21.6%) and fear (3.9%). Coping patterns used by the patients were positive acceptance (68.6%), faith in God (38.3%), suicidal attempt (24.5%), keeping it as secret (28.4%), withdrawal from family and community (17.7%), fatalistic (16.7%) and alcohol (2%). The support systems used by them were 'family' (74.5%) 'hospital' (45.1%) and close relatives (26.4%).

These show that significant number of patients have had psychological impact which have not been addressed and subsequently have led to negative coping patterns. Their support was family, hospital and close friends. This clearly indicates the need for emotional support from a counselor. In the post MDT era, addressing the psychological impact would help in holistic management of leprosy and its associated problems

PSA 41

RELAÇÃO MÉDICO X PACIENTE COMO POTENTE TERAPIA NA EVOLUÇÃO DE PACIENTE HANSÊNICO

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J.S.P., 25 anos, sexo feminino, paraense, trabalha como manipuladora de alimentos, relatou que há aproximadamente dois anos surgiram manchas em sua face que progressivamente espalharam-se pelo tronco e membros superiores. Na primeira consulta com uma dermatologista, J.S.P. foi solicitada a fazer o exame de baciloscopia e de histopatologia, sem que a médica lhe esclarecesse a hipótese diagnóstica. Ao apresentar o resultado de tais exames a um clínico geral, J.S.P. considerou que este médico não quis lhe informar a respeito de sua doença, esquivando-se das perguntas e dizendo-lhe para "ficar tranqüila". Decidiu, então, levar o resultado do exame a outro dermatologista, em outro serviço, onde foi atendida pela Dra. Z., que após o exame, voltou-se à paciente e disse: "–Vou ser sincera com você. Há 99% de chances de você ter hanseníase. Mas você vai se tratar comigo e vai ficar boa. O tratamento vai levar um ano, mas se você seguir direito, vai ficar boa". Ficou bastante claro o efeito da utilização da relação médico-paciente como parte integrante da terapia: quando o clínico geral que não quis aprofundar o caso de J.S.P. disse-lhe para "ficar tranqüila", a paciente aborreceu-se e decidiu até mesmo trocar de serviço. O médico não soube acalmar a paciente, pois o "fique tranqüila" usado teve o efeito oposto! Isto não satisfaz a demanda da paciente em conhecer seu real estado de saúde. Já a dermatologista Z. soube manejar melhor suas palavras para conseguir o efeito terapêutico: confirmou com segurança o diagnóstico, mas abrandou suas palavras. Além disso, na mesma frase, abordou a grande possibilidade de cura e mostrou seu interesse no caso, deixando claro que o assumiria até o fim do tratamento. O estudo deste caso demonstrou especialmente que o médico deve saber manejar suas palavras para servirem como elemento facilitador da terapia, pois foram observadas situações antagônicas quanto a este aspecto e as diferentes reações da paciente: no momento em que o clínico geral tenta, sem sucesso, tranqüilizar a paciente e, num segundo momento, quando a dermatologista confirma o diagnóstico e conquista a confiança de J.S.P.

PSA 42

RELAÇÕES EM TRANSFORMAÇÃO: A PERCEPÇÃO DAS FAMÍLIAS RESIDENTES NO HOSPITAL DR. FRANCISCO R. ARANTES SOBRE O PROCESSO DE REESTRUTURAÇÃO

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Mesmo com as novas políticas de saúde para a Hanseníase, tem se observado que os indivíduos doentes ou curados e comunicantes, ainda sofrem de representações arcaicas como o estigma, o preconceito, a discriminação e outras que perpetuam no imaginário social. Por esses fatores elaboramos um projeto de intervenção com o objetivo de investigar as formas de atenção dada às famílias residentes na Área Comunitária do Hospital e como estavam vivenciando o Processo de Reestruturação (P.R.), iniciado em Junho de 2.000. Desenvolvemos o trabalho em 3 módulos: o primeiro numa perspectiva quantitativa, utilizando os dados do CENSO/HFRA, 2000 (distribuição segundo: número de moradores por casa; sexo; posição familiar e outros), de onde selecionamos aleatoriamente uma amostra de 71 famílias; o segundo com 13 perguntas abertas e objetivas relacionadas às percepções das famílias (relacionamento familiar, problemas: financeiros, de segurança, com a Gerência Social e outras) e o terceiro com 7 questões abertas referente ao P.R. (como vêem o P.R., se estão preparadas para perderem a tutela do Estado, receberem o imóvel e outras). Estes dois últimos cumprindo a perspectiva qualitativa. Concluiu-se que as famílias não estão compreendendo o P.R., não estão preparadas para deixarem tutela, apesar de estarem preparadas para receberem o imóvel. Do total, 70% estão vivendo problemas financeiros. Diante destas e outras, propomos: a necessidade de ampliar, conscientizar e capacitar os profissionais, em reconhecer e legitimar a existência de Núcleos identitários e de Campos de Formação de Compromissos e de Construção de Contratos; promover a efetiva participação dos moradores e apoiar a criação de um Conselho Comunitário, promovendo a construção de Espaços Coletivos e a Co-gestão e, continuar firmando parcerias com a Prefeitura Municipal de Itu e ONGs.

PSA 43

SELF CONCEPT AND QUALITY OF LIFE OF LEPROSY PATIENTS AT LEPROSY CENTER REGION 5 NAKORN RACHASIMA

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The objective of this descriptive study were to study self concept and quality of life of leprosy patients. The sample of 54 cases was purposively selected from registered leprosy patients at leprosy Center Region 5, Nakorn Ratchasima Province during 1 May to 31 July 2000. The patients were interviewed using Tennessee Self concept Scale and WHOQOL BREF THAI instrument. An in-dept interview was

carried out in 10 of 54 selected cases. Data were presented as frequency and percentage and tested for association by using Spearman Rank Correlation and Exact Probability test.

The result showed that 98.1% of leprosy patients has positive self concept and 72.2 % of them has moderate level of over all quality of life. The higher percentage for negative self concept was found in physical domain (7.4%) while the most frequent (7.4%) poor quality of life was found in social relationship domain. The in-dept interview reveal that anxiety and depression on physical deformity due to the diseases and treatment side effects deprived leprosy patients of social intervention with self stigma. Self concept in general was significantly positive correlation with quality of life ($r=0.30, p=0.028$)

Patients' self concept had direct impact on their quality of life. Mental rehabilitation and proper health education are equally important to drug therapy and own promotion of quality of life.

PSA 44

SOCIAL CHANGES IN THE LIVES OF CHILDREN OF LEPROSY AFFECTED PEOPLE

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International efforts are currently focussed on reducing the burden of Leprosy in susceptible populations. Reducing the prevalence, preventing and correcting deformities, and addressing the social stigma suffered by the patients themselves are all areas that have received valuable attention in this campaign. However one related aspect of Leprosy's contribution to social structure has been largely overlooked. This is the upbringing and subsequent social outcomes of the children of people who have had Leprosy. Such children still face a significant degree of discrimination in society. Entry into schools and training programs is more difficult than for other youth and frequently these children find themselves tainted by the familial stigma their entire lives.

The instigators of this study were such as children. They have however been fortunate in being able to establish themselves in a respected profession. There are adults from similar childhoods who have also struggled against the odds and proved themselves. Yet there are those who have fought and failed. This paper collates the stories of 30 people who as children grew up 'tainted' and often ostracised by Leprosy. Their basic experiences being elicited via a questionnaire (available if required). The underlying objectives of the paper are to increase general awareness of the problems faced by this group of people, potentially with the aim of modifying the less favourable environments of future children in similar

positions. The authors also wish to show those who are struggling from such a background that achievements are possible despite the ongoing stigma

PSA 45

SOCIO-CULTURAL MEANING OF LEPROSY IN ACEH PROVINCE, INDONESIA

Cut Idawani

Head of Health Office of Aceh province

This paper shows how disease transmission and particularly what biomedicine calls leprosy are interpreted in the Acehness traditional concept of Aceh Province, Sumatera Indonesia. It also tries to focus on factors influencing perceptions health seeking behavior and gender differences. The result shows that what biomedicine calls concerning by ensure leprosy identified as transmissible and incurable disease while others are related to specific phenomena effected the individual such as inherited, break focus was giving by ghost swearing a false oath or breaking it and even the disease is also seen as a punishment of God.

Then there are people who believe that the disease is in everyone, and that is will only manifest it self when one of the condition described about present it self and its also stated bad nutrition, hygiene and sanitation may cause Leprosy. Health seeking behaviors are related to the perceived causes on the disease, economic factor and the accessibility of health services. Related to the cause belief of leprosy mention above, the traditional healer (dukun) is for leprosy present still the common first step in treatment seeking behavior. Result also show that there does not appear to be a clear difference between males and females in access to treatment.

PSA 46

SOCIO ECONOMIC REHABILITATION IN LEPROSY AS A PRIVATE -PUBLIC MIX - A DISTRICT LEVEL EXPERIMENT FROM INDIA

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German Leprosy Relief Association initiated the Socio economic rehabilitation (SER) services in India since 1974 through Non Governmental Organisations who are working as partners in the National Leprosy Eradication Programme. 52 NGOs have already involved in this programme. In order to get wider geographical coverage and to get effective participation and support from the Government a new approach of District level coverage with private-public mix was introduced in Gujarat State. Two

districts, Vadodara and Sabarkanta were selected to introduce this scheme. A workshop was conducted involving the Government staff and the representatives of the Non Governmental organisation to orient them with the guidelines and work plan of the programme. The Government through their District officials have carried out a need assessment as per the criteria provided by GLRA-RF and a plan of intervention was worked out.

As per the Plan of Action GLRA-RF provided the funding support for the SER activities and the Govt. officials and the NGO representatives have offered the follow up services for the success of the project.. It is encouraging to note that the funds already started revolving and thus more persons will get the benefit. Constant monitoring and guidance and close co- ordination are bringing the desired results.

PSA 47

SOCIO-ECONOMIC REHABILITATION THROUGH INCOME GENERATION AIDS

Neela Shah, Atul Shah

Comprehensive Leprosy Care Project & Medical Aid Association

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CLCPMAA has developed an approach to identifying people who require income generation support, as well as the most appropriate way to support them. The socio-economic status of the individual is assessed, consideration is given to family as a whole. The income generation aid is given at the well-publicized program with the involvement of local and state leaders along with health care staff. This is not limited to those with disabilities but is also provided to those who suffer from the social consequences of leprosy. Clearly persons affected by other locomotor disabilities also require support, and even though this is more complex, income generation activities should not be limited to leprosy patients alone. This will also help reduce stigma of the disease and decrease the negative make up of the mind of society for all disabled. Simple parameters are taken into consideration like age, disability status, previous occupation and the ability to generate enough income from the assistance provided to them. When provided to patients who have benefited from reconstructive surgery the impact is even greater as they have benefit from physical and functional improvement of their disabilities and also have a tangible impact on their earning capacity. Follow-up of patients indicates that most patients who received aids could generate a substantial income and leading to an improvement in their family life and self-esteem. CLCP has provided 650 persons with aids for sustained income generation activities in the state of Gujarat, Goa and Maharashtra.

PSA 48

STRONG MOTIVATION WAY AMONG SOCIETY BY INCORPORATING TRILOGUE IN SEVEN BLOCKS OF BILASPUR DISTRICT.

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District Leprosy Unit Bilaspur. (C. G.), India.

There is great resistance observed in seven blocks of Bilaspur District. Specially amongs Society members inspite of best efforts made to mobilize the Society, there was utter failure in obtaining support from Society and Patient. It was presumed that ambiguity in objectives of patient, Society and service provider may be one of the important reason. In there most resistant blocks for Co-opration a special drive need base Trilogue was arranged with structured questionnaire and facillitation. Focus group discussion was main tool for study to know the views and reasons of lacking Co-opration. A very fruitful and amanging change was observed with imediate result amongst the patient and Society. Which proves that Trilogue to be a very effective way of health education and motivation which can certainly enhance process of elimination of Leprosy.

PSA 49

“TECNOLOGIA DA VELA”

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O estudo tem como característica apresentar uma faceta da história vivenciada no programa de controle da hanseníase. Passados 10 anos no programa, o qual acreditando no Sistema Único de Saúde descentraliza suas ações objetivando a eliminação de um agravo que coloca o Brasil como o segundo mundialmente em número de casos. Uma empreitada que com o desafio de junto ao novo sistema de saúde, buscar implantar algumas de suas diretrizes tais como a universalidade, equidade, descentralização e integralidade nas ações de saúde ousadamente assume essa visão remodeladora de assistência, correndo o risco do simplismo podemos dizer que procuramos no trabalho multidimensional potencializar e articular os municípios sempre priorizando a eliminação da hanseníase como problema de saúde pública. Um momento de maior significado ocorreu quando da realização da campanha de combate a hanseníase no ano de 2001, aonde o que tínhamos objetivamente era a realização de uma campanha que teria como norte confirmar ou alterar a realidade epi-

demiológica do estado de São Paulo. Assim foi feito: desenvolvemos uma campanha multifacetária, aonde os municípios puderam trabalhar sua realidade, suas dificuldades articulando várias forças sociais, ampliando parcerias. Os projetos foram desenvolvidos com amor, autonomia, cooperação, solidariedade, comprometimento, “desconstruindo” as desigualdades locais com resultados satisfatórios. Falamos de “arranjos” simples, tão singulares como a chama da vela na escuridão tão essencial que somente quem vivenciou a experiência pode ter a dimensão do que almejamos transmitir e para aqueles que não possuem, fica a certeza do quanto conhecer e aproximar-se pode ser o diferencial do nosso serviço.

PSA 50

TER HANSENÍASE NOS DIAS ATUAIS: SIGNIFICADOS E SENTIMENTOS

Letícia Maria Eidt

Ambulatório de Dermatologia Sanitária / Secretaria Estadual da Saúde e do Meio Ambiente do Estado do Rio Grande do Sul.

A Hanseníase, doença milenar causada pelo *Mycobacterium leprae*, apesar de ter cura e o tratamento ser feito em regime ambulatorial, continua cercada de estigmas e preconceitos na atualidade, gerando diversos significados e sentimentos para quem a vivencia. Este trabalho apresenta os resultados de uma pesquisa qualitativa, de cunho fenomenológico, realizada com hansenianos que fazem tratamento no Ambulatório de Dermatologia Sanitária, na cidade de Porto Alegre, centro de referência para atendimento à Hanseníase no Estado do Rio Grande do Sul, Brasil. Os dados foram coletados por meio de entrevista semi-estruturada e gravada, posteriormente transcrita para aplicação do método fenomenológico. Vários significados surgiram junto com a confirmação diagnóstica e tratamento da moléstia, tais como os de doença desesperadora, doença maldita, praga e castigo divino. Entre os sentimentos vivenciados, destacam-se o medo de ser descoberto como hanseniano, medo de transmitir a doença, medo da discriminação sobre os familiares, medo das seqüelas físicas, vergonha, culpa, raiva, ódio, tristeza e desespero.

PSA 51

THE ANALYSIS FOR OCCURRED LEPROSY OF 1009 KINFOLKS OF LEPROSY PATIENTS

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[Abstract] The investigation explanation on 271 families with patients 1009 suffering from leprosy in lu Nan city, Shang Zhou district, Shaanxi prouince.

The incidence of the disease is greatly difference between the families with lepers and those without lepers. The incidence of the disease is little difference between the children whose parents suffer from leprosy with more bacteria and those whose parents suffer from leprosy with less bacteria. The authour tells ererybody to pay more attention to the infection of leprosy with less bacteria.

PSA 52

THE IMPACTS FOR LEPROSY CASES IN BEHAVIOR AND MENTALITY

Han Cunlian

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[Abstract] Objective To observe the relation of age, sex, marriage and period of being in hospital and impacts of leprosy cases in behaves and mentality. Method To interview the cases, reminding of doctors and the history of case. The total of 318 cases were be summarized for the impacts on age, sex, marriage and period of being in hospital and impacts of leprosy cases in behavior and mentality. Results The rates of behavior and mentality changed was 96.9%, angst is 61.6%, taedium vitae 51.9%, self-abasement 88.1% as the main symptoms which the occurred rates had high significant difference, the more high rate of initial than treatment and recovery period($p<0.001$), marriage than single, young patients than children and older($p<0.05$). The influence of cases were depended on the patients characters. Conclusion The impacts of behaves and mentality of leprosy cases indicate were angst, taedium vitae, self-abasement. At begging of inpatients, younger and marriage were high rates factors. The cases with extroversion had more suffering with taedium vitae, self-abasement, with diffidence had more angst and loneliness

PSA 53

THE MANAGEMENT AND SITUATION OF LEPROSY VILLAGES

Xu Guibiao, Liu Lin

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[Abstract] objective To study the management of the leprosy village after leprosy was gotten rid of basically. Methods management of leprosy village and basic instances of disabilities persons who live in the leprosy village were investigated and analyzed. Results at recent time, there are 110 patients in the leprosy village, their average age is 68.5 years old, most of them have no families. Their working abilities are

lost, ability of taking care of themselves goes down. Conclusion Leprosy village does not have the function of separating and treating the leprosy patients any more, its character has become as one place where we provide tendance to the people who affected by leprosy.

