CURRENT LITERATURE

This department carries selected abstracts of articles published in current medical journals, dealing with leprosy and other mycobacterial diseases. Abstracts are supplied by members of the Editorial Board and Contributing Editors, or are reproduced, with permission, from other abstracting journals.

Clinical Science


The author draws the following conclusions from his experiences of the last 25 years: (1) Leprosy is a disease caused by M. leprae acting within an abnormal background of biochemical nature. (2) General and nonspecific processes which depress immunologic responses to bacterial infections, interfere with positive inoculations of M. leprae in animals. (3) Leprosy is more a metabolic or nutritional disease than a common infectious disease. (4) Chemotherapy against leprosy seems to provoke a general and nonspecific modification of the "leprosy background." Sulfones act not on M. leprae but on this "leprosy background." (5) Every compound with a biological antioxidant activity must have an antileprous action. Vitamin E and sulfones are good examples of this. Leprosy could be prevented by giving biologic antioxidant compounds to a large population. Every experimental study in leprosy will fail if alterations of the biochemical leprosy background, which are the basis of all cases of the disease, are not taken into account.—A. Sañó.


The Thorn test is a convenient screening laboratory procedure to assess the functional activity of the suprarenal cortex. In this study 55 cases of different types of leprosy, none receiving steroid therapy were subjected to the Thorn test, and eosinophilic depression suggestive of functional impairment of suprarenal cortex was observed in 14 cases. 5 of 20 tuberculoid reactive, 8 of 20 lepromatous, and 1 of stable tuberculoid leprosy. The authors do not think these results permit a valid conclusion about suprarenal involvement, suggesting further study before a precise assessment can be made.—G. L. Fite.


The authors classify tuberculoid leprosy as (1) macular, (2) minor tuberculoid, (3) major tuberculoid, or (4) a purely neutral variety. Histologically, a type characterized by early formation of tuberculids, 1 of a follicular type (with nodules consisting of an accumulation of epithelioid cells amongst which giant cells surrounded by lymphocytes are seen) and 1 sarcoïd character are met with. This last is so-called because of its resemblance to the Schaumann-Bock sarcoïd being formed almost solely of epithelioid cells. In tuberculoid leprosy no bacilli are seen with normal methods, but are being found in increasing numbers of patients using the Khanolkar technique, which adopt fluorescent staining methods.—(From abstract by E. Agius. Trans. Dis. Bull. 47 (1970) 175.)


A case of leprosy is reported in which a palmar congenital vascular malformation was spared neurologic involvement, although sensation to pinprick was lost over much of the body surface. The temperature in this area as measured by thermography was 7° C warmer than in adjacent parts. The author suggests that the increased vas-
cularity with the increased skin warmth created a relatively unfavorable site for growth of bacilli. — G. L. Fite


The results are shown in 4 tables. Notable findings were (1) Fewer lepromatous cases proportionately were found than in the interior of Japan, as well as an average younger age. (2) Most cases began during adolescence, many appearing before 10 years of age. (3) Flat hypesthetic and hypopigmented patches were the most prominent early lesion. Only a few cases began as frank lepromatous. (4) Early lesions appeared on the face, lower limb, upper limb, buttocks, and trunk, in this descending order.—Authors' summary.


By means of the lymphographic technic that they have developed, the authors visualized the testiculo-funicular lymphatic vessels in 7 patients who had gynecomastia and long-standing lepromatous leprosy. They were able to demonstrate some degree of lymphatic stasis in these vessels in all the patients. The associated noninflammatory edema of the Leydig cells, accompanied by the specific leprosy lesions in the testis itself, is held to provide an adequate pathologic explanation of the hormonal imbalance that results in gynecomastia in leprosy.—Abstract by S. G. Browne. Trop. Dis. Bull. 67 (1970) 419