PSA 54

THE SOCIAL REPERCUSSIONS OF HANSEN'S DISEASE DURING AND AFTER 24-DOSE MDT

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Introduction: Throughout history, leprosy, a disease most often found among the poorest members of society, has been feared and dreaded as a contagious disease causing unsightly visible deformities as well as invisible emotional sequelae. Because of the stigma, social prejudice, and real disabilities commonly associated with it, leprosy can seriously downgrade a patient's whole life.

Objective: Evaluation of the impact of leprosy on MB leprosy patients' quality of life from diagnosis to up to 10 years' post-MDT.

Material and Methods: This study included 60 MB patients enrolled in the Leprosy Outpatient Clinic who were discharged from 5-10 years prior to the study after receiving 24 consecutive doses of MDT. Some are still in follow-up care to control reactional states; the others were asked to participate by mail. All filled out a questionnaire specifically designed to ascertain how well they were dealing with reintegration into society.

Results: A full 72% of the patients limited revealing their illness to close family members, while 90% had purposely not disclosed it in the workplace. Eighty percent acknowledged that during treatment their main concerns was contaminating loved ones and/or friends; but they also worried that their physical disabilities might cause other changes capable of drastically altering their ability to function as before. However, during the study, 80% attested to a reduced fear of discrimination and a marked improvement in self-esteem notwithstanding their fear of a relapse and the insistence on keeping the illness a secret.

Conclusion: Although the patients considered the change in nomenclature from *leprosy* to *Hansen's disease* a positive step, most still refused to mention the disease to others, demonstrating to what extent leprosy continued to symbolically not only represent stigmatization and exclusion but a constant threat to their personal, social, and professional standing in the community.

TEACHING AND TRAINING

PT & T 1

ALTERAÇÕES OCULARES IDENTIFICADOS POR ACADÊMICOS DO CURSO DE FISIOTERAPIA NO HOSPITAL SÃO JULIÃO.

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O presente estudo de caráter descritivo e retrospectivo, realizado nos prontuários do Hospital São Julião, levanta dados das avaliações realizadas no período de maio de 1998 a fevereiro de 2002 pelos acadêmicos do curso de fisioterapia, abordando a importância da prevenção nas lesões oculares e atuação multidisciplinar. Na metodologia os acadêmicos coletaram os dados arquivados, observando as seguintes variáveis: sexo, faixa etária, forma clínica; e alterações oculares como parestesia, ceratite, paresia orbicular, diminuição da acuidade visual e registro de encaminhamento ao oftalmologista. Nos resultados das 464 fichas pesquisadas 50% pertenciam a faixa etária superior a 50 anos, houve predomínio da forma clínica virchowiana (25,2%), sendo menos frequente a indeterminada (3,4%), encontravam-se em diagnóstico apenas 1,4%. A alteração mais predominante foi a diminuição da acuidade visual (65%), seguida de ceratite (45%), parestesia (32%), paresia do orbicular (27%) e lagofalmo (13%). Observou-se o registro de 192 encaminhamentos oftalmológicos, em 16 fichas não houve necessidade, e, um grande número sem notificação do mesmo. A pesquisa levantou número considerável de alterações oculares sujeitas a intervenção preventiva ou curativa, observa-se ainda a abordagem multidisciplinar importante nesta patologia, a fim de atender as necessidades dos pacientes.

PT&T 2

AVALIAÇÃO DE CONHECIMENTO SOBRE HANSENÍASE ENTRE ALUNOS DA 5ª.SÉRIE DO CURSO DE MEDICINA - ESTUDO COMPARATIVO

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A Hanseníase foi sempre marcada por incompreensão, preconceitos e estigmas. Um dos fatores que contribuíram para isso foi o desconhecimento dos profissionais de saúde sobre a doença. Este trabalho tem por objetivo avaliar o conhecimento de estudantes da 5ª. Série de Medicina da Universidade São Francisco, acerca da hanseníase, pela análise comparativa de pesquisa realizada em 1999 e em 2002; e o impacto das ações educativas efetuadas pelo Programa Municipal de Hanseníase. Foi realizada pesquisa quali-quantitativa que tem como instrumento a aplicação de questionário padronizado. Os dados coletados até o momento mostram que o conhecimento sobre a doença é insuficiente, resultado da pouca ênfase dada nos cursos de formação e a manutenção do estigma por esses futuros profissionais. Torna-se, portanto, indispensável oferecer aos alunos oportunidades de aprendizagem para que adquiram experiência teórica e prática e entendam a doença como um relevante problema de saúde pública e que com isso possam contribuir para sua eliminação

PT&T 3

CONTRIBUIÇÃO DAS TRABALHADORAS DO SEXO DO MUNICÍPIO DE SOBRAL NO PROCESSO DE MOBILIZAÇÃO SOCIAL E EDUCAÇÃO/SAÚDE

Sandra Maria Carneiro Flor, Maria de Jesus Guilherme Cavalcante, Christianne Marie Aguiar Coelho, Francisca Marlene Sousa Bezerra, César Augusto Ferreira Silva

Movimento de Reintegração de Pessoas Atingidas pela Hanseníase - MORHAN Ed.: Rua Joaquim Trindade, 19 - Centro CEP 62.011.060 Sobral - Ce./Associação Sobralense dos Trabalhadores do Sexo - ASTRAS

A prostituição é uma das mais antigas das atividades de trabalho, mas preconceito, discriminação e a violência ainda recaem sobre as mulheres que as praticam. Como estratégia de promoção da cidadania, mobilizamos as trabalhadoras do sexo no sentido de participarem efetivamente de trabalhos que lhes permitissem o seu envolvimento no processo educativo e preventivo, na promoção da saúde como qualidade de vida.

Com a criação da ASTRAS, houve o fortalecimento da categoria, que passou a exercer atividades educativas dentro dos prostíbulos, realizando palestras sobre prevenção das DSTS/AIDS, práticas de sexo mais seguro, prevenção da gravidez indesejada, dis-

tribuição de folders e preservativos durante essas atividades e festas populares como carnaval e carnabral (carnaval fora de época), participando de campanhas contra a exploração sexual infanto-juvenil, fóruns de discussão sobre grupos marginalizados, e apresentação de uma peça de teatro com mensagens preventivas de DST/AIDS com um grupo criado por elas em espaços públicos.

Além dessas atividades, o grupo foi treinado pelo o MORHAN para suspeitarem de lesões sugestivas para hanseníase entre os seus clientes e a população com as quais elas convivem. Dessa forma as Trabalhadoras do Sexo de Sobral contribuem não só na prevenção e controle das DST/AIDS, mas também no processo de eliminação da hanseníase nesse município.

Hoje a ASTRAS vem trabalhando o exercício pleno de sua cidadania, valorização da vida aumentando a alta estima de suas associadas que passaram a serem vistas pela sociedade como agentes multiplicadores de ações preventivas. Tal experiência foi reproduzida junto às prostitutas que fazem parte da Associação das Prostitutas do Ceará-APROCE, que reúne prostitutas da região metropolitana de Fortaleza na I Oficina Integrada em Hanseníase e DSTS que passaram a desenvolver também as ações de educação e detecção em Hanseníase.

PT&T 4

DIAGNÓSTICO DA HANSENÍASE

Lastória, J.L.; Maccharelli, C.A.; Puttinatti, M.S.M.A.

Faculdade de Medicina de Botucatu- UNESP, Depto. Dermatologia.

Verificou-se, na avaliação de 52 pacientes do Ambulatório de Hanseníase da Faculdade de Medicina de Botucatu- UNESP, portadores das diferentes formas de hanseníase, no período de 1999 a 2001, que o número de serviços onde os mesmos foram examinados até a confirmação diagnóstica variou de 1 a mais de 6, e que o tempo de diagnóstico variou de imediato, ou seja, na primeira consulta até um período superior a 48 meses. Em relação ao primeiro item, independentemente das formas clínicas, o diagnóstico foi realizado ou suscitado nos percentuais e respectivas avaliações como se segue: imediato ou em um único serviço - 12 (23,8%); 2 serviços - 4 (7,9%); 3 serviços - 11 (21,15%); de 4 a mais de 6 serviços - 6 (11,15%). Em relação ao segundo item, o tempo para o diagnóstico da doença, após o paciente ter sido avaliado pelo menos uma vez, foi imediato até 6 meses em 16 (30%) pacientes; de 6 a 12 meses em 3 (5,7%); de 12 a 24 meses em 16 (30,7%); 24 a 36 meses em 8 (15,3%); 36 a 48 meses em 1 (1,9%) e acima de 48 meses em 8 (15,3%). Os autores chamam a atenção para o alto número de serviços que o paciente tem que frequentar até o seu diagnóstico, bem como para o espaço de tempo considerável

para o mesmo e para o início do tratamento. Consideram, além das possíveis dificuldades próprias para o diagnóstico da hanseníase, a importância de se investir na formação e treinamento do profissional para esse fim, uma vez que as formas multibacilares, contagiantes, estavam presentes em 38 (%) dos 52 casos analisados.

PT&T 5

DIRETRIZES NACIONAIS PARA ELABORAÇÃO DE PROGRAMAS DE CAPACITAÇÃO PARA A EQUIPE DA REDE BÁSICA ATUAR NAS AÇÕES DE CONTROLE DA HANSENÍASE

Maria Bernadete Rocha Moreira; Adriana Maria Parreiras Marques; Cláudia Maria da Silva Marques; Ildinei Reis de Oliveira e Maria Madalena

Ministério da Saúde, Governo do Brasil, Esplanada dos Ministérios - Bloco G, Brasília, Distrito Federal, Brasil.

O texto tem o objetivo de orientar os Estados e municípios na tarefa de capacitação de pessoal em todos os níveis para a execução de controle da Hanseníase com a flexibilidade para atender as diferentes realidades locais, levando em conta o novo perfil do trabalhador no desafio de um novo modelo de atenção à Saúde. Este texto foi adotado como diretriz pelo Ministério da Saúde do Governo do Brasil. A opção metodológica é a do "ensino por competência". Este documento apresenta uma breve discussão acerca das bases conceituais que o subsidiaram, uma exposição sucinta sobre as abordagens pedagógicas mais utilizadas no processo ensino-aprendizagem e as competências e habilidades requeridas para o desempenho profissional da equipe de saúde da unidade básica para atuar no cuidado do paciente de hanseníase. Também são apresentados os conteúdos mínimos necessários para o alcance das competências e algumas sugestões de bibliografia.

PT&T 6

(DES) MANCHA BRASIL

Gomes M.K., Leocádio, J.L., Caldeira, Ad, Daxbacher Elr., Dantas Jr., Guerra Fb., Dantas Tr., Kaufman J., Farias, M.A., Oliveira, M.L.W.

Faculdade De Medicina/Ufrj/Paps/Hucff 11º Andar Av. Brigadeiro Trompowski S/N, Ilha Do Fundão/Rj.

Este trabalho resulta de uma reflexão sobre as atividades desenvolvidas desde maio de 1996, por alunos de graduação da Faculdade de Medicina/UFRJ no projeto: "Plano de Eliminação da Hanseníase de Queimados e Belford Roxo: uma experiência de integração ensino-serviço". Com a participação de alunos de graduação-curso de Cinema/UFF, em atividade no Laboratório de Vídeo Educativo do NUTES,

produzimos o vídeo “(des) mancha Brasil”, que trata uma prática educativa voltada para a compreensão da saúde integral do indivíduo e da coletividade, desenvolvida no projeto. Esta proposta pedagógica coloca o aluno em contato com a realidade social através do instrumental da Epidemiologia, possibilitando a compreensão dos determinantes do processo saúde-doença, contrapondo-se ao paradigma mecanicista, predominante no ensino médico. Trata-se de pesquisa-ação do tipo interventiva, na qual o aluno assume papel de sujeito capaz de contribuir com a alteração da realidade. Atividades desenvolvidas pelos alunos: ações educativas em igrejas, associações de moradores, escolas e unidades de saúde (US); visitas domiciliares para resgate de pacientes faltosos/abandonos; acompanhamento do atendimento clínico nas US. Até dezembro de 2001 foram envolvidos 136 alunos de graduação da FM/UFRJ (média de 15 alunos por semestre).

PT&T 8

FORMAÇÃO DE RECURSOS HUMANOS PARA A ELIMINAÇÃO DA HANSENÍASE: RELATO DE EXPERIÊNCIA

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A formação de recursos humanos para a Atenção Primária à Saúde (APS) no Brasil é uma questão crucial à sua efetividade, mormente para o controle de doenças infecciosas como a Hanseníase. Nesse contexto, e atendendo à política nacional de reestruturação do Sistema Nacional de Saúde Brasileiro, a Prefeitura Municipal de Sobral instituiu um programa de formação de recursos humanos de nível superior para o Programa Saúde da Família, modelo estruturante da APS no Brasil (BRASIL, 1998), pautando-se por um concertamento interdisciplinar e pela atenção à saúde em base familiar, a saber: a Residência em Saúde da Família. Como espaço pedagógico desse programa, o Ambulatório de Hansenologia tem servido como pólo de construção do campo da atenção à Hanseníase, doença hiperendêmica no município. O eixo estruturante da prática pedagógica desse serviço é a Integração Docente-Assistencial, com enfoque na construção da transdisciplinaridade, onde os diferentes núcleos de conhecimento do campo da saúde responsabilizam-se, no espaço do serviço de saúde, pela construção coletiva do campo de atenção ao portador de Hanseníase, identificando os domínios específicos de cada núcleo e as interfaces (CAMPOS, 1997). As representações sobre a doença dos portadores de Hanseníase, bem como a miséria social que acompanha a doença, requer uma atenção transdisciplinar

(QUEIROZ & PUNTEL, 1997) que dê conta da complexidade dos problemas desses pacientes (OLIVEIRA & FRAGA, 1999), que demandam um *modo-de-ser-cuidado*, mais do que um *modo-de-ser-trabalho* (BOFF, 1999). Em consequência, a práxis pedagógica está centrada na construção de um conhecimento pertinente que esteja fundamentada no contexto, no global, no multidimensional e no complexo (MORIN, 2000). Como resultados dessa abordagem pedagógica, foram observados, no esteio da descentralização das ações de eliminação da Hanseníase, a redução do abandono do tratamento poliquimioterápico possibilitada pela concretude, nos serviços de APS do município, de uma abordagem baseada no *modo-de-ser-cuidado* que facilitou a adesão ao tratamento e a sua reintegração social dos pacientes.

PT&T 9

HANSENÍASE: CIRURGIA DE PREVENÇÃO E REABILITAÇÃO/ HUCFF/UFRJ

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Desde 1992 o HUCFF tem se solidificado como referência para a região metropolitana do Rio de Janeiro, na assistência ao paciente portador de hanseníase. Enquanto órgão formador de recursos humanos, tem se organizado no sentido de integrar uma solicitação da demanda (o Brasil é o segundo país em número de casos), com a responsabilidade de formar profissionais aptos ao diagnóstico e tratamento da endemia.

Cumprindo o objetivo treinar profissionais das áreas cirúrgicas e de reabilitação, o HUCFF realizou, no período de 30/11/98 a 04/12/98, o primeiro seminário de prevenção e reabilitação cirúrgica em hanseníase, envolvendo os serviços de dermatologia, ortopedia, serviço social e medicina física, bem como a Secretaria Municipal de Saúde/RJ.

Ao longo deste período de 3 anos foram realizadas 47 cirurgias, em pacientes submetidos ao pré e pós-operatório no serviço de medicina física, após seleção no ambulatório de dermatologia.

Os autores apresentam a metodologia utilizada no primeiro seminário (foram realizadas 18 cirurgias em 5 dias), o processo de seleção dos pacientes, critérios utilizados, a implantação das cirurgias-fluxo na rotina do hospital, os resultados das cirurgias do ponto de vista funcional para o paciente e equipe, com ampla discussão do processo de pré e pós-operatório fisioterápico, da técnica cirúrgica utilizada, motivação inicial do paciente e suas expectativas quanto à cirurgia.