This paper opens with a description of the ways in which acute joint involvement may occur in leprosy, then the literature on the subject is reviewed, and finally, the authors describe the types of joint disorder encountered in a study of 2,500 patients with leprosy of all types examined between March and December 1965. The incidence of joint manifestations was 1.08%. The paper is illustrated by 10 photographs.—(Abstract by W. H. Jopling. Trop. Dis. Bull. 67 (1970) 419)


Although the case reported (of dimorphous leprosy) would hold no unusual interest to the leprologist, it was complicated by neurologic changes suggesting a little understood motor neuron disease prevalent in Guam. Still more interesting in this report are the discussions of Dr. Simeon Locke on the role of the Schwann cell alterations in relation to the clinical signs of sensory and motor neural damage.—G. L. Fite.

Chemotherapy


This preliminary trial of ethambutol involved the treatment of 20 leprosy patients: 16 lepromatous, 3 tuberculoid and 1 borderline. A single daily dose of 800 mg was given to all patients for 6 months in tuberculoid cases and for 12 months in the lepromatous. Complete regression of tuberculoid lesions was observed after 6 months of treatment. In lepromatous cases improvement began after the first 15 days followed by flattening and atrophy of nodules, and healings of ulcers. At 12 months
clinical cure was evident in 4 cases, improvement in 3 and relapse in 5. Although bacteriologic changes were observed in all patients, smears remained positive in 9 cases after 12 months. Histologic modifications were also noted. Neither lepra reaction nor side-effects were observed. Ethambutol seems to work more quickly than other drugs, but the evidence of bacillary resistance suggests need for further trials—A. Saúl.

Rodríguez, E., Ramírez, J. and Yambay, J.

Talidomida en reacción leprosa. [Thalidomide in lepra reaction.] Dermatologia (Mexico) 13 (1968) 147-151.

In the first experiences in Paraguay in the management of lepra reaction with thalidomide, surprising results were obtained with doses of 100 mgm. daily for the first two days, followed by a dose of 25 mgm. per day. When the drug is withdrawn, mild recurrences of the reaction become manifest within 10 days. Specific treatment can be continued while the patient receives thalidomide. —A. Saúl.


Thalidomide in an initial dose of 200 mgm. per day in 18 patients proved to be the preferred drug in the treatment of the lepra reaction.—A. Saúl.


This drug in daily doses from 100 to 300 mgm. was administered to 10 patients with lepra reaction who did not tolerate specific treatment. The drug had to be discontinued in 1 patient because of gastric intolerance and in another because of exacerbation of the reaction. Seven patients continued the treatment with satisfactory results; in 3 the reaction subsided and specific therapy was resumed in 4. The results were classified as “good.” Hyperpigmentation caused by the drug limited its use but could be avoided by smaller dosage. The author concludes that new drugs for the control of the lepra reaction need to be investigated carefully, because the problem is not easily resolved.—A. Saúl.


An African suffering from minor monomacular tuberculoid leprosy and primary pulmonary tuberculoid was treated with a daily dosage of 300 mgm. of Rifampicin orally. After two and a half months the leproma lesion was improved. Corticosteroid treatment was associated with the therapy for 3 weeks. A discussion follows in which it is noted that Kanamycin and Novobiocin are equally effective in leprosy.—P. HARTON.


Over a period of 2 years B.633 has successfully controlled chronic lepra reaction in its various forms in Chinese patients. At the same time it has obviously acted therapeutically, assisting in the elimination of the disease. The trial concerned 30 patients, and the optimum dose varied with the type of leprosy and the severity of the reaction. It must be adjusted for each individual, and can be adjusted so that neuritis does not occur, even in patients who were previously neuritis prone.—ARMSTRONG'S SUMMARY.


The trial confirms that Lamprène (clofazimine) is the most valuable new drug to be introduced into the treatment of leprosy since dapsone. Of 18 patients suffering from all types of leprosy who
were treated with Lamprene for 12 months, 6 had received no previous treatment, while the remaining 12 had proven intolerant or resistant to other forms of therapy. One patient responded poorly, but all the others improved during therapy, the response having been dramatic in several cases. Clofazamine is not a miracle drug, as shown by the fact that no patient’s disease was arrested after 12 months of continuous therapy, and is undoubtedly an excellent substitute in patients with erythema nodosum or in those unable to tolerate dapsone.

**AUTHOR’S SUMMARY**


This article presents important data to justify treating leprosy patients with “spaced ingestion” (e.g., monthly doses) of clofazimine (B.663, Lamprene), or with much smaller doses than are currently used, which may avoid the distressing skin pigmentation accompanying clofazidine therapy in light-skinned people. The experiments were carried out in mice inoculated in the foot pad with 5,000 M. leprae; then fed diets containing the drugs. Ethionamide evidently exhibited a bacteriostatic action only. In mice receiving 0.015 mg/m² clofazimine the characteristic pigment could still be found in the foot pad tissues 219 days after the drug was discontinued.


Rifampicin showed high activity against experimental leprosy, inhibiting the multiplication of dapsone-sensitive and dapsone-resistant strains, of M. leprae in mice fed 5 mg/m²/kgm body weight. In a formal pilot-type trial on 6 previously untreated patients with active lepromatous leprosy, Rifampicin (600 mgm, daily by mouth) was as effective as standard treatment with dapsone. M. leprae, however, appeared to be killed more rapidly by Rifampicin than by dapsone or other antileprosy drugs so far studied. This was confirmed on another 10 patients, including 2 with dapsone resistance, and from the infectivity in mice of bacilli recovered from patients during treatment with Rifampicin or dapsone. These results are consistent with the bactericidal activity of Rifampicin against other microorganisms, which could be important to the chemotherapy of leprosy, since all antileprosy drugs in current use are bacteriostatic. The final place of Rifampicin alone or in combination with other antileprosy drugs must await more knowledge gained from larger and long-term studies.

**Actions’ Summary**


This compound, synthesized by Asano in 1957, was used topically in an ointment base in 10 cases. Although only a small number of patients were treated, the disappearance of infiltration, redness, pigmented spots and swellings could be observed in a relatively short time. Smaller nodules became flat in 1 to 2 months. No accompanying dermatitis was observed during the 6-month trials.

(From author’s summary)


Thirty-five patients with various clinical forms of leprosy were treated with B.663 (clofazimine) for 4 to 13 months. An excellent clinical result was obtained together with both histologic and bacteriologic improvement, on a dosage of 100 mgm a day. Reactions were absent at this dosage and the drug was tolerated perfectly. Brief reactive episodes occurred in patients given 300 mgm, daily, which subsided with thalidomide administration. The reactions
did not reappear when treatment with 100 mgm. daily was resumed. —Authors' Summary

A double-blind trial of griseofulvin as an adjunct to the standard treatment of 43 patients with lepromatous leprosy (compared with 50 similar patients receiving a placebo) provided no evidence that the addition of griseofulvin accelerated bacillary clearance, or resulted in more rapid clinical improvement than was to be expected. —Author's Summary

Surgical Treatment and Surgical Specialties

Joint changes similar to those of the "Charcot's joint" are seen in leprosy mostly in the foot and ankle, rarely in other joints, and were observed in 38 cases. Three showed total destruction of tarsal bones, 10 involved the ankle joint, 4 affected the subtalar joints, 8 involved Chopart's and 4 Lisfranc's joint. Proliferative bone changes are rarely observed, and the articular surface of the tibia is not damaged, perhaps helping to maintain the stability of the foot, even though roentgenograms show destruction of the navicular bone and the calcaneus. Destruction of the cuboid bone in Lisfranc's joint may result only in pes valgus and planus deformity, with retention of good stability of the foot.—(From author's summary).

[The editor of this department wishes to remind students of leprosy that "Charcot-like" is a phrase devoutly to be avoided, retained here only because it occurred in the English title. Jean Martin Charcot never resembled a joint, and no joint resembles him. Charcot's joint (tabetic osteoarthropathy) continues to be eponymically a convenience, but that is all. —C.L.F.]