PT&T 10

HANSENÍASE NA ATENÇÃO BÁSICA DE SAÚDE: EFETIVIDADE DOS TREINAMENTOS PARA OS PROFISSIONAIS DE SAÚDE NO ESTADO DO RIO DE JANEIRO

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A meta para obter a eliminação da hanseníase como problema de saúde pública até o ano de 2005 em todos os países tem como elementos estratégicos centrais a capacitação de pessoal, e a integração da hanseníase dentro da atenção básica de saúde. A Assessoria de Dermatologia Sanitária da Secretaria de Estado de Saúde do Rio de Janeiro vem implementando, desde 1998, treinamentos em suspeição de caso, confirmação diagnóstica e tratamento / acompanhamento dos pacientes portadores de hanseníase para os profissionais das redes municipais de atenção básica de saúde.

O curso "Hanseníase na Atenção Básica de Saúde" foi ministrado no ano de 2001 nas oito regiões do Estado do Rio de Janeiro, abrangendo 79 dos 92 municípios, sendo treinados 891 indivíduos das diversas categorias profissionais que atuam na rede básica de saúde. Destes, foi selecionado um grupo representativo para responder a um questionário de avaliação da efetividade de treinamento, visando corroborar se estes profissionais treinados continuaram ou passaram a realizar suspeição de caso, confirmação diagnóstica, tratamento e acompanhamento dos pacientes portadores de hanseníase no Estado do Rio de Janeiro.

Os resultados desta avaliação demonstram a necessidade de se realizar contínua e repetidamente este tipo de treinamento, de modo a conseguir alcançar e manter a eliminação da hanseníase como problema de saúde pública.

PT&T 11

LEPROSY TRAINING AND JOB SATISFACTION FORMER TRAINEES ABOUT THE VALUE OF ALERT TRAINING

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The first international training courses were given at ALERT in 1970. Since then the courses have had 3350 participants (medical doctors, physiotherapists and other paramedicals, administrators) from 81

countries. GLRA, NLR and TLMI have been the main sponsors. The question has been raised: What kind of impact has the training at ALERT had on these former trainees and their work situation?

A questionnaire was sent out in June 1999 to 860 people who had attended courses between 1986 and 1997. The aim was to collect some information about their involvement in leprosy work after their training at ALERT. How important had the training been for their knowledge and career development? Had the training contributed to any increase in their job satisfaction and job responsibility? What reasons were there if they had left the leprosy work?

353 (41%) of the questionnaires were filled in and sent to ALERT. 71% of those who replied were still working in the leprosy field, mostly in combined programmes. The training had, in addition to important knowledge, given them self-confidence in their work. 91% declared that it had increased their job satisfaction. The answers to the questions are displayed. The results, including the personal comments given by the former trainees, are discussed.

PT&T 12

PROJECT OF TRAINING IN REPARATIVE AND PREVENTIVE SURGERIES IN HANSENIASIS

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Surgery is an indispensable element for the global treatment of patients carrying Hanseniasis. To improve the function, to raise the self-esteem and to diminish or prevent the deformities and disabilities, are some of the objectives of the reparative and preventive surgeries in Hanseniasis, that involve a multidisciplinary team.

Considering the large number of persons who develop some deformity or disability, it is necessary to train a larger number of rehabilitation teams.

With this purpose, a program of courses was implanted, with surgeries and theoretical and practical classes about the performance in the pre- and post-operative period in surgeries of tendinous transferences and neurolyses in upper and lower limbs. These courses last for a week and are performed in the very workplace of the professionals - surgeons and physiotherapists.

The places which received training, between 1998 and 2001 were - Rio de Janeiro (State of Rio de Janeiro), Cacoal (State of Rondônia), Uberlândia (State of Minas Gerais), Belém (State of Pará) and Goiânia (State of Goiás). Two surgeons and two physiotherapists take part of that team.

Based on these data, the purpose of this work is to present our experience and operationality of this program, that has demonstrated to be efficient and less expensive

PT&T 13

PROJETO PEDAGÓGICO DE CAMPANHA DE COMBATE DA HANSENÍASE DO ESTADO DE SÃO PAULO BRASIL EM 2001

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Programa De Controle De Hanseníase De São Paulo

O descombrimento da hanseníase pela população bem como o critério nos modelos tradicional de campanha verticalizadas justificava o desenvolvimento do projeto pedagógico da campanha e 2001. Os objetivos incluem a identificação e solução dos problemas na organização dos serviços bem como a necessária mobilização construtiva para suspensão de casos precoces de hanseníase, no estado de São Paulo. Foram realizadas reuniões preliminares para definição dos instrumentos pedagógicos por etapa de planejamento, de retorno de dados para a fase executora e avaliação de resultados. O projeto pedagógico utilizou metodologia problematizadora, dialógica e participativa com técnicas pedagógicas.

A fase executora envolvem as 24 regionais de saúde do estado de São Paulo e mais de 90% dos municípios, envolvendo 1600 técnicos das áreas médicas, de enfermagem, educação e nível médio.

PT&T 14

TEACHING KNOWLEDGE OF LEPROSY AT SCHOOLS IN LAM DONG PROVINCE FROM 1998-2001

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Introduction: Lam Dong is a mountainous province in Western Highland, area: 9764 Km² with the population of 1.041.000 people (ethnic group is about 1/3 population) with low standard of living and education. It's difficult to transport especially in rainy season, the distance from the province to the farthest commune is 250 Km. Most mass media concentrates in city and along the main street, most remote communes are in different grades in Lam Dong province.

The understanding and knowledge of leprosy among people in Lam Dong province were to be low, they were always frightened leprosy patients especially in serious cases, they got rid of leprosy patients, they

considered leprosy is a heredity and can not be cured. That false concept above about leprosy among them appeared long time ago and always live with them day by day.

In order to help people get basic knowledge of leprosy and right understanding about it, there should be a socialization in health education. With many ways such as direct talk in meeting, in pictures, in mass media... We specially pay attention to the ways to schedule knowledge of leprosy at schools because of these mentioned reasons:

- Number of pupils in Lam Dong province is 250.000 in different grades. Education net is covered all the province.
- Short, complete, easy understanding knowledge can be scheduled and there are also a test, estimation results of the teaching.
- Most families have pupils, through the guide of their teaching, each pupil will be a propagandist in his family and in his community.
- There has been a reteaching and up-to-date new knowledge to consolidate knowledge for pupils every year.
- Methods to teach are not complex and are supported by many departments especially education department.

Therefore, we tried to carry out teaching knowledge of leprosy in schools in Lam Dong province from 1998 to 2001.

Methods:

1. Planning: Make a plan to carry out propaganda health education with detailed plan of teaching leprosy at schools every year.
2. Materials: Materials for teachers, for pupils, test for pupils before and after testing.
3. Training: Training teachers (2 teachers for each school) in an Education Service in communes in August every year, guiding ways to prepare lessons, tests for pupils. Time of teaching is in September every year.
4. Signing contract with an education service in every district to teach knowledge of leprosy from 5th grade to 12th grade.
5. Distributing materials to every school.
6. Checking up the teaching in all schools and directly test casually pupils, correct and collect pupils' papers, pay money for the school according to the contract.

Estimating the results: From 1998 to 2001, we scheduled knowledge of leprosy in schools. On the other hand, we test and estimate the results in all districts. In 1999, together with the checkup of preventing leprosy in all districts in Lam Dong province, we

also test casually schools and group of inhabitant by asking pupils do short test and asking them directly and only ask the inhabitant directly. The result is That: 97 – 100% pupils get good result, 65 – 70% inhabitants get good result.

In the year of 2000, we completed a topic about estimating the result of teaching knowledge of leprosy at school for pupils from 6th from to 9th from of all secondary schools in Don Duong district by using multiple choice test for before and after teaching then we correct them with the following results.

Conclusion: Inhabitants in Lam Dong province used to have false understanding to leprosy. It's difficult to change their way of thought of leprosy. It is necessary for us to inarease the duty of education health for each area, region in order to gain effective results and cost less. Therefore, we continue improving various ways of propaganda on teaching knowledge of leprosy in schools permanently because this is a arowded force, scattered in all region family, absorb and consolidate knowledge easily, they can also become an effective propagandist methods it is included that these methods are suitable for each region, can be carried out and gain good results.

PT&T 15

TERAPIA OCUPACIONAL AUXILIANDO NA INFORMAÇÃO E ELIMINAÇÃO DA HANSENÍASE NO MUNICÍPIO DE SÃO JOSÉ DO RIO PRETO - SP

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O número de casos de hanseníase no Brasil continua alarmante. Dentre tantas, uma das causas é a falta de informação da população, que conduz a procura e diagnóstico tardio, já nas formas contagiantes da doença.

Na intenção de reverter esse quadro, o serviço de Terapia Ocupacional do Núcleo de Gestão Assistencial – 60 realizou o presente estudo que tem como principal objetivo verificar o nível de informação da população sobre a doença, antes e depois de palestra informativa, em vários segmentos da sociedade.

Foi aplicado um pré- teste contendo 19 afirmações, que direcionam para o conceito da doença, a palestra realizada, e aplicado o pós-teste.

Participaram do estudo profissionais diversos de 12 Centros de Saúde (136 testes respondidos, pré e pós), frequentadores de 01 Igreja Adventista (140 testes respondidos), estudantes e professores de 01 Univer-

sidade (263 testes), alunos e professores de 01 Escola Técnica e profissionalizante (519 testes).

No Centro de Saúde o número de acertos no pré-teste foi de 72,8% e 90,1% no pós-teste. Na igreja adventista o número de acertos no pré-teste foi de 47,7% e 81% no pós-teste; na universidade de 44,5% de acertos e 91% de acertos no pós-teste e na Escola Técnica e profissionalizante de 44,4% de acertos no pré-teste para 90,1% no pós-teste.

Os resultados mostram que os materiais e métodos utilizados na pesquisa atingiram o objetivo proposto, e a importância da continuidade de utilizar a palestra informativa como um dos recursos de informação à população.

PT&T 16

THE INCLUSION OF HANSENOLOGY IN THE CURRICULUM OF THE PHYSIOTHERAPY COURSE

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Considering that Hanseniasis can produce disabilities and deformities, the presence of a multidisciplinary team in the treatment of the persons who carry that disease becomes necessary. The physiotherapist, like other professionals of health, holds a place of extreme importance, whether in the prevention of disabilities or in the rehabilitation of those individuals.

With this objective, the Lauro de Souza Lima Institute and the Sagrado Coração University have been developing curricular apprenticeships in Hansenology for five years, with emphasis on the prevention of disabilities, for the students of the last year of the Physiotherapy course.

Despite the distinction that has been given to the thematic and interdisciplinary studies and to the apprenticeship by researches, there is a gap concerning the themes related to public health, with special focus on Hansenology.

This initiative, unprecedented, is not only a curricular innovation but also a possibility of structuration and capacitation of the professional to act with patients carrying Hanseniasis.

Wellfounded on these facts, the present work has the objective of presenting our experience with teaching-apprenticeship in the area of physiotherapy applied to Hansenology, as well as suggesting the inclusion of Hansenology in the curriculum of the Physiotherapy courses

PT&T 17**TREINAMENTO EM HANSENÍASE DOS AGENTES COMUNITÁRIOS DAS UNIDADES DE SAÚDE DA FAMÍLIA DO QUALIS SANTA MARCELINA**

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Qualis Santa Marcelina E Programa De Controle De Hanseníase De São Paulo

A baixa cobertura de serviços para diagnóstico e tratamento da hanseníase na zona leste do município de São Paulo e aumento do número de unidades de saúde da família do projeto qualis santa marcelina nesta mesma região justificava a realização de treinamento para todos os agentes comunitários. O objetivo principal era de motivar os agentes comunitários de saúde para a suspeição de casos de hanseníase, contribuindo para a detecção nesta região da cidade. A fase de planejamento definiu os instrumentos pedagógicos e metodologia problematizadora, dialógica e participativa com técnicas pedagógicas e ludo pedagógicos. A fase executor, realizada em grupos, envolvem agentes comunitários de saúde

PT&T 18**TREINAMENTO EM HANSENÍASE PARA AS EQUIPES DE SAÚDE DA FAMÍLIA DO QUALIS SANTA MARCELINA, ZONA LESTE DO MUNICÍPIO DE SÃO PAULO**

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A necessidade de integração da hanseníase na atenção básica realizada pelas equipes de saúde da família do projeto QUALIS justificava a realização de treinamento para todos os médicos, enfermeiros, auxiliares de enfermagem, agentes comunitários e funcionários administrativos das 28 unidades de saúde da família. O objetivo principal era sensibilizar todas as equipes para a suspeição diagnóstico e tratamento de casos de hanseníase, antes da realização da campanha estadual de combate a hanseníase, na última semana de abril de 2002. O planejamento definiu instrumentos metodológicos e pedagógicos incluindo metodologia problematizador, dialógica e participa-

tiva com técnicas pedagógicas e ludo pedagógicos. Os funcionários foram distribuídos em grupos, por categoria profissional permitindo o aprofundamento das questões específicas de cada categoria profissional. Foram envolvidos, 198 auxiliares de enfermagem, 444 agentes comunitários de saúde e 93 agentes administrativos, totalizando 925 profissionais de saúde.

PT&T 19**TREINAMENTO EM HANSENÍASE, DE MONITORES PARA DESCENTRALIZAÇÃO DAS CAPACITAÇÕES DAS EQUIPES DA SAÚDE DA FAMÍLIA**

Sandra Solange Leite Campos, Maria Nelci Bezerra Lopes, Maria Lucy Landim Tavares Ferreira, Andrea Bezerra Lopes

Secretaria Estadual de Saúde do Ceará em parceria com *The Leprosy Relief Association* - LRA

A proposta operacionalizada pela Secretaria Estadual de Saúde do Ceará no controle da hanseníase, inclui a descentralização dos treinamentos de 1.200 equipes de Saúde da Família para 21 Microrregiões de Saúde, capacitando monitores para atuarem nos 184 municípios cearenses. As autoras apresentam o planejamento prévio, as etapas, as estratégias e os resultados alcançados. São descritos ainda as especificidades das competências e atribuições dos níveis central, regional e municipal.

PT&T 20**TREINAMENTO NAS AÇÕES DE CONTROLE DA HANSENÍASE PARA EQUIPES DO PACS E PSF-RELATO DE EXPERIÊNCIA**

Laura Maria Abrantes de Faria; Clélia Simpson de Miranda

Este trabalho relata a experiência de treinamento nas ações de controle da hanseníase, para equipes PACS e PSF. Realizado pelo núcleo de dermatologia sanitária da Séc. Estadual de Saúde.

O treinamento contém 3 fases distintas;

Visam desmistificar o preconceito existente nos trabalhadores de saúde em relação a hanseníase. A segunda fase trata dos aspectos epidemiológicos e técnicos das doenças. E finalmente o treinamento prático junto ao paciente enfatiza o diagnóstico da doença, juntamente com a humanização do cuidar.

TREATMENT

PT 1

A LEPROSY PATIENT WHO BECAME A MURDERER

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Bitu a 44 year old man, was having treatment for MB leprosy at Loango-Luvungu Health Centre in Bas-Congo province of D.R.Congo. He was admitted into the ward with ENL reaction after five days he was started on Prednisolone at 40 mg for first week.

His behaviour was normal until his eleventh night in the ward when he suddenly picked up a machete and murdered the patient in the next bed. The victim was in his 60's and had severe pulmonary tuberculosis.

Discussion:

What could have caused this abnormal behaviour?

The people in his village told the Police that Bitu had never suffered from any mental illness and that his irrational behaviour must have been caused by the drugs that he was taking.

Is there any relationship between MDT drugs, Steroids and Mental illness?

In some Medical Journals there is mention of the possibility that some of the drugs that he received could cause a Psychosis. Dapsone can cause toxic Psychosis as can Rifampicine.

On the other hand Steroids are used in treatment of some mental diseases. But organic Psychosis might result if a patient is not weaned off a prednisolone course slowly; Steroids can cause also Manic-depression.

In conclusion:

We could not answer the question what made this man commit murder. And so present these facts to your deliberation.

PT 2

A RETROSPECTIVE STUDY OF HEMATOLOGICAL SIDE EFFECTS OF ANTILEPROSY DRUGS

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A retrospective study was performed to assess hematological side effects of antileprosy drugs. The study population included 665 leprosy patients receiving 7 different antileprosy regimens. Analysis of serial

complete blood counts (CBC) and G-6-PD level were assessed before, during and after treatment. In all drug groups, results showed that hematocrit (Het) levels dropped 8.2-9.8%, and even dropped to below 36-39% Het (level defining anemia) 1 month after starting treatment. This showed that both dapsone and rifampicin can induce hemolysis. G-6-PD levels were measured in 89 patients, with normal results in 64 patients (71.9%). Non statistically significant decline of Het were observed in both normal G-6-PD patient group and deficient G-6-PD patient group. Although white blood cell count, differential and platelet count were all within normal limit, this study highly recommends checking a CBC in every patient before and during leprosy treatment in order to detect hematological side effects. Because of genetic variation of G-6-PD or Het measurement may not be sensitive enough to measure drug-induced hemolysis. Nevertheless, leprosy patients with G-6-PD deficiency must be aware of intercurrent infection or other drugs which also potentially induce hemolysis.