A simple coil spring runs from the dorsum of the shoe to a suspension upper leg cuff, acting as a functional support to allow normal walking in the presence of foot drop. —Author's Summary

Pathology

Saúl, A.; Rodriguez, O.; Novales, J. and Navarro, E. Histopatología de la lepromin-norreactión a las 4 horas. Correlación entre la presencia o ausencia de bacilos y la clasificación de los casos. [A histopathologic study 4 hours after injection of lepromin. Correlation between presence or absence of bacilli and the classification of cases.] Dermatologia (Mexico) 13 (1969) 301-306.
A group of 42 patients with leprosy and 10 with dermatoses other than leprosy were subjected to intradermal injections of 0.1 cc. of integral lepromin. Four hours later biopsy of the site of injection was made to determine the presence of M. leprae, and to correlate this with clinical, histologic and immunologic data. This study seems to prove our previous hypothesis. In tubercoid cases with high tissue immunity toward M. leprae, bacilli were absent within four hours after injection. In lepromatous patients intact bacilli were present, which had not been phagocytosed. The peculiar impairment of delayed hypersensitivity of these cases could explain this observation, and it is probable that prolonged treatment modifies in some way the immunologic status. The presence of bacilli in indeterminate cases is in accordance with their lepromatous status. The authors think that this simple and practical procedure should help to classify difficult cases, and adds another
approach to understanding the complicated microbiology of leprosy.—Authors’ Abstract


Results of a histopathologic study of the tissue of a mouse experimentally infected with \textit{M. leprae} indicate that leprosy bacilli can cross the blood-brain barrier and multiply in the brain and that they gain access to ganglion cells by a hematogenous route. The findings are discussed with reference to lepromatous leprosy in man and the use of the thymectonized-irradiated mouse as a model for the study of the disease.—Authors’ Summary


Two strains of bacillus A.A.R. isolated from lepromatous patients and adapted to solid medium culture were inoculated in rodents. Lesions similar to those of human leprosy became evident. The antigenic capacity of these strains toward the serum of lepromatous patients appears important.—P. Hattier


The different phases of development (on the 3rd, 10th, 20th, 40th, and 60th days) of the positive Kveim test have been investigated using the light microscope. The authors found marked correlation between the programonatous and granulomatous stages of the Kveim test and the same stages of spontaneously developed epithelioid cell granulomata in sarcoidosis. The applicability of this test in the study of the development of the sarcoidosis granuloma is emphasized.—Authors’ Summary


When the buccal mucosa is affected in the lepromatous process, elements of the connective tissue undergo destruction, particularly fibrillar structures. At the peak of the process fragmentation and lysis of collagen fibers are observed. The remaining fibers are irregularly oriented, and acquire argentophilia. Proliferation of lymphohistiocytic elements is noted. Lepromatous cells representing derivatives of the histiocytic series possess all the characteristics of macrophages which have the structure and histochemically detectable properties specific for lepromatous formations. Involvements of the walls of blood vessels is considerable, even though this process in specific granulomatas is frequently overlapped by intensive formation of new vessels of the capillary type. In these cases where lepromatous foci occur in the immediate proximity to the epithelial lining or involve it in the process, destruction of the basal membrane is observed. Epithelial cells often undergo necrosis, with ulceration.—(From authors’ abstract)


In the liver of intact and experimental allino rats there is a ferment system which catalyzes the splitting of Solusulphone with dehydrogenation of the amino group which is substituted in this preparation by an aromatic nucleo. It was also found that with long use of Solusulphone the activity of this ferment system increases significantly, and pH optimum moves to the acid side.—N. Tomov
Bacteriology and Immunology


The author’s study is based on the capacity for blastic transformation of the lymphocyte when exposed to an antigen to which the patient is sensitized. The author placed different leprosy sera in contact with a mince of murine lepromas. The reaction proved negative in tuberculoid leprosy, and when patients were under treatment with chloroquine or prednisolone. In lepromatous leprosy the reaction was positive, with blastic transformation values ranging from 4.5% to 10%.


From a study of serodiagnosis by immunofluorescence with the Stefansky bacillus in 700 cases, the authors confirm the value of the reaction in nontreated cases, especially in bacillary forms. The positivity limit permits a positive diagnosis up to a serum dilution of at least 1:128. Detection of leprosy antibodies by passive sensitization of the terminal ileum of rodents is based on 22 cases. Terminal ileums of rodents were sensitized passively by exposing them to the suspected human serum. In cases of positive reaction a second addition of ground murine leprosa caused a contraction (Schultz-Dale phenomenon).


Administration of 6-mercaptopurine suppressed appearance of tuberculin skin test reactivity for up to 6 weeks after mycobacterial injection. Lymphocytes obtained during the period of suppressed tuberculin reactivity exhibited normal in vitro proliferative responses to tuberculin, suggesting that the drug may not be qualitatively affecting function of immunologically competent cells.

AUTHORS' SUMMARY


The rapid plasma reagin (RPR) card test is a precipitin test for syphilis introduced in 1962. The authors’ observations with this test in a series of leprosy patients indicate that it has the same disadvantage of other precipitin tests for syphilis in that it shows biologic false positive reactions in patients with leprosy.

AUTHORS’ SUMMARY


Positive correlation between tuberculin and lepromin tests was observed in 58% of tuberculoid group, in 12% of lepromatous group and in 33% of healthy persons. From the above observation it appears at the first glance that cross sensitization exists only in tuberculoid cases but among 40% of the tuberculoid group, in 12% of lepromatous group 38 cases were lepromin positive. Moreover there is not much variation in the percentage of tuberculin reactivity among leprosy patients and normal population. So it tends to indicate that there is no appreciable cross-sensitization between the two tests, tuberculin and the lepromin.

AUTHORS’ SUMMARY


Factors affecting elongation of M. leprae murium in vitro were investigated by
slide culture method, and the following results were obtained: The most important factor influencing elongation of the bacilli in vitro was acid (pH 6.0) in the culture fluid. Bovine serum was the best stimulator of elongation but glycerine and sucrose also enhanced elongation. Among the substrates of the Krebs cycle tested, 1-malic stimulated the elongation phenomenon. Among the metabolic inhibitors employed, only malonate did not inhibit elongation of the bacilli. From these results obtained, it might be presumed that the Krebs cycle would be needed for the elongation phenomenon, but probably there were other pathways. The log phase of elongation of the bacilli was between 3 and 6 days after incubation. Elongation was inhibited by antibiotics.—Author’s Summary


The inoculum was approximately 10^6 bacilli per foot pad. Cortisone was given intramuscularly into each hind leg of the hamsters in the daily dosage of 7.0 mgm. for 6 days beginning at the first, or 17th day, and 11 weeks after the inoculation. First passage in the hamster showed counts of acid-fast bacilli similar to those seen in the mouse foot pad at late stages but the number of M. leprae in the hamster was greater than that in the mouse at approximately 20 weeks after inoculation. Second passage (hamster to hamster and hamster to mouse examined at the 24th week) showed counts of acid-fast bacilli similar to those of the passage. The number of M. leprae in the hamster foot pad rose to a plateau level of approximately 10^7 bacilli. The number of bacilli in the cortisone-administered hamster rose to a plateau level at an earlier stage after the inoculation. (From authors’ summary)


The authors’ summary states that an account is given of the transmission of human leprosy to mice and the development of models for studying the disease. There is rather more to the exposition than this would suggest, especially in the examples presented of the application of mouse foot pad infections in research. Under a section on experimental and applied chemotherapy, experiments on susceptibility and resistance of M. leprae to dapson are illuminated, and applications of the methods to the investigation of Rifampicin are presented. The striated muscle fiber as a vehicle for the growth of the leprosy bacillus is shown, and the mechanisms by which bacilli invade and injure peripheral nerves are illustrated. Only 10 years old now, the usefulness of Shepard’s 1950 demonstrations are clearly demonstrated.—G. L. FITE