PT 3

A UTILIZAÇÃO DOS NOVOS ESQUEMAS TERAPÊUTICOS (PQT) E SUA CONTRIBUIÇÃO PARA A ELIMINAÇÃO DA HANSENÍASE NO BRASIL

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Centro de Medicamentos do Paraná (CEMEPAR) da Secretaria de Estado da Saúde do Paraná

No tratamento da hanseníase, a introdução dos esquemas de Poliquimioterapia (PQT/OMS) no Brasil aconteceu, em unidades piloto, a partir de 1.986, sendo o tratamento oficializado para todos os pacientes a partir de 1991.

Para os casos multibacilares de hanseníase, houve uma redução no tempo de tratamento de 24 para 12 meses de acordo com a Portaria GM/1073 de 26 de setembro de 2.000, o mesmo acontecendo para os casos paucibacilares, cujo tempo ficou definido em 6 meses.

A programação da quantidade de medicamentos em forma de blister é estimada através do número de casos notificados no país, esquemas terapêuticos utilizados e por faixa etária.

O quantitativo necessário é fornecido gratuitamente através da Organização Mundial de Saúde (OMS) e

distribuído pelo Ministério da Saúde a todas as unidades federadas, com acompanhamento da Área Técnica de Dermatologia Sanitária e Assistência Farmacêutica.

Assim como em outros países do mundo, observou-se uma maior adesão dos pacientes ao tratamento, levando a uma diminuição do número de abandono e conseqüentemente elevação do índice de cura.

O presente trabalho pretende comparar os índices de prevalência, cura e abandono com as programações anuais dos medicamentos, bem como a aderência ao tratamento na forma de blister.

Para a execução do trabalho, serão apresentados os seguintes dados secundários aos anos de 1996 a 2001: prevalência, programação do quantitativo dos blisters MB e PB, índice de abandono e índice de cura.

PT 4

ABANDONO DO TRATAMENTO DE HANSENÍASE NO CENTRO INTEGRADO DE SAÚDE AMAURY DE MEDEIROS, RECIFE – PE, PERÍODO DE 1989 A 1995

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Os autores registraram os índices de alta, abandono e transferências; identificam a presença de variáveis que poderiam interferir no êxito do tratamento e estudam a adesão à poliquimioterapia da hanseníase de pacientes acompanhados no ambulatório de Dermatologia Sanitária do centro Integrado de Saúde Amaury de Medeiros da universidade de Pernambuco, no período de 1989 a 1995, para subsidiarem estudos posteriores sobre o abandono ao tratamento e suas causas e a elaboração de propostas para a recuperação dos mesmos.

PT 5

ACELERAÇÃO NO PROCESSO DE CICATRIZAÇÃO DE ÚLCERAS DE PERNA COM LASER DE BAIXA INTENSIDADE

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O motivo deste trabalho foi o de demonstrar o potencial do LILT nas úlceras de perna e longa evolução. O objetivo seria o de granulação, reepitelização e diminuição da dor. A vantagem do aparelho baseia-se

no fato de não ser invasivo, ser indolor e poder ser combinado com outras terapêuticas. Usou-se o aparelho BLOWAVE LLLT potência laser (630 a 830nm), após assinatura do termo de consentimento pós informado. Mantiveram-se os tratamentos habituais. Foram avaliados 4 pacientes, dos quais 3 com MH. Os exames previamente realizados após avaliação clínica foram: hemograma, glicose, cultura, antibiograma e histopatológico de 4 locais ou mais. A idade variou de 32 a 75 anos. A evolução das úlceras foi de 5 a 19 anos, cujo tamanho variava de 6 a 12 cm de diâmetro. Foram feitas de 21 a 35 aplicações, normalmente semanais. Como resultado nesta pequena amostra obteve-se uma melhora importante da elasticidade da pele ao redor da úlcera e também da dor, esta normalmente entre a 3ª e a 5ª sessão.

(LILT – Low Intensity Laser Therapy)

PT 6

ADVERSE EFFECTS OF PREDNISOLONE TREATMENT: A RETROSPECTIVE ANALYSIS OF A HOSPITAL COHORT

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As a tertiary referral centre for leprosy complications, Green Pastures Hospital reports about 100 admissions per year for the treatment of leprosy related reaction and neuritis. In addition, reactional states are also reported in the hospital's outpatient department. Both in- and out-patients are treated and monitored in a specialised clinic using a standardised protocol. The grading and monitoring of the reaction is supported by a recently developed severity scale. For the treatment of reaction a standard Prednisolone regimen is normally recommended, however complicated cases often need a modified regimen or alternative regimens or combinations of these (i.e. Thalidomide, Clofazimine).

Reported adverse effects of Prednisolone treatment vary from mild effects such as acne and moon face to severe effects such as cataract, glaucoma and peptic ulcer, and are dose and length of treatment dependent. Clinical and laboratory monitoring in the neuritis clinic includes regular measurements of blood pressure, eye pressure, vision test, urine sugar, blood haemoglobin, stool test and body weight. The modified Prednisolone regimen in the neuritis clinic starts at 1 mg/kg and increases to a maximum of 1.5 mg/kg according to the clinical response. It is then tapered down.

This study is a review of adverse effects of Prednisolone treatment over 4 years in patients attending the hospital's neuritis clinic. Individual patient records, including clinic charts and laboratory

records were reviewed in order to identify the occurrence and severity of adverse events retrospectively. The presentation will focus on time of onset, and length and dose of Prednisolone treatment in relation to the occurrence and severity of adverse effects.

PT 7

AGRANULOCITOSE POR DAPSONA EM PACIENTE PORTADORA DE HANSENÍASE TUBERCULÓIDE; APRESENTAÇÃO DE UM CASO

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Paciente D.M.V.B., feminina, 43 anos, portadora de hanseníase tuberculóide, sem história pregressa de anemia, no 41º dia de poliquimioterapia padrão para hanseníase paucibacilar apresentou quadro agudo com náuseas, vômitos, diarreia, ulcerações orais, dores articulares, cefaléia, adinamia intensa. Face à gravidade do estado clínico e ao resultado do hemograma de urgência com 1000 leucócitos/mm³ a Dapsona foi suspensa e a paciente foi internada para cuidados intensivos e investigação etiológica. As provas laboratoriais para tuberculose, tireoidopatias, AIDS resultaram negativas. O mielograma mostrou quadro citológico compatível com agranulocitose. A paciente a par de outras medicações foi tratada com Filgastrina (G-CSF); no 10º dia de evolução obteve melhora clínica e hematológica. O tratamento para hanseníase foi continuado com Clofazima em substituição à Dapsona e a paciente evoluiu sem intercorrências.

Motivo da apresentação: Alerta para os efeitos colaterais da droga e a raridade do quadro.

PT 8

AN EXPERIENCE OF USING WHO MDT

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Results of WHO MDT in 14 newly discovered patients with MB leprosy as well as in 2 relapsed patients diagnosed in the period from 1994 to 1998 are presented. Tolerance of MDT was satisfactory in most of the cases. In a case intolerance of the treatment resulting in abolition of MDT was noted. Dyspepsia was observed in one case on day of administration of rifampicin. The first signs of improvement of clinical and laboratory indices (bacterioscopic and histological investigations) appeared 6-12 months after MDT had been administered. In 24 months of the

treatment all patients showed no active skin manifestations of the disease. *M. leprae* were not found out in skin and nasal smears. Only in 5 cases skin biopsy showed *M. leprae*. 11 patients (73,3%) presented complications in the form of leprosy reactions in the course of therapy. As a rule, ENL developed in MB patients with high BI within 3-12 months after therapy had started. ENL was controlled by means of prolonged steroid therapy in most cases. Thus, our experience suggests a high antileprosy effect of WHO MDT. However, MDT is connected with high risk of leprosy reactions. High incidence of ENL may be due to the fact that most of the patients under WHO MDT were found out at the late stages of LL with high BI. Most of them were above 60 years old (53%) and had accompanying diseases. All this stresses necessity of regular supervision of the patients in the course of MDT, especially in elderly age.

PT 9

BIOCHEMICAL STUDIES OF LIPIDPEROXIDATION AND ANTIOXIDANTS IN PATIENTS WITH HANSEN'S DISEASE ON MULTIDRUG THERAPY

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A study was done to test the ameliorating effect of antioxidant, vitamin E which counter and eliminates the injurious effects caused by free radicals to cells and biomolecules in patients with HD (Hansen's disease) a chronic, polymorphic, mutilating disease continues to afflict a large number of people globally. Nutrition has a key role in the treatment and prevention of disease. In the malnourished, susceptibility to disease and its severity are relatively high. Malnutrition coexists with a number of factors, of which dietary antioxidants are of pivotal importance.

This study was designed to investigate biochemically plasma lipid peroxidation and antioxidant status in the following HD cases: Untreated, MDT treat and those coadministered vitamin E with MDT. The results revealed a significantly low in vivo availability of antioxidant status in HD patients throughout the spectrum of disease, with an elevated levels in products of Lipid peroxides (plasma Malondialdehyde) indicating free radical overload. Exogenous supplementation with vitamin E a lipid soluble, immunoenhancing essential nutrient attenuated plasma lipid peroxidation and augmented the antioxidant status of the HD patients. Hence, it is inferred that nutri-

tional rehabilitation by vitamin E supplementation remarkably favours the HD patients in protection against the free radical driven tissue damage during the chronic course of the disease and anti-HD chemotherapy.

PT 10

CAUSES OF POOR OUTCOME OF PREDNISOLONE TREATMENT: A RETROSPECTIVE ANALYSIS OF A HOSPITAL COHORT

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The management of reactional states in leprosy continues to be a challenge. Early diagnosis of reaction and adequate treatment can prevent nerve damage and disability. Standard regimens of Prednisolone are recommended but there remain people with a poor initial response to the treatment who may need a modified regimen of Prednisolone or an alternative regimen such as Thalidomide and high doses of Clofazimine.

Green Pastures Hospital in Nepal is a tertiary referral centre treating mainly patients referred from the field units for intractable or recurrent reaction or nerve function impairment. There is a weekly neuritis clinic, for both in- and out-patients and the hospital reports about 100 admissions each year for the treatment of reactions. A recently developed severity scale is used to grade the severity of the reaction by taking into account systemic, dermatological and neurological features. A standardised clinic card has been developed to evaluate the progress of reaction treatment and monitor possible adverse effects. Since many cases have already been treated in the field, treatment protocols are available which take into account the type and severity of reaction as well as the initial response to Prednisolone. However, even with an increased dose of Prednisolone (maximum 1.5mg/kg) and alternative regimens, the outcome of some cases remains poor.

This study is a retrospective analysis of a 4-year hospital based cohort to explore causes for poor treatment outcome. The interdependence between the type of reaction, time of reporting, and length and dose of treatment in relation to the recovery of systemic, dermatological and neurological symptoms will be presented and potential risk factors for poor outcome will be discussed.

PT 11

CICLOSPORINA EFETIVA NO CONTROLE DE PACIENTES CRÔNICOS COM REAÇÃO TIPO II

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Os estados reacionais hansênicos do tipo I (Reação Reversa) e do tipo II (Eritema Nodoso) são tratados com prednisona e/ou talidomida. Alguns pacientes não respondem à terapia ou têm reações de repetição. A ciclosporina é uma droga imunossupressora, utilizada em doenças auto-imunes e em transplantes. Como as reações são consideradas atualmente doenças com base imunológica, realizou-se um estudo clínico utilizando a ciclosporina em 10 pacientes com reação tipo II, na dose de 5mg/kg/dia. Dos 10 pacientes, todos eram crônicos (mais de dois episódios reacionais) com reação tipo II, apresentando eritema nodoso com manifestações sistêmicas, como febre e artralgias. Todos os incluídos apresentavam função hepática e renal normais. Foram excluídos diabéticos, hipertensos e portadores de doença auto-imune. As alterações hematológicas frequentes foram leucocitose com neutrofilia no episódio reacional. Foi coletado material histopatológico das lesões, com variabilidade de reação inflamatória no início e após tratamento com ciclosporina. Nove (90%) pacientes apresentaram melhora clínica entre 15 e 60 dias com regressão das lesões de eritema nodoso e das manifestações sistêmicas, com melhora do hemograma (diminuição da leucocitose). Não houve efeitos colaterais clínicos ou laboratoriais importantes no estudo. O paciente que não respondeu ao tratamento, apresentava reação tipo II com polineurite, tendo esta se agravado, o que levou à saída do esquema. Atualmente, os pacientes encontram-se em fase de ajuste da dose e retirada do medicamento.

Suporte financeiro: FUNTEC – Fundo de Ciência e Tecnologia do Estado do Pará e Ministério da Saúde do Brasil.

PT 12

CICLOSPORINA INEFICAZ NO CONTROLE DE PACIENTES CRÔNICOS COM REAÇÃO TIPO I. AVALIAÇÃO ATRAVÉS DO USO DE TÉCNICAS DE PREVENÇÃO DE INCAPACIDADES (PI)

Claudia Moacilene Penalber Tavares, Maria Crociati Meiguins, Carlos Alberto Vieira da Cruz, Maria Nazaré Macedo Silva, Marília Brasil Xavier, José Luis Martins do Nascimento, e Claudio Guedes Salgado

Secretaria Executiva de Saúde do Estado do Pará e Universidade do Estado do Pará.

Os estados reacionais hansênicos do tipo I (Reação

Reversa) e do tipo II (Eritema Nodoso) são tratados com prednisona e/ou talidomida. Alguns pacientes não respondem à terapia ou têm reações de repetição. A ciclossporina é uma droga imunossupressora, utilizada em doenças auto-imunes e em transplantes. Como as reações são consideradas atualmente doenças com base imunológica, realizou-se um estudo clínico utilizando a ciclossporina em 7 pacientes com reação tipo I, na dose de 5mg/kg/dia, com os seguintes critérios: 1) Mais de 2 episódios reacionais; 2) sexo M e; 3) Mais de 12 anos de idade. Foram utilizadas técnicas de PI como a avaliação em pontos de referência com monofilamentos e a verificação da força muscular a cada 15 dias do uso da medicação. Com relação à dor, 5 (71,42%) pacientes referiram estar sem dor após 15 dias do uso da medicação e 2 (28,58%) pacientes referiram melhora quase total da dor. No entanto, observou-se em 5 (71,42%) pacientes a piora da sensibilidade nas palmas e/ou plantas, além da diminuição da função motora nas mãos e pés. Um paciente evoluiu de hipoestesia para anestesia em pontos de referência dos monofilamentos e outro paciente evoluiu com a formação de uma garra móvel após 15 dias do início do medicamento. Dois (28,25%) pacientes permaneceram com o quadro sensitivo e motor inalterado. Apesar do protocolo inicial prever o uso da ciclossporina por 3 meses em 10 pacientes, em todos os casos a medicação teve que ser interrompida antes do previsto e encerrou-se o experimento após a detecção da ausência de benefício. Desta forma, conclui-se que, apesar do controle da dor em pacientes com reação tipo I, a ciclossporina não consegue evitar a evolução da patologia para o mal maior que é a incapacidade física, verificada através da piora das funções motora e sensitiva dos pacientes examinados.

Suporte financeiro: FUNTEC (Fundo de Ciência e Tecnologia do Estado do Pará) e Ministério da Saúde do Brasil.

PT 13

CLOFAZIMINE TOXICITY: A POSTMORTEM STUDY

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We have performed a postmortem on 45year old female who succumbed to dehydration and shock following loose motions and pain in abdomen after long-term use of Clofazimine. Special emphasis was given on study of systemic distribution of the drug in various tissues and its concentration by chemical extraction method. Examination of cadaver has revealed pigmentation of skin and viscera. The highest concentration of the drug was found in jejunum (1.5 mg/gm) followed by spleen (1.2mg/gm), pancreas

(0.4mg/gm), adrenal (0.25mg/gm), liver (0.21mg/gm) and less than that in fat, lung, stomach, duodenum, large intestine, kidney and brain. The third change of formalin (pH 5) used for fixation of organs showed concentration of drug to be 0.1mg/gm. It can be inferred that site of absorption of the drug is duodenum and it gets deposited in reticuloendothelial system and is latched in acidic formalin.