A preliminary report of the successful adoption of Shepard’s technic for obtaining multiplication of M. leprae in the foot pads of mice in Karigiri, India, is presented. The lack of thermoregulatory devices and the seasonal and diurnal fluctuations of temperature in the animal laboratory did not materially affect the “take” rate. The histologic sections have confirmed the findings of “foot-pad” harvests. Significant multiplication of the organism in the foot pads was obtained with inoculum containing less than 1% solid organisms (according to Shepard’s technic) in some of the experiments, suggesting that multiplication of the bacilli in the foot pads is a sensitive index of viability of these organisms. A tentative figure for generation time has been computed, which is found to be on an average longer than those reported by Shepard and by Rees. The longer generation times thus observed may be in part, or wholly, related to the fact that the majority of the harvests were probably carried out in the plateau phase rather than the logarithmic phase of the growth curve.—G. L. FITE
Epidemiology and Prevention


The interest of the World Health Organization in this matter began in 1952 and, following the recommendations of certain advisory committees, it was decided to institute a field trial in Singu township in Burma. The main purpose of the investigation was to observe, in a highly endemic area, the protective effect, if any, of BCG vaccine against leprosy in the child population not exposed to M. leprae at home but possibly exposed to the infection elsewhere. Field operations began at the end of August 1964 and the preliminary findings obtained up to the end of June 1966 relate to 3 annual reexaminations. So far, from the material studied, it appears that, under the conditions prevailing in Singu township, no significant effect of BCG vaccine can be seen within a period of 3 years. When children in both trial groups are followed-up for much longer periods, mainly children aged 0-4 years at intake, it is possible that a significant difference may emerge. However, to be operationally desirable, a merely significant difference is not enough; the protective effect of BCG should be substantial to warrant its large-scale use as an immunization procedure against leprosy.—Authors

SUMMARY

[Although labelled preliminary findings, this is actually a fairly comprehensive account of the Burma WHO study, which permits comparison with the Uganda and Karamui trials. These latter differ in methodology to a degree that makes exact comparison impossible, one significant difference being the populations included in the immunization campaigns. Differences in findings between these three main trials of BCG vaccination are discussed, and an appendix provides the technical outline used in Burma. Twenty-five tables and 4 figures are available for the statistically-minded reader, who might prefer to analyse the results for himself, at best an engraving task, and at least a puzzling one.—G. L. Flee]


The thesis developed by the author in this paper is that, in the ex-French colonies of central and west Africa, experience during the past 15 years demonstrates conclusively that leprosy can be controlled and that the numbers of new infections show a progressive reduction. He supports this contention with sober statistics drawn from the 5 countries comprising the French-oriented Union, in which high prevalence rates (above 10% in some districts, and 15% in some villages) and dispersal of the population presented a challenge to the public health administrator and the mobile leprosy teams. The total population covered in the report is about 16 million; 165,578 patients were under treatment for leprosy at the end of 1968, 41,335 having been discharged "disease arrested" since the beginning of the campaign. For the last 2 years, the number of new infections registered is about a third of those discharged. Attention is drawn to the two countries (Cameroun and Gabon) whose progress lags far behind that of the other three, and the valid explanation offered is that these two have failed to adopt modern methods of mass control.

[This paper is both salutary and reassuring. It provides evidence to support the thesis that leprosy can be controlled in the environment of central and west Africa, where despite inherent difficulties of communications and scattered populations, mass treatment measures can be applied persistently by supervised teams of medical auxiliaries. It is salutary in the sense that these results can be paralleled by extremely few leprosy control projects in those populous countries where the prevalence of leprosy is high, where the lepromatous/tuberculoid ratio is also high, and where prejudice against leprosy is greater. The local success registered in populations...]
Attention must be given to leprosy as a problem of all the world. The control effort must be planned according to local or regional conditions and needs. Prejudice, ignorance and drastic measures are historically related to the disease. Leprosaria maintain the idea of compulsory isolation. Integration of leprosy work into general medical services is a precious goal but such different according to racial origin, because contact examinations are often restricted.—(From abstract by S. G. Brown, Trop. Dis. Bull. 67 (1970) 515-518.)