PT 14

COMPARATIVE STUDY OF THE OCCURRENCE OF DISABILITIES (WHO) AND NEUROPATHIC PAIN IN LEPROSY PATIENTS SUBMITTED TO MULTIDRUG OR MONOTHERAPY

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Aim of investigation: This study aims to compare the occurrence of hands and/or feet disabilities and neuropathic pain in patients submitted to monotherapy (MT) or multidrugtherapy (MDT).

Methods: A total of 303 leprosy patients were evaluated, 232 (76.6%) attending at the Lauro de Souza Lima Institute (ILSL) and 71 (23.4%) attending the Infections Disease Center (IDC) in Bauru - SP/ Brazil. Clinical disease forms of patients from ILSL were 138 (59.4%) lepromatous, 59 (25.4%) borderline, 30 (13.0%) tuberculoid and 5 (2.2%) indetermined. At IDC there were 40 (56.3%) lepromatous, 19 (26.8%) borderline, 12 (16.9%) tuberculoid. All patients underwent WHO Disability Grading and were also inquired about present or past occurrence of neuropathic pain in hands and feet.

Results: Of a total of 303 (100.0%) patients 154 (50.8%) were treated with mutidrugtherapy (MDT) and 149 (49.2%) with monotherapy (MT). Regarding the MDT group, disability grade 1 or 2 and neuropathic pain were present in 72 (23.7%) patients and disability grade 1 or 2 without neuropathic pain was found in 47 (15.5%). On the MT group disability grade 1 or 2 and neuropathic pain were present in 76 (25.1%) patients and disability grade 1 or 2 without neuropathic pain was found in 56 (18.5%). The remaining cases had no disability (grade 0) with pain (8.6%) and without it (8.6%).

Conclusions: This sample shows that despite of MT or MDT use, neural damage and neuropathic pain occurrences remained very similar in both groups, thus the presence of pain seems not to be a factor to warn patients and/or the health workers for the risk of disability. These results show that all patients need systematic attention to avoid deformities and that silent neuritis may lead to deformities without being noticed by the patient and by the health team. There-

fore, there is need for a better approach to diagnose and to treat Hansen's disease neuropathy.

PT 15

CRITERIA DIAGNOSIS OF PURE NEURAL LEP- ROSY

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Objective: This study has attempted to elaborate a more precise definition of Pure Neural Leprosy (PNL) based on the histological features and the detection of the bacteria or the *M. leprae* DNA in the nerve biopsies.

Background: Some authors claim that a definitive PNL diagnosis can only be performed through the peripheral nerve biopsy, however, sometimes it is not enough. In recent years, a number of laboratories have describe procedures for detection and identification of *M. leprae* DNA through the polymerase chain reaction (PCR) directly in nerve biopsies.

Methods: Patients suspected of PNL were followed up. The performance of nerve biopsies in 67 suspected patients, diagnosis of PNL was confirmed in 49 patients who presented at least some of the histological and/or molecular biology criteria or were shown to have very strong clinical and electrophysiological indications of leprosy neuropathy.

Results: Mononeuropathy multiplex clinical and electrophysiologic form were the most frequently-detected pattern of nerve dysfunction. Patients were classified into three groups according to their clinical, histopatological and molecular data: 28 patients (57,1%) as *definite PNL*; 19 patients (38,7%) were classified as the *probable PNL* group; the remaining patients (4%) who were classified as *possible group*.

Conclusions: In spite of the arsenal of clinical and laboratory tools currently at our disposal, they sometimes prove to be insufficient in attempting to reach a correct diagnosis. No clinical or laboratory data can be considered determinant to this intent. Then we have to join as many data as possible to try to do a early diagnosis.

PT 16

DAPSONE HYPERSENSITIVITY SYNDROME (DHS): NOT SO RARE TO BE MINIMIZED IN ENDEMIC COUNTRIES

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From 1991 to 2001 ten cases of DHS were diagnosed in leprosy outpatients at a reference hospital in Rio

de Janeiro. All ten patients had exanthematous rash, fever and impaired liver enzymes. Nine presented hepatomegaly and jaundice, eight had a perioral and exfoliative dermatitis and seven had splenomegaly and lymphadenopathy. Five patients had a favourable outcome in the dermatology ward and there were five admissions in the intensive care unit, all of them with progressive liver failure. One patient died. Considering worldwide policy to decentralize leprosy treatment to primary health care centers, adequate training of health workers and the existence of an organized referral system is required in order to avoid the postponing of the diagnosis and the treatment of DHS.

[Key words] dapsone syndrome, leprosy, treatment.

PT 17

EFFECTS OF *Euphorbia tirucalli* EXTRACT ON THE PBMC PROLIFERATIVE RESPONSE FROM LEPROSY PATIENTS

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Leprosy is a chronic inflammatory disease caused by *Mycobacterium leprae*. This disease affects mainly the skin and the peripheral nerves. If not treated it leads to deformation. After infection, depending on the cellular immune response, the patient can develop one of the varieties of Leprosy. These are two polar forms called lepromatous and tuberculoid and the borderline forms. Patients with the lepromatous and borderline lepromatous forms present high bacteria numbers (Multibacillary leprosy) caused by impaired cell mediated immunity. Tuberculoid and borderline tuberculoid patients, on the other hand, present no or few bacteria (Paucibacillary leprosy) as a result of the patient's cellular immune response. SHETTY et al (1997) have shown that even after a completed multiple drug therapy, some patients (mainly Multibacillary) still harbor viable bacteria in their tissues, especially in the nerves. Attempts to improve the cellular immune response could help eliminating the bacteria. Our purpose was to investigate the effect of an extract of *Euphorbia tirucalli*, a plant used in folk medicine, on *M. leprae* antigens stimulated proliferation of PBMC. In this study we have worked with 14 leprosy patients. The PBMC proliferation test was performed as described by GAZZINELLI et al, (1983). Preliminary results suggest

that *Euphorbia tirucalli* extract induce a significant increase on the PBMC proliferation response in leprosy patients.

Shetty et al., *Lepr. Rev.* 68:131, 1997; Gazzinelli et al. *J Immunol.* 130: 3891, 1983.

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PT 18

ESQUEMA ROM NO TRATAMENTO DE HANSENÍASE: A EXPERIÊNCIA NO HOSPITAL DAS CLÍNICAS DA UFMG

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Introdução: Em 1997 a Organização Mundial de Saúde aprovou a utilização do esquema composto por rifampicina, ofloxacina e minociclina (ROM) em monodose para o tratamento de hanseníase paucibacilar com lesão única de pele. O objetivo do trabalho foi avaliar a viabilidade da aplicação deste tratamento em Minas Gerais, a partir de sua implantação no Serviço de Dermatologia do HC-UFMG, considerando-se os aspectos de detecção e seleção dos casos a serem tratados e o seguimento dos pacientes.

Metodologia: no período entre novembro de 1997 e novembro de 2001, 65 pacientes foram encaminhados ao HC-UFMG para serem avaliados quanto à indicação de tratamento com o ROM. Após a avaliação clínica feita por 2 médicos, os pacientes com somente uma lesão de pele e sem acometimento neural foram submetidos a baciloscopia, biópsia e teste de Mitsuda, e avaliação neurológica com fisioterapia quando necessário. O seguimento dos pacientes tratados com o ROM tem duração de 5 anos e encontra-se em andamento.

Resultados: dos pacientes avaliados 19 receberam o esquema ROM. Os principais motivos para a exclusão dos demais pacientes deste esquema foram outros diagnósticos em 19 casos e hanseníase com mais de uma lesão de pele e/ou acometimento neural em 26 casos. Somente 1 paciente não completou a avaliação. A tolerância ao tratamento foi boa e a regressão das lesões tem se mostrado lenta. A adesão ao seguimento por parte dos pacientes tem sido excelente e o esquema tem se mostrado seguro, embora o tempo de acompanhamento proposto ainda não tenha se completado.

Conclusão: a seleção adequada dos casos para o esquema ROM é elemento fundamental para a sua utilização com sucesso.

PT 19

ESQUEMA ROM NO TRATAMENTO DE PACIENTES PAUCIBACILARES COM LESÃO ÚNICA

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Um projeto de observação do esquema ROM (Rifampicina 600mg, Ofloxacina 400mg e Minociclina 100mg em dose única supervisionada) proposto pela Organização Mundial de Saúde para tratamento de pacientes de hanseníase paucibacilar portadores de lesão única foi iniciado no IEDS segundo protocolo estabelecido pela Secretaria Municipal de Saúde do Rio de Janeiro e Gerência Nacional de Dermatologia Sanitária do Ministério da Saúde.

Foram incluídos 24 pacientes (11 homens e 13 mulheres) com idade variando de 18 a 59 anos. Todos foram submetidos a exame clínico, baciloscópico e histopatológico. O teste de Mitsuda foi realizado em todos os pacientes, bem como o registro da cicatriz do BCG.

Os pacientes foram examinados 1, 6, 12 e 18 meses após a tomada da dose sendo registrada sua situação clínica no momento do exame. Todos foram orientados a retornar em caso de qualquer alteração clínica. Exames laboratoriais foram realizados quando julgados necessários.

No momento 17 pacientes completaram o período de observação, 1 abandonou o estudo e 6 faltaram a última revisão e estão sendo recuperados. Foram observados 3 casos de reação reversa e 4 casos de recidiva clínica, 3 deles com confirmação histopatológica. Os dados clínicos e laboratoriais de todos os pacientes serão apresentados detalhadamente

PT 20

ESTUDO PROSPECTIVO DE REDUÇÃO DE BACILOSCOPIA DE PORTADO - RES DE HANSENÍASE DA POLICLÍNICA CENTRAL DO MUNICÍPIO DE PARACATU-MG. BRASIL, DURANTE 10 ANOS

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Fundação Nacional de Saúde /MS - Secretaria Municipal de Saúde – Paracatu-MG

Foram avaliadas todas as fichas epidemiológicas e prontuários de pacientes portadores de hanseníase da policlínica central com baciloscopia positiva e analisada a queda da referida baciloscopia, conforme proposta do serviço desde as inscrições dos pacientes (os dados ainda estão sendo avaliados).

PT 21**ESTUDO DO DOR CRÔNICA: SUGESTÕES NA ANALGESIA**

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A dor é experiência sensorial e emocional desagradável que é associada a emoções reais ou potenciais ou descritivas em termos semelhantes. É chamada de dor crônica quando o quadro de queixa dolorosa é superior a seis meses. Pela sensação subjetiva, sem função de alerta ou defesa, podendo ter causa conhecida ou não, leva ao estresse físico, emocional, econômico e social, à incapacidade laborativa, a alterações do sono e apetite, alterações da vida afetiva e do humor, podendo levar a um quadro depressivo. O objetivo deste trabalho foi levantar os meios atuais para avaliação e tratamento da dor crônica com a finalidade de dar conforto ao paciente, amenizar o estresse, alterar o estado físico e diminuir a percepção algica. Obteve-se que a dor crônica é variável de pessoa para pessoa, modificada e influenciado pelos fatores culturais, étnicos, sociais e ambientais, pela resignação e enfrentamento do problema. Entre os principais meios empregados para a avaliação da dor, encontrou-se a escala visual, a escala numérica, as faces de dor e o questionário Macguill. Entre os fatores que levar o paciente a sentir dor encontrou-se primariamente o dano tissular, e atualmente o fenômeno biopsicossocial subjetivo, os fatores biológicos (sensoriais), os fatores psicológicos (afetivos, cognitivos) os comportamentais, sociais e culturais. Chegando-se desta forma, que a avaliação da dor crônica deve ser feita pela observação da natureza da lesão, da perda sensitiva e motora, da presença de outras alterações gerais e locais, dos aspectos culturais e psíquicos. Entre os tratamentos as equipe multiprofissional (médicos, enfermeiros, psicólogos, terapeutas ocupacionais, assistentes sociais) são de suma importância, quer seja nos tratamentos convencionais ou complementares como a acupuntura, a terapia cognitiva, a hipnose, a meditação e os exercícios, jogos, brincadeiras de salão, música, dança e aromaterapia.

PT 22**ESTUDO DO VOLUME DOS NÚCLEOS DAS CÉLULAS DO TESTÍCULO DE FETOS DE RATOS COM O USO DA OFLOXACINA**

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Faculdade de Medicina de São José do Rio Preto

A ofloxacin é uma quinolona que possui amplo espectro de ação antimicrobiana, inclusive no combate ao *Mycobacterium leprae*. O objetivo deste foi estudar alterações nos núcleos das células do testículo de

ratos e respectivos grupos controle, submetidos à aplicação oral de ofloxacin na fase fetal. O método utilizado foi a morfometria, pela técnica cariométrica. As principais estruturas observadas nas preparações histológicas dos testículos foram: as células de Leydig, os gonócitos grandes e os gonócitos pequenos. Foram utilizados 10 ratos (Wistar), cinco tratados e cinco controles, cujas mães, no 10º dia de gestação receberam, em dose única, 12 mg/Kg/peso corporal de ofloxacin, via oral, sendo abatidas no 20º dia de prenhez. O estudo cariométrico das células de Leydig revelou mudanças na forma de seus núcleos: na relação entre os diâmetros maior e menor diminuída ($p < 0,05$). Observou-se, também, uma diminuição no perímetro, no índice de contorno e diferença na excentricidade destes núcleos denotando mudança no formato, tornando-os mais arredondados e mais achatados. Já nos gonócitos pequenos foi observado que os núcleos mostraram-se com o diâmetro menor, o diâmetro médio, o volume, a área, a relação entre o volume, a área e o coeficiente de forma, aumentados, deixando uma tendência dos núcleos mais volumosos. Nos gonócitos grandes os núcleos mostraram-se diminuídos na relação entre os diâmetros maiores e menores ($p < 0,05$), diferentes na excentricidade; índice de contorno diminuído, significando que ocorreu uma tendência arredondamento dos núcleos celulares. Concluiu-se que a ofloxacin, na dose administrada, em ratas grávidas provoca alterações nas células germinativas de fetos

PT 23**ESTUDO DO VOLUME NUCLEAR DAS CÉLULAS DO TESTÍCULO DE RATOS APÓS O USO DA OFLOXACINA**

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A ofloxacin possui amplo espectro de ação antimicrobiana, inclusive no combate ao *Mycobacterium leprae*, sendo atualmente empregada em substituição, quando da impossibilidade, do uso da rifampicina. O objetivo deste foi estudar alterações nos núcleos das células do testículo de ratos púberes e respectivos grupos controle, submetidos à aplicação oral de ofloxacin. O método utilizado foi a morfometria, pela técnica cariométrica. As principais estruturas observadas nas preparações histológicas dos testículos foram: as células de Leydig, as espermatogônias e as células de Sertoli. Foram utilizados 10 ratos (Wistar), cinco tratado e cinco controle, aos quais foram administrados diariamente 12 mg/Kg/peso de ofloxacin, do 34º ao 48º dia após o nascimento. No 49º dia de vida, os ratos foram sacrificados. O estudo cariométrico das células de Leydig, das espermatogônias e das células de Sertoli revelou que não houve mudanças significativas na forma de

seus núcleos ($p > 0,05$), concluindo-se que na dosagem empregada, as células do testículo estudadas não sofreram alterações.

PT 24

EXPERIÊNCIA COM LESÃO ÚNICA E ROM NO MUNICÍPIO DE ROO MT

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Os portadores de Hanseníase com uma única lesão de pele estão sendo conceituados como uma entidade clínica à parte. Admite-se que são, na sua maioria, formas incipientes ou que evoluíram para o pólo de resistência imunológica, portanto, com uma carga bacilar muito baixa. Assim é possível que um regime terapêutico contendo três drogas bactericidas (Rifampicina, Minociclina e Ofloxacina), seja suficiente para eliminar todos os bacilos vivos presentes nestes casos. Por outro lado, conforme destaca Opromolla, "essas lesões únicas não são sempre únicas, e não são semelhantes do ponto de vista imunológico e consequentemente evolutivo. Outros autores na era pré-sulfônica destacam que muitas lesões cutâneas aparentemente incipientes já demonstravam alterações na histopatologia com aparência das formas clínicas mais avançada. Assim, salienta Opromolla, "os casos de Hanseníase com lesão única são mais complexos do que parecem". A lesão única pode indicar uma forma PB ou MB, sendo de prognóstico favorável muitas delas, mas as lesões I mitsuda negativo, dimorfas e virchowianas, têm de ser avaliadas com cautela. Visto isso, apresenta-se seguimento de um total de 100 pacientes, com lesão única e tratados com o esquema ROM em dose única. Todos esses pacientes foram biopsiados (Histopatológico - ILSL), realizou-se baciloscopia e feito testes de mitsuda. Desse total, observou-se que 11 pacientes tiveram seus Histopatológicos confirmados como casos Dimorfos. Todos foram "resgatados" no esquema PQT/MB 12 doses, com boa evolução. Outros 17 casos foram interpretados clinicamente como recidiva, alguns com Histopatologia compatível com reativação. Esses casos foram seguidos por 03 anos em média.

O que chama a atenção foi a atividade na volta das lesões. Em um primeiro momento todos pacientes melhoraram, para em média, após 02 anos, voltarem a apresentar atividade do "bordo" da lesão inicial, sempre com "torpor", não caract. de um surto reacional do tipo 1. Esses pacientes foram retratados em esquema PQT/PB, todos eles evoluindo muito bem, no momento EOSTQ. A Baciloscopia, e Histopatologia tornam-se instrumentos importantes para a detecção de formas MB clinicamente incipientes.

PT 25

FIELD TREATMENT OF REACTIONS: FEASIBILITY IN NORTHERN NIGERIA AND USEFULNESS OF COLOUR-CODED PREDNISOLONE BLISTER-PACKS

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The study took place from January 1999 till July 2000 in 7 districts in Kaduna Sate, Northern Nigeria. The overall objective was to ascertain the feasibility of field treatment of lepra reactions. At the time of the study the national control programme recommended such field treatment, although it was common practice to hospitalise patients with lepra reactions.

Several aspects of field treatment were addressed:

1. referral patterns and delay between diagnosis and treatment of a reaction;
2. the quality of treatment in relation to two modes of drug administration;
3. patient compliance in relation to two modes of drug administration.

Two patient study groups were identified: a Retrospective Group (n=205) and a prospective Field Group (n=139). The latter was split into one group taking loose prednisolone tablets (n=90) and another group taking blister-packed ones (n=49).

Of the patients in the field group 87.8% started immediate treatment after the diagnosis of a reaction, which rose to 97.1% after 6 weeks. Of the reaction cases in the retrospective group 64.9% did not receive steroids.

Treatment results were as follows: the sensory score of 25% of all reaction patients (n=139) recovered fully and another 38% improved partially. The motor score improved as well, but less so: 16% fully recovered and 7% partially recovered (NB: 40% of the reaction patients had no motor function impairment). Importantly, no differences were found between those treated with loose prednisolone tablets and those using the blister-packs. The same picture emerged when analysing mean sensory and motor scores.

Concerning aspects of compliance no differences were found between those receiving loose tablets and those receiving blister-packs. The overall completion rate was 94.3%.

PT 26

HISTORICAL REVIEW OF TREATMENT OF LEPROSY IN BRAZIL

Dr. Tom Oommen

Place where the work was done: History of Medicine, Wellcome Trust, London, UK

A historical review of the treatment of leprosy in Brazil shows many details which are different to the modes of treatment followed in other ancient civilizations. With the rich fauna and flora of the Brazilian environment, Ancient Brazil used different species of plants and animals to control and treat leprosy. This poster presentation is an attempt to summarize some of the modalities of leprosy treatment that were attempted in ancient and medieval Brazil until the sulfone era.

PT 27

IMMUNOTHERAPY IN CLINICAL PRACTICE – AN EVALUATION

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The role of an immunomodulator as an adjunct to MDT in multibacillary leprosy has been the subject of investigation of late. 1) Clinical resolution, 2) bacteriological decline, 3) clearance of granuloma, 4) decrease in the incidence and severity of type 2 (ENL) reaction¹ 5) increased incidence of reversal reaction 6) absence of viable bacilli and 7) conversion of lepromin response in multibacillary leprosy patients following MDT after immunotherapy with *Mycobacterium welchii* (M. w.) vaccine, have been reported.

A questionnaire study was undertaken with the objective of having information on the clinical application of M.w vaccine on its efficacy as well as adverse effects in patients attending private practitioners for treatment.

About 300 practising physicians covering most parts of India participated. The emphasis in the questionnaire was on 1) whether they were using vaccine or not 2) using it occasionally or as a routine 3) what type of cases were given vaccine 4) side effects recorded and 5) overall observations on the efficacy of the vaccine.

A total of 104 responses were received to the questionnaire sent all over the country. 95 (91.03 %) were from dermatologists. The rest were from general medical practitioners and surgeons.

Type of Cases	Number of cases
TT	13
BT	28
BB	33
BL	61
LL	71
Others (LL with Reaction)	4
Total	210

Though it is difficult to draw firm conclusions from such a study, one could make broad observations. The questionnaire method analysis shows that a wide spectrum of patients was given this immunomodulator agent. Out of a total of 210 cases, 78% of the patients belonged to the multibacillary leprosy type. Of them, 63 % of the cases belonged to the borderline lepromatous and lepromatous leprosy types. Reactions were reported in 7 (3.3 %) patients only, which was surprisingly low in comparison with the reported findings in the literature. Eleven patients had ulcers at the site of the administration of the vaccine. The response was good in 61 cases while 1 case had a recurrence. Overall, the study indicates that the M. w. vaccine as an immunotherapeutic agent is well received by the practising doctors and is free from any serious side effects.

PT 28

IMPACT OF MDT IN RURAL DISTRICT PROGRAMME IN INDIA

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MDT programme was introduced in Wardha district in Maharashtra in India in 1981 as soon as multidrug combination was recommended for the treatment of leprosy by WHO. Since then the programme is being monitored to study the impact of MDT on this disease and to achieve the target of leprosy elimination.

The presentation is based on the data collected from a rural district with 1.2 million populations where MDT programme is in operation for the past 20 years. A retrospective data analysis was done to study the time trend of the point prevalence rate (PR) and new case detection rate (NCDR) at interval of 5 years. (1981, 1986 and 2001). Available data on bacteriologically positive patients and grade 2 deformity patients are also considered for this study.

The registered PR (per 10,000 populations) showed a significant reduction from 89.2 (1981) to 4.1 (2001). The reduction is 95%. A very sharp fall is observed during the first decade and later a slow decline.

The NCDR (per 100,000 population) which increased from 156 (1981) to 337 (1986) started showing a slow declining trend from 1986 onwards. It was 76.5 in 2001. The reduction is 77%.

Still a small number of skin smear positive patients are being identified.

Even though the grade 2 deformity rate is showing a declining trend, accumulated disabled patient load is significant.

Even though MDT is an effective tool to increase treatment completion rate and to reduce disease bur-

den of active leprosy patients, the programme will have to look into low level of disease transmission, occurrence of new cases (bacteriologically positive), increasing burden of accumulated leprosy disabled needing care.

PT 29

ÍNDICES BACILOSCÓPICO E MORFOLÓGICO NO TRATAMENTO DA HANSENÍASE COM PQT

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Em 1990 o Ministério da Saúde, seguindo a orientação da OMS, iniciou no Brasil o tratamento PQT para a Hanseníase, sendo que para as formas multibacilares a duração do mesmo deveria ser de 24 doses, não havendo a necessidade da obtenção dos Índices Baciloscópico (IB) e Morfológico (IM), após resultados comprobatórios que, embora o IB pudesse estar ainda positivo, o mesmo não ocorria com o IM. A partir de 2002 a orientação para esses pacientes passou a ser o tratamento com 12 doses, pelas mesmas razões. Nesse sentido, observou-se que em 8 pacientes tratados com 12 doses, o IB foi positivo e o IM negativo em 100% dos casos, respectivamente. Em 3 pacientes em tratamento, até o momento com 15 doses, o mesmo ocorreu. Em outros 10 pacientes tratados com 24 doses, no entanto, 2 (20%) apresentaram ao final do mesmo IM positivo com bacilos viáveis. Considerando-se que tanto os pacientes tratados com 12 como os com 15 doses, ao final das 24 doses também apresentariam IM negativo teríamos, no total dos casos, que em 21 pacientes, 2 (9,5%) ainda apresentaram IM positivo. Apesar da amostra ser muito pequena, a julgar por estes resultados, os autores sugerem que se observe o IM para as altas após 12 doses.

PT 30

INSERCIÓN DE ACCIONES DE PREVENCIÓN DE INCAPACIDADES Y REHABILITACIÓN EN EL PROGRAMA DE CONTROL DE LEPRO EN SANTA FE

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La lepra es una enfermedad infecto-contagiosa inmunológica, crónica producida por el *Mycobacterium leprae*, afectando de manera temprana y específica el sistema nervioso periférico dando como resultado la llamada "neuropatía hanseniana".

Se afectan además la piel con diferentes lesiones, y de acuerdo a la respuesta del huésped, órganos internos.

No diagnosticada a tiempo o no efectuando acciones de PIR, se convierte en una enfermedad altamente discapacitante, por lo que necesita un equipo que realice acciones específicas para disminuir el número de discapacidades y mejorar la calidad de vida del paciente.

Es por ello que el Programa de Control de la Provincia de Santa Fe, situada en una zona endémica de la República Argentina propone, dentro de sus objetivos, la implementación de acciones de PIR, a cargo de un equipo adiestrado, responsable de las mismas.

Como estrategias:

A) determinar los puntos geográficos relevantes a través de una minuciosa "estratificación epidemiológica". B) formar equipos de PIR. C) capacitar profesionales involucrados en las estrategias. D) implementar una red de referentes con un lugar de centralización de datos. E) monitoreo y evaluación de resultados

PT 31

INTERVENÇÃO CIRÚRGICA ORTOPÉDICA NO PACIENTE HANSENIANO

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Introdução: Os nervos ulnar, tibial posterior, mediano, fibular e radial são frequentemente acometidos por síndromes compressivas na neuropatia hanseniana. O tratamento de escolha dessas síndromes no estágio compressivo II é a neúrolise externa. Esse procedimento pode ser realizado por técnica ambulatorial sob anestesia local e sem faixa isquêmica.

Objetivo: Com o objetivo de verificar se a neúrolise externa produziria algum efeito sobre a sensibilidade tátil, os autores avaliaram 37 pacientes submetidos a este procedimento utilizando para tanto a técnica estesiométrica.

Material e Métodos: No período compreendido entre 1997 e 1998, 37 pacientes adultos jovens de ambos os sexos, do Hospital Especializado Dom Rodrigo de Menezes, com diagnóstico de Hanseníase, portadores de neuropatia (ulnar = 20, mediano = 02, radial = 02, fibular = 05 e tibial posterior = 08) foram submetidos a neúrolise externa. Todos os pacientes foram avaliados, 15 dias antes da cirurgia e no 3º mês pós-operatório, por estesiometria pelo método dos monofilamentos de náilon de Siemens-Weinstein.

Resultados e Conclusões: A maioria dos pacientes (91,9 %) apresentou melhora da sensibilidade, mantiveram-se inalterados 5,4% e somente 01 paciente apresentou piora do quadro clínico. O presente trabalho confirma resultados relatados anteriormente. Portanto, o procedimento cirúrgico da neurólise externa, de fácil execução e baixo custo, poderá contribuir para a melhora do quadro clínico e prevenção de sequelas graves dos pacientes hansenianos.

PT 32

METHYLPREDNISOLONE PULSE THERAPY IN LEPROSY NEUROPATHY

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Objective: The aim of this study was to evaluate the effect of methylprednisolone pulse therapy on leprosy patients who presented persistent motor/sensory function impairments and/or nerve pain.

Background: The benefits of steroid treatment on leprosy neuropathy have been recognized for several decades, but no consensus has yet been reached regarding what particular regimens or types of corticosteroids are most effective. Pulse and/or megadose corticosteroid therapies have been employed in the treatment of many diseases in the hope that they might lead to improved effectiveness and/or less toxicity. So far, no data have been made available on the use of steroid pulse therapy to treat leprosy neuropathy.

Methods: A pilot study was carried out with 16 leprosy patients, most of whom suffered from continuing nerve damage accompanied by sensory loss and/or motor changes with or without nerve pain. After a full peripheral nerve function assessment (clinical and electrophysiological), the patients were administered 1 g. intravenous methylprednisolone (IVMP) daily on 3 consecutive days. The medication was then administered once weekly for four consecutive weeks and once monthly thereafter for three consecutive months.

Results: Preliminary analyses have shown that IVMP reduced the frequency of muscle weakness, nerve pain, and paresthesia, but had little or no effect on sensory loss. Moreover, IVMP had a pronounced beneficial effect on demyelinating motor lesions but no or very little effect on axonal lesions.

Conclusion: Our study demonstrated that almost all the neurological impairments of the patients studied appeared to benefit from IVMP in every respect. Pulse therapy seemed to be at least as beneficial as conventional oral corticosteroid treatments have been to date.

PT 33

MUTATIONS IN *FOLP1*, *RPOB*, AND *DNA GYRASE* ASSOCIATED WITH MULTIDRUG- RESISTANCE IN *Mycobacterium leprae* ISOLATES FROM SOUTH KOREA

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Multidrug therapy (MDT) has been used successfully for the treatment of leprosy in South Korea since 1982. However, the problem of multidrug-resistance against anti-leprosy drugs in *Mycobacterium leprae* (*M. leprae*) also arose in South Korea, like other areas of the world.

Recently, the studies on the molecular mechanism of drug resistance in leprosy revealed that mutations in *folP1*, *rpo B*, *DNA gyrase*, and 23S rRNA genes are associated with resistance against dapsone, rifampicin, quinolone, and clarithromycin, respectively.

In the present study, we searched mutations of the genes associated with clinically drug resistance in *M. leprae* isolates from South Korea, using PCR – single strand conformation polymorphism (SSCP) – DNA sequencing assay.

Seventeen (34 %) of the 50 South Korean isolates analyzed showed 17 missense mutations and 1 silent mutation in *folP1* gene, associated with resistance to dapsone. In addition, two (4%) of the 50 South Korean isolates analyzed showed double mutations not only in *folP1*, but also in other genes, independently. From one case: one in *folP1* (Arg 55 for Pro) which invariably occurs in dapsone-resistant *M. leprae* and one in *rpoB* (Gly 522 for Ser) which invariably occurs in rifampicin-resistant *M. leprae*. From the other case: one in *folP1* (Ala 53 for Thr) which invariably occurs in dapsone-resistant *M. leprae* and one in *gyrB* (Asn 53 for Asp) which has been found previously fluoroquinolone-resistant mutants of *M. tuberculosis* and *E. coli*.

In the present study, relatively simple and rapid molecular techniques, PCR-SSCP-direct DNA sequencing, were applied in an effort to examine the mutations of *folP1*, *rpo B*, *DNA gyrase*, and 23S rRNA genes in *M. leprae* isolates associated with clinically multidrug-resistance against anti-leprosy drugs. This information should lead to a better understanding of the state of drug resistant leprosy in

Korea, and may assist in a rapid diagnosis of drug-resistant *M. leprae* and appropriate treatment regimens.

PT 34

NUMBER OF MDT PULSES AND FREQUENCY OF LEPRO REACTIONS DURING SURVEILLANCE IN LEPROSY

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In order to gauge whether the number of episodes of reaction after completion of treatment has any association with the number of MDT pulses received before RFT, all the 85 MB cases treated for lepra reactions between January 1995 and Dec.1999 in GMLF referral hospital have been followed up for 2 years after completion of treatment.

Out of 85 cases 22 were given 24 months' FDT with MDT (from Jan.95 to Oct.97) and 63 were given 12 months' FDT with MDT (since Nov.97 to Dec.99) and were followed up for 2 years. The influence of high risk factor is also considered in comparing the variation.

The results show that 20 cases reported for diagnosis with reaction and never had a reaction during or after treatment. Twenty five cases suffered from reaction only during treatment, 13 cases had reactions only after treatment and 27 cases suffered from reactions both during and after treatment. Even among the high risk-cases i.e. reported for diagnosis with reaction 59.2% of those given 12 pulses and only 5.9% given 24 pulses developed reactions after completion of treatment. There is a statistically significant variation in the number of patients suffered from lepra reactions among those treated with 12 pulses and 24 pulses. There is also significant negative correlation between the number of pulses received by the patient before RFT and number of episodes of lepra reaction suffered by patient after RFT. The paper also brings out various dimensions of lepra reactions in relation to the treatment period

PT 35

O USO DA BOTA DE UNNA EM PACIENTES COM HANSENÍASE

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Uma das complicações freqüentes no paciente com hanseníase, são as úlceras tróficas, as quais suas causas e terapias são discutidas e questionadas. Várias terapias modernas são utilizadas, porém a

bota de Unna constitui ainda o tratamento convencional. Esta se mostra muito eficaz na cicatrização destas úlceras ou no preparo do leito para a enxertia de pele nos pacientes com perfusão tissular periférica alterada relacionada ao comprometimento venoso periférico. Sua eficácia esta diretamente ligada a sua indicação e a técnica de aplicação, que é muito específica, motivo pelo qual, as enfermeiras do Instituto Lauro de Souza Lima (ILSL) preocuparam-se em padronizar esse cuidado. Foi buscado o procedimento básico teórico e prático de sua aplicação e elaborado uma padronização para esse cuidado de enfermagem. A partir de uma revisão bibliográfica, associado a experiência prática de mais de dez anos dessas enfermeiras, foi padronizado as seguintes atividades de enfermagem: selecionar os pacientes com úlceras que deambulam e tenham comprometimento apenas venoso e linfático; supervisionar repouso em posição dorsal com pernas elevadas a 45° por no mínimo 30'; realizar a limpeza de toda perna inclusive das úlceras, iniciar a aplicação da bandagem pela base do pé, deixando as extremidades dos dedos descobertas para controle da perfusão periférica, manter o pé em ângulo de 90° se possível; aplicar a bandagem até a altura do joelho de forma circular sempre da parte distal para a proximal, não deixar dobras nem apertar e aplicar um curativo secundário. Conclui-se que a perfusão tissular periférica alterada relacionada ao comprometimento venoso periférico caracterizado por úlceras tróficas, pode ser melhorada com a Bota de Unna se seguirmos rigorosamente os cuidados na sua aplicação.

PT 36

O USO DA OFLOXACINA NA LACTAÇÃO DE RATOS: ESTUDO DO VOLUME NUCLEAR DAS CÉLULAS DO TESTÍCULO.

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A ofloxacina possui amplo espectro de ação antimicrobiana, inclusive no combate ao *Mycobacterium leprae*, sendo atualmente empregada em substituição, quando da impossibilidade, do uso da rifampicina. O objetivo deste foi estudar alterações nos núcleos das células do testículo de ratos lactentes e respectivos grupos controle, cujas mães foram submetidas à aplicação oral de ofloxacina. O método utilizado foi a morfometria, pela técnica cariométrica. As principais estruturas observadas nas preparações histológicas dos testículos foram: as células de Leydig, as espermatogônias e as células de Sertoli. Foram utilizados 10 ratos (Wistar), cinco tratado e cinco controle, no período de 25 dias de vida, cujas mães receberam, 12 mg/ Kg/peso corporal/dia de ofloxacina, via oral, sendo abatidos no 25º dia de nascimento. O estudo cariométrico das células de

Leydig e das espermatogônias revelou que não houve mudanças na forma de seus núcleos ($p > 0,05$). Já os núcleos das células de Sertoli mostraram-se com o diâmetro maior, o diâmetro menor, o diâmetro médio geométrico, o volume, a área, a relação volume/área, o perímetro aumentados e a excentricidade diferente e aumentada ($p < 0,05$) nos filhotes amamentados, à cujas mães foram administradas a ofloxacin. Configurando assim em núcleos de tamanho maiores e de formato mais alongados. Concluiu-se que as células de Sertoli foram as mais sensíveis ao efeito da ofloxacin na dose administrada

PT 37

ON USING SOME FOOD SUPPLEMENTS IN THERAPY OF LEPROSY PATIENTS

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Earlier we found a bactericidal effect of lyophilized horseradish peroxidase (HRP) when introducing it *per os* into mice infected with *M. leprae* according to Shepard. It is well known that peroxidases are widely distributed in nature. In large amounts they are found out in roots of horseradish, widely used in cookery. In our investigation we attempted to use horseradish roots (HR) for treatment of laboratory animals with experimental leprosy. After inoculation of *M. leprae* mice were fed with 100, 300 and 500 mg of powdered HR per 1 kg of food. In comparison with control mice (infected but untreated animals) test mice showed a marked inhibition of *M. leprae* growth, being the most significant after 5 months of treatment (9-20 fold). At a dose of 300 mg/kg HR had the most antibacterial effect. 5 months after infection and treatment the number of *M. leprae* in foot pads of mice, given HR, decreased 20,5 times as compared with control. After 8 and 11 months of treatment strong antibacterial effect of HR was not lost. Results of HR at doses of 100 and 500 mg/kg of food were less impressive. Treatment with HR as in case with HRP was accompanied with activation of myeloperoxidase of blood neutrophils, anti-inflammatory action, activation of cell-mediated immunity, and absence of hepatotoxicity in mice. In contrast with HRP, HR did not sharply decrease the number of erythrocytes and level of hemoglobin in blood of test-animals in the course of long therapy. Thus, the data obtained suggest a promising value of HR as an active biological food supplement in treatment of leprosy patients.

PT 38

PORPHYRIA CUTANEA TARDA CAN BE INDUCED BY RIPHAMPICIN IN PACIENT WITH LEPROSY?

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Association between two diseases is rare and it's very interesting in medical practice, especially if have similar clinical manifestations. Therefore, the case report: Male patient, bricklayer, 45 years old, with borderline-lepromatous leprosy, *bacilloscope index* 5+, presented blisters in hands, two months after beginning with polychemotherapy (PQT). Burning was thought, biopsy was proceeded and histopathology exam showed necrosis and detachment of epidermis, focal perivascular mononuclear infiltration and PAS deposition around dermic vessels, suggestive of Porphyria Cutanea Tarda (PCT). High levels of plasmatic porphyrins (1,2mg), uro (35mg) and urinary coproporphyrins (151mg) confirmed diagnosis. Knowing that Leprosy is a Peripheral Nervous System primary disease, with dermato-neurologic manifestations, sensitivity impairment of enervation area, insensitivity of hands and foot, predisposing to traumatic lesions and blisters caused by burning, whose neural damage can lead to deformity and mutilation and that PCT is a metabolic disorder in the haem biosynthetic pathway, inherited or acquired, with cutaneous manifestations, specially photosensitivity, and blistering, skin fragility, milia, and scarring, often associated with systemic disease, alcoholism and iatrogenesis, it was diagnosed association between two diseases, without clarifying cause of PCT. However, two months after conclusion of PQT, it was observed involution of blisters and normalization of seric levels of porphyrins, suggesting that this is an iatrogenic PCT, probably by rifampicin, emphasizing importance of differential diagnosis of blisters lesions in the follow-up of leprosy.

PT 39

PREVENTION OF LEPROSY BY CHEMOPROPHYLACTIC TREATMENT OF CONTACTS

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In 2000 an intervention study started to investigate whether transmission of leprosy can be broken by prophylactic treatment of contacts. To make prophylactic

lactic treatment of contacts cost-effective one would like to minimise the number of contacts to be treated as much as possible. Therefore two different regimens of contact treatment are being tested.

The study area consists of 5 small, isolated islands in the Flores Sea, Indonesia (4774 inhabitants). Before the intervention took place a population survey was carried out to find all the leprosy patients and determine their household and neighbour contacts. 4140 persons (87%) were screened and 85 new leprosy patients were found.

The prophylactic regimen consisted of two times 600 mg rifampicin for adults and 300 mg for children (5-14 years) with four months between doses. At all islands the leprosy patients received regular MDT treatment.

One island (1451 inhabitants, 27 new patients) served as control island (no chemoprophylaxis). At the second island (2068 inhabitants, 24 new patients) the household contacts and neighbours of patients (17% of the population) received chemoprophylaxis. The three other islands were combined as one group (1255 inhabitants, 34 new patients). Here all eligible persons received chemoprophylaxis (79% of inhabitants).

In 2001 the first of a series of yearly follow-ups took place. 14 new patients were found. No new patients were found on the island group where all eligible persons had received prophylactic treatment.

PT 40

PROJETO DE DESATIVAÇÃO DOS "LEITOS PSIQUIÁTRICOS" EM HANSENÍASE TRANSFORMANDO-OS EM LARES ABRIGADOS

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O Hospital Dr. Francisco Ribeiro Arantes, iniciou a desativação dos leitos psiquiátricos, com profissionais desta Unidade ligados diretamente ao cuidado e tratamento dos usuários. A equipe efetuou uma avaliação multidisciplinar, de 54 usuários, dentre estes verificou-se que 33 possuíam condições de serem trabalhados, em um ambiente onde progressivamente desenvolveriam atividades da vida diária. Em novembro de 2000, conforme disponibilidade de imóveis existentes, concretizou-se a mudança de 26 usuários, distribuídos em dois lares, um com 12 usuários femininos e outro com 14 usuários masculinos. Para o sucesso deste projeto estes usuários foram treinados pela equipe multiprofissional, pois por muitos anos estes indivíduos tiveram dependência institucional causada pelo tratamento psiquiátrico

tradicional. O treinamento constou de atividades do cotidiano, recreativas e culturais, para que os mesmos tornassem a respeitar normas e regulamentos necessários na vida em comunidade, criando assim a política de boa vizinhança. Estas atividades proporcionaram vida digna ao indivíduo, valorizando sua auto-estima o que permitiu aos mesmos uma certa independência e autonomia.

PT 41

PROPOSTA DE TRATAMENTO DO MAL PERFORANTE PLANTAR DO PACIENTE HANSENIANO

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A causa básica da úlcera plantar é a perda de sensibilidade protetora na região por lesão do nervo tibial posterior. O risco aumenta quando há paralisia dos músculos intrínsecos do pé, a perda do coxim normal sob a ação dos metatarsianos e a pele anidrótica. O estudo tem por objetivo elaborar um protocolo de tratamento do mal perforante plantar para pacientes hansenianos devido a ausência de um referencial teórico que oriente a prática do curativo do mal perforante plantar e a ocorrência freqüente de pacientes com feridas de longo tratamento. observou-se a necessidade da elaboração de um protocolo para realização desta prática, contribuindo para a melhoria da qualidade do serviço e proporcionando o bem-estar do paciente. Os dados estão em processo de análise.

PT 42

REAÇÃO À DAPSONA NO TRATAMENTO DA HANSENÍASE

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Em um total de 341 casos novos de Hanseníase que deram entrada no serviço, no primeiro semestre de 2001, tivemos 51 (14,9 %) casos de reação à Dapsona, agrupados nas seguintes causas: anemia – 32 (62 %); dispnéia / cianose – 9 (18 %); farmacodermia – 6 (12 %); cefaléia / tontura – 2 (4 %) e hepatopatia – 2 (4 %). Com relação à distribuição por sexo, tivemos 34 (66,7 %) em femininos e 17 (33,3 %) em masculinos. Em relação à faixa etária, 3 casos (6 %) tinham menos de 15 anos; 12 casos (23,5 %) tinham mais de 65 anos; e 46 (70,5 %) tinham entre 15 e 65 anos. No que se refere às formas clínicas,

tivemos 15 casos (29,4 %) tuberculóides (T); 5 (9,8 %) virchovianos (V); 29 (56,9 %) dimorfos e 2 casos (3,9 %) indeterminados. Quanto ao mês de tratamento da ocorrência: 1º mês – 8 (15,7 %); 2º mês – 12 (23,5 %); 3º mês – 16 (31,4 %); 4º mês – 7 (13,7 %); 5º mês – 5 (9,8 %); 6º mês – 2 (3,9 %) e 8º mês – 1 (2 %).

PT 43

RECIDIVA EM HANSENÍASE MULTIBACILAR. RELATO DE QUATRO CASOS

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Foram selecionados trinta e seis pacientes portadores de hanseníase (14 paucibacilar e 22 multibacilar), de ambos os sexos e não tratados. Os pacientes foram incluídos no projeto "Ofloxacin containing combined drug regimens in multibacillary and paucibacillary leprosy"- World Health Organization. Todos eles foram atendidos no ambulatório do Instituto "Lauro de Souza Lima"/Bauru. O protocolo terapêutico incluiu quatro diferentes esquemas que foram aleatoriamente administrados (estudo duplo-cego). A evolução da doença foi acompanhada através de exames clínicos, histopatológicos e baciloscópicos. Cinco a sete anos após o início do tratamento, quatro pacientes multibacilares apresentaram sinais clínicos de recidiva da doença, confirmados por exame histopatológico. A baciloscopia apresentou índices bacilares maiores que 3+, com presença de bacilos viáveis. Uma biópsia foi coletada para inoculação em coxim plantar de camundongos, de acordo com a técnica de Shepard, para pesquisa de resistência à drogas (dapsona, rifampicina e ofloxacina). Três das quatro suspensões, produziram crescimento bacilar acima de 10^5 , nos animais do grupo controle (não tratados), indicando a presença de bacilos viáveis na suspensão inoculada. Dessas três, uma apresentou bacilos resistentes à dapsona. Os quatro pacientes foram introduzidos no esquema WHO/MDT-MB.

World Health Organization (WHO) and CNPq

PT 44

RECIDIVAS DE HANSENÍASE APÓS TRATAMENTO COM DAPSONA

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Embora não muito bem compreendida na época, a resistência aos derivados sulfônicos foi descrita no início da década de 50, cerca de dez anos após a introdução dessas substâncias no tratamento da hanseníase. A partir de 1990 foram acompanhados 27 pacientes (19 masc 08 fem), com idade variando de 32 a 76 anos, classificados inicialmente como virchovianos, previamente tratados com derivados sulfônicos e que haviam recebido alta sem sinais de atividade clínica ou baciloscópica.

Foram considerados os seguintes critérios para diagnóstico de recidiva:

a) clínico: presença de lesões cutâneas ativas, com eritema e/ou infiltração: máculas, placas, nódulos ou tubérculos;

b) baciloscópico: presença de *M. leprae* em esfregaços de pele colhidos em 4 locais (lobos de orelhas e lesões);

c) histopatológico: sinais de atividade celular e/ou positividade bacilar no exame de material de biópsia colhido em lesão clinicamente ativa;

Foi realizado teste de Mitsuda em todos os pacientes. Alguns dados observados no estudo foram:

a) o tempo decorrido entre a alta do tratamento e o diagnóstico de recidiva:

< 10 anos: 11pacientes; 10-20 anos: 12 pacientes; >20 anos: 04 pacientes;

b) a baciloscopia na recidiva: IB< 2= 06; IB 2- 4= 14; IB >4= 07;

c) a histopatologia na recidiva: MHD 07 (16%); MHV 20 (74%);

Os dados clínicos e laboratoriais de todos os pacientes serão apresentados detalhadamente.

PT 45

RELAPSES AMONGST MB PATIENTS - WHAT IS SIMILAR IN THOSE CASES

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Amongst the relapsed MB cases after MDT (Rifampicin, Isoniazid, Prothionamide and Dapsone or WHO MDT) we have observed some factors that are common to the most of those cases, in relation to results in skin smear, follow up, time period between release from treatment until relapse, disability comparing the first and second start with MDT, reactions, etc. The poster presents conclusions taking in consideration all the relapsed cases at the Hospital Mennonita Km 81 after MDT, until February 2002.

PT 46**RESISTÊNCIA À DAPSONA E RIFAMPICINA ENTRE PACIENTES HANSENIANOS DO ESTADO DE SÃO PAULO**

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Desde que a dapsona (DDS) foi introduzida no tratamento da hanseníase, outras drogas como rifampicina, clofazimina e ofloxacina, também tem sido utilizadas com sucesso. Através da técnica de inoculação em coxim plantar de camundongos, algumas cepas de *Mycobacterium leprae* resistentes à DDS foram isoladas. Porém, casos de resistência primária e secundária tem sido registrados não apenas à DDS como também rifampicina e ofloxacina. Com o objetivo de prevenir a emergência de cepas resistentes, a Organização Mundial de Saúde preconizou que a doença fosse tratada em esquema de poliquimioterapia (PQT). No entanto, mesmo após vários anos de sua implantação, não se sabe ao certo qual a verdadeira extensão do problema. Foram selecionados 35 pacientes, de ambos os sexos, provenientes do Estado de São Paulo, com diagnóstico clínico e histopatológico de hanseníase virchowiana e dimorfo-virchowiana; todos apresentavam índices baciloscópicos maiores que 3+ e sinais clínicos de atividade da doença. Uma biópsia foi coletada para inoculação em coxim plantar de camundongos, de acordo com a técnica de Shepard, para avaliar resistência secundária à DDS e rifampicina. Quatro (11,4%) pacientes apresentaram bacilos resistentes à DDS e dois (5,7%) à rifampicina. No momento da suspeita clínica de resistência, esses pacientes possuíam entre 5 a 51 anos de evolução da doença, sendo que um deles havia recebido alta há vários anos. A maioria relata tratamento irregular. PQT e também outras drogas alternativas como ofloxacina, minociclina e claritromicina foram prescritas. Esses resultados revelam a possibilidade da ocorrência de recidivas associadas à resistência, mesmo após alta, e a importância de avaliar aqueles casos que não melhoram com o tratamento.

Apoio financeiro: Fundação Paulista contra a Hanseníase

PT 47**ROM EM HANSENÍASE DE LESÃO ÚNICA. RESULTADO FINAL DE UM ESTUDO CLÍNICO REALIZADO NA UNIDADE DE REFERÊNCIA (URE) EM DERMATOLOGIA SANITÁRIA DO ESTADO DO PARÁ**

Claudio Guedes Salgado, Carlos Alberto Vieira da Cruz, Paulo Aires de Mendonça, Maria Nazaré Macedo Silva, Maria Crociati Meiguins, José Luis dos Santos Vieira, Arival Cardoso de Brito e Ubirajara Imbiriba Salgado

Laboratório de Dermato-imunologia UEPA/MC, Universidade do Estado do Pará, e URE "Marcello Candia"; URE "Marcello Candia", Secretaria Executiva de Saúde do Estado do Pará; End. Av. João Paulo II, 113. Bairro Dom Aristides, Marituba, Pará, Brasil. 67200-000.

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Em 1998 a OMS indicou o esquema ROM - Rifampicina 600mg, Ofloxacina 400mg e Minociclina 100mg - para MH com lesão única. No Brasil, o Ministério da Saúde autorizou o uso do ROM somente em unidades de referência. Decidiu-se então montar um protocolo de análise dos pacientes escolhidos para o tratamento na URE, com base nos seguintes critérios: 1) Uma lesão hipocrômica com anestesia térmica, dolorosa ou tátil; 2) Ausência de envolvimento neural periférico; 3) Ausência de anormalidades em testes laboratoriais de rotina; 4) Teste de gravidez negativo e; 5) Mais de 7 anos de idade. Os 30 pacientes que participaram do estudo foram submetidos à biópsia da lesão, teste de Mitsuda e baciloscopia e reavaliados a cada 6 meses, por 2 anos. Dez (33,3%) eram do sexo M e 20 (66,7%) do sexo F. A média de idade foi de 42,9 anos. O tamanho médio das lesões foi de 3,37cm de diâmetro. De acordo com critérios clínicos, 18 (60%) lesões foram classificadas como MHT e 12 (40%) como MHI. A baciloscopia foi sempre negativa. O teste de Mitsuda foi positivo em 25 (83,4%) e negativo em apenas 5 (16,6%) pacientes. Quatro (13,4%) pacientes foram diagnosticados como falha terapêutica, com uma média de 26,3 meses (SD 4,04; Min 22; Max 31) de intervalo entre a data do tratamento e o diagnóstico. Todos os 4 pacientes estavam no grupo Mitsuda negativo. Ao final realizou-se a comparação estatística entre a eficácia do ROM e do esquema padrão PQTPB (100 casos em 2 anos, com taxa de recidiva = 0) através do teste do Qui-Quadrado, que apontou diferença estatisticamente significativa ($p < 0.005$). Os resultados encontrados são discordantes com a literatura quanto à eficácia da dose única para MH, sendo necessários novos estudos para avaliar a real taxa de cura do esquema ROM e a sua finalidade nos programas de MH.

PT 48**SEUS OLHOS PROCURAM PROBLEMAS, NOS OLHOS DE QUEM NÃO TÊM QUEIXAS ?**

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Entre os portadores de hanseníase, um número significativo apresenta lesões oculares. Dos que possuem essas lesões, 20% são graves, levando o indivíduo à cegueira. Este trabalho objetivou investigar a in-

cidência das incapacidades oculares, caracterizando principalmente as anestésias que na fase inicial da lesão, não apresentam sintomas e, alertar os profissionais da saúde que lidam com oftalmologia da importância da insensibilidade da córnea nos portadores de hanseníase. Trata-se de um estudo descritivo exploratório, realizado com o levantamento das Planilhas de Notificação da DIR XXII de São José do Rio Preto, SP, com 45 pacientes, no período de janeiro a outubro de 1998. Dos 45 portadores notificados no período, 53 % dos pacientes não apresentaram lesões oculares devido à hanseníase, porém 46,7 % já possuíam algum tipo de lesão ocular, em diversos tipos de formas clínicas, mas principalmente a forma dimorfa da doença. Destes pacientes comprometidos 33,2% tinham as córneas anestésicas. A maioria encontrava-se em idade produtiva, a preservação de danos faz-se importante para evitarem maiores complicações que podem levar à cegueira. Aconselha-se aos que tratam do paciente hanseniano ou não, testarem a sensibilidade da córnea antes de anestesiá-la para exames de rotina.

PT 49

SÍNDROME DA DAPSONA EM PACIENTE COM HANSENÍASE VIRCHOWIANA

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A Hanseníase é uma doença infecto-contagiosa, curável, de evolução crônica pelo *Mycobacterium leprae*, endêmica em várias regiões do mundo e se caracteriza principalmente por manifestações dermatológicas e neurológicas atingindo nervos periféricos podendo levar a deformidades e mutilações. O tratamento da hanseníase é ambulatorial, mediante esquema terapêutico padronizado, com variações entre os casos paucibacilares e multibacilares. O esquema padrão no caso de Hanseníase Virchowiana (multibacilar) é composto por três drogas: Rifampicina, Isoniazida e Clofazimina, constituindo a poliquimioterapia padrão (PQT). A maioria dos pacientes tolera a PQT padrão, mas ela não isenta de riscos. Todas as três drogas envolvidas podem levar a uma série de efeitos colaterais. Os autores apresentam o caso de um paciente, 64 anos, com diagnóstico de hanseníase em fevereiro de 2002, tendo iniciado o tratamento com PQT multibacilar padrão. Vinte dias após a primeira dose iniciou com febre, mal estar, dispnéia, desânimo, náuseas, tendo procurado auxílio médico e iniciado tratamento com sintomáticos (analgésicos, antitérmicos, antieméticos, vitaminas), por não apresentar melhora, procurou auxílio no Hospital Eduardo de Menezes, sendo realizados ex-

ames que mostraram: anemia, aumento de bilirrubinas, alteração da função hepática, leucocitose e desvio para esquerda, sendo indicada a suspensão da PQT. Evoluiu com o aparecimento de lesões bolhosas em todo o corpo, incluindo mucosas, piora do estado geral e da anemia, hipoxemia, choque refratário, evoluindo para óbito.

Motivo da apresentação: alertar para a possibilidade de reações graves com o uso da PQT padrão.

PT 50

SÍNDROME DA DAPSONA EM PACIENTE PORTADORA DE LUPUS VULGAR TRATADA COMO HANSENÍASE TUBERCULÓIDE: RELATO DE UM (DES) CASO

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A.M.S., feminina, 57 anos, compareceu ao ambulatório de Dermatologia Sanitária do CISAM com pedido de parecer para "reação hanseniana"; estava em poliquimioterapia padrão para hanseníase tuberculóide há 28 dias e apresentava quadro de febre elevada, rash morbiliforme, enfartamento ganglionar cervical e queixas de náuseas, vômitos, epigastralgias e artralgias. A lesão referida como hanseníase chamou a atenção pela morfologia lupus vulgar-símile e por apresentar preservação das sensibilidades térmica, dolorosa e tátil. Os exames complementares realizados no 26º dia de tratamento mostravam as alterações: leucócitos – 20000, com linfócitos 58% e eosinófilos 10%; bilirrubinas – total 1,80 e direta/indireta 0,90/0,90; transaminases – ALT 270 e AST 125; desidrogenase láctica – 1710; fosfatase alcalina – 790. A poliquimioterapia hansenotática foi suspensa e iniciada corticoterapia com dose inicial de 40 mg/dia. A paciente após melhora do quadro de hipersensibilidade foi submetida à biópsia de lesão da face cujo resultado histopatológico foi de lupus vulgar.

Motivo da apresentação: Alertar para o breve reconhecimento da síndrome da Dapsona e ratificar a importância da pesquisa das sensibilidades em lesões suspeitas de hanseníase.

PT 51

SÍNDROME DE HIPERSENSIBILIDAD A LA DAPSONA

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La OMS ha definido la reacción adversa al medicamento como "una reacción nociva y no deseada que se presenta después de la administración de un fármaco a dosis utilizadas normalmente en la especie humana para la profilaxis, diagnóstico o tratamiento de una enfermedad o para la modificación de cualquier función fisiológica".

Las sulfonas han sido utilizadas para el tratamiento de la lepra desde 1941, la dapsona (4,4 diaminodifenilsulfona) es el derivado más utilizado, tanto para pacientes MB como para PB. Se describen variados efectos adversos, los más comunes son: hemólisis, metahemoglobinemia, agranulocitosis, hepatitis, encefalopatía, entre otros.

Existe además una reacción adversa poco frecuente que es el Síndrome de hipersensibilidad a la dapsona, éste se manifiesta con: fiebre, dermatitis exfoliativa, linfadenopatías, ictericia, anemia, hepatitis, siendo característicos además un síndrome mononucleosiforme y un recuento de eosinófilos elevados.

Se presenta un paciente de 67 años de edad, que desarrolla un SHD durante el tratamiento de una lepra PB, y se describen los posibles mecanismos causantes de esta hipersensibilidad.

El motivo de la presentación, es que los dermatólogos deben conocer este cuadro excepcional, ya que su aparición exige el cese inmediato de la dapsona.

PT 52

STANDARD STEROID REGIMEN (PREDNIPAC) IN LEPROSY REACTIONS - A FIELD ANALYSIS

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Prednisolone, if administered properly, in the adequate dose and at the appropriate time is a key factor in the prevention of nerve function impairment and in reducing the risk of recurrent reactions. The present study aims at (i) finding the efficacy of standard steroid regimen using blister calendar packs (ii) studying their role in treating NFI and (iii) screening all patients for steroid induced diabetes which, if present, could worsen the existing peripheral neuropathy over a period of time.

86 leprosy patients who had developed reactions were treated with the standard schedule of prednisolone in the form of blister calendar pack, known as PREDNIPAC (donated by the Sasakawa Memorial Health Foundation, Japan), the maximum initial

dose being 40 mg of prednisolone (to be tapered off over 12 weeks) for Type I, Type II reactions and acute neuritis. All the patients were assessed for nerve function impairment (NFI) using simple sensory and motor tests. The patients were also screened for sugar in the urine through a simple test using URISTIX (reagent strips for urine analysis) periodically. The analysis includes studying recurrences of reactions as well as the compliance factor.

It was observed that 78 out of 86 patients improved significantly, while 8 (9.5%) had recurrences of Type I reactions particularly in patients presented initially with neuritis and type I reaction. No significant adverse effects were noticed. One (1.6%) patient was found to have developed steroid-induced diabetes. This was confirmed by routine urine examination and further confirmed by testing for Blood sugar. It was also observed that the compliance for prednisolone with standard schedule has been greatly enhanced with blister calendar packs. There was no significant improvement in NFI, which could perhaps be due to various reasons. However there was no worsening of the NFI status in any of the patients.

PT 53

THE EFFECTIVENESS OF PENTOXIFYLLINE IN THE TREATMENT OF TYPE II REACTIONAL EPISODES IN LEPROSY

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Introduction: Type II reaction, or erythema nodosum leprosum (ENL), is often characterized by severe clinical symptoms. ENL may cause nerve function impairment leading to permanent disabilities. The treatment drug of choice is thalidomide, which inhibits the synthesis of TNF, one of the principle cytokines implicated in Type II reactional states. It cannot, however, be used to treat women of child-bearing age. For the most part, pentoxifylline has been used to treat hypercoagulable states, but, nowadays, its effect on the immune system is well-known. For example, it is capable of inhibiting the synthesis of TNF α and certain other cytokines in the absence of teratogenicity.

Objective: To compare the effectiveness of penoxifylline and thalidomide administered orally for a consecutive 30-day period in the treatment of Type II reactional episodes.

Material and Methods: A randomized, double-blind clinical assay was developed for the purpose of comparing the effectiveness of daily doses of *drug 1* (300 mg of thalidomide) and *drug 2* (1,200 mg of pentox-

ifylline). The study focused on randomly-chosen multibacillary leprosy patients undergoing Type II reactions before, during and after specific multidrug therapy that were being cared for at the Leprosy Out-Patient Clinic of the Oswaldo Cruz Foundation in Rio de Janeiro, R.J., Brazil. Clinical evaluations were done on the 1st, 7th, 14th, 21st and 30th days of the month-long treatment period while the lab tests were carried out on the 1st and last (30th) days.

Results: At the end of treatment, the results showed that, in terms of overall improvement (including total and partial improvement), thalidomide (95%) was significantly more effective than pentoxifylline. Nevertheless, the overall efficacy of pentoxifylline was 62.5% and, thus, also noteworthy. As regards total improvement, both treatments had similar results on the 30th day in that those patients treated with pentoxifylline had a 33.33% improvement rate as compared to the 45% rate among those treated with thalidomide.

Conclusion: In this study, thalidomide was found to be the most effective drug in treating Type II reactions. However, pentoxifylline could easily be adopted if there are any contraindications for the use of thalidomide.

PT 55

TREATMENT OF LEPROSY NEUROTROPHIC PLANTAR ULCERS WITH USING "PERFTORAN" EMULSION

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Neurotrophic ulcers are among leading invalidizing factors in leprosy. In last 30 years neurotrophic ulcers have been observed in 18,2% of leprosy patients under treatment at Leprosy Research Institute. The most often neurotrophic ulcers develop on plantar surface. Development of different approaches and methods used for complex treatment of plantar neurotrophic ulcers were and are among the highlights of scientific activity of our Institute. Despite the obvious effect sometimes plantar ulcers are highly resistant to many years-treatment, long healing occurs with the development of rough cicatrized tissue and relapses are not infrequent. Here we present the first results of using homemade "Perftoran" (fluorocarbon blood substitute) for treatment of resistant neurotrophic ulcers. Due to submicron size of its particles Perftoran penetrates deep tissues with poor vascularization and provides sufficient oxygenation of damaged areas, preventing development of rough cicatrized tissue. 17 patients (from 53 to 72 years old) with permanent neurotrophic plantar ulcers resistant to treatment were under our observation. A scheme of the treatment was as follows. In the first day of

treatment O2- enriched emulsion of Perftoran was introduced in the bottom and edges of the ulcer in the form of single injections and then once a day - in the form of ointment applications (which are made extempore) during a month. Before Perftoran treatment biopsy showed necrosis, dystrophy, hyperkeratosis, disturbed vascular permeability. Perftoran applications stimulated the process of wound epithelization. In two patients with neurotrophic ulcers unresponsive to 6 years' treatment complete healing of ulcers occurred. Histological picture improved. Thus, the data obtained suggest that Perftoran emulsion favors ulcer healing, hence, increasing the level of social activity of leprosy patients.

PT 56

UPDATING IN LEPROSY THERAPEUTICS

Terencio de las Aguas, J.

We have been treating about 2,000 leprosy patients for 48 years, first with monotherapy and from 1973 on with Multidrugtherapy (MDT) with several diagrams.

We presented the current diagrams of WHO, the associations of ofloxacin, minocycline and clarithromycin. The ROM therapy in only dose and the new experiences with Rifapeptine, Moxifloxacin and Minocyclin, as well as the updating in the therapy of reactions.

To sum up, with the MDT leprosy has fallen a 85% in 15 years, and the prevalence of the countries with more than 1 patient/10,000 inhabitants have decreased from 155 to 24, 11 million patients and 100% are with MDT at present.

PT 57

USO DA GABAPENTINA NO CONTROLE DAS NEURITES EM PACIENTES COM HANSENÍASE

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Objetivos: Avaliar o uso da Gabapentina nos pacientes com neurite em tratamento com prednisona.

Métodos: 33 pacientes foram estudados (25 masculinos e 8 femininos), com média de idade entre 18 e 66 anos. Foram classificados em 14 Virchovianos, 14 dimorfos, 4 tuberculóides e 1 indeterminado. A dosagem de Prednisona variou entre 0 e 120mg. O tratamento utilizado foi Gabapentina (400 à 800mg) e Amitriptilina (0 à 25mg). A avaliação da dor foi feita através da Escala Visual Analógica (VAS) no 1º dia (VAS0) e após 30 dias (VAS30). A dosagem de prednisona foi

reduzida com o alívio da dor. Os efeitos colaterais foram controlados e as comorbidades demonstradas.

Resultados: Houve diminuição na dor (VAS0 7,42,6 e VAS30 1,61,8; $p < 0,001$) e no uso de prednisona (Pred0 19,323,4 e Pred30 9,212,2; $p < 0,005$). O consumo inicial de Gabapentina foi 412,169,6 e após 30 dias 448,4132,5 e consumo inicial de Amitriptilina foi 19,38,3 e após 30 dias foi 17,98,5.

Conclusões: A associação entre a Gabapentina e a Amitriptilina foi efetiva no controle analgésico, diminuindo o consumo de Prednisona sem efeitos colaterais significativos; foi encontrado 4 pacientes com epigastralgia, 13 com sonolência e 1 com hiperemia conjuntival. As comorbidades relacionadas com o uso de Prednisona foram Diabetes em 7 pacientes, H.A.S. em 7, Osteoporose em 2 e Herpes Zoster em 1.