The campaign against leprosy is well organized and surveys of the population are carried out regularly. There is a central dispensary for leprosy control in Nicosia where patients are screened and further disposal determined. Attached to this is a leprosarium and a children’s department in which all children born in the leprosarium are kept under observation for at least 5 years. In the whole territory 4,649 new cases were diagnosed between 1938 and 1953 and 888 between 1957 and 1966. The incidence of leprosy is greatest in the continental region and Fernando Poo is the least infected area. In Rio Muni the incidence is greater in the interior than in the coastal area.—(From abstract by H. J. O’D. Burke-Caffrey, Trop. Dis. Bull. 67 (1970) 369-371.)


From 1956 onwards, UNICEF has
helped the leprosy campaign with equipment and transport. In 1966-1965 the following 3 organizations assisted the Burma Leprosy Control Programme by contributing $150,000 (U.S.) through WHO to pay for additional staff over a period of 5 years, namely: (1) International Committee for Assistance to Leprosy of the Order of Malta, (2) Committee of Emmaus Suisse (Switzerland), and (3) Deutsches Auswirkungen Hilfswerk (Germany). A 5-year program (1965-1968) was drawn up for leprosy control throughout the country. In July 1966, the Burmese Government established 3 leprosy hospitals (after nationalizing leprosy asylums in Rangoon and Mandalay) to serve as the main centers of the campaign. The leprosy control work in Burma, which has now been expanded to 34 project areas covering almost the whole of Burma, is under the Assistant Director of Health Services, Rangoon. The main objects of these field units are to discover new cases of leprosy and to provide regular treatment for all registered patients either through leprosy clinics or by house-to-house visits. By March 1969, 181,524 patients had been registered, of whom 172,610 (or 76% of the then estimated total number of patients in Burma) were under regular treatments; 83% of them are in rural areas, where the bulk of the population lives.—G. L. Frrx


There is need for a strong, practical built-in unit for giving drugs by injection, in relation to rural circumstances. This need would become even more important if "depot" injections of sulfones were to come into general use in appropriate regions. The hope is expressed that the prototype of equipment described in detail in these back-to-back articles may lead to a perfected unit for "mobile" injection purposes.—(From author's summary)


One year after the start of this joint project, 2 of 3 leprosaria in the Province have been closed, attendance rates have improved very greatly, and remarkable changes in statistical information have been revealed. As the second year of the work proceeds plans are being made to extend the work into another Province, Luapula. Within the framework of the plans are thoughtful considerations of (1) an estimate of the leprosy prevalence in the Province and a further definition of the overall size of the leprosy problem, and (2) the total reintegration of leprosy control into the general medical services before the end of the third year of operations.—(From author's summary)


The leprosy register at the Department of Health of the Minister of Social Security of Britain showed 343 patients, of whom 212 were considered quiescent and 109 to have active disease. Only about 10% at any one time will be confined to a hospital. Most are treated by general practitioners or dermatologists. The resources of the National Health Service stand in favor of the individual patient for medical and surgical treatment, social assistance, and prostheses. The questions of the significance to Britain of these cases of an infectious disease are raised, receiving conservative answers.—G. L. Frrx
Aceves-Ortega, R. La lepra en Jalisco. Rese­
cta historica y bibliografica. II Parte. [Leprosy in Jalisco. Historic and biblio­

The second part of this documentary deals with the geography of Jalisco and its history in relation to that of the whole country. (Part I. IJL 38 (1970) 109-110).

Jalisco measures 81,058 square kilometers and the current population is 2,245,000, most living in the capital, Guadalajara. The first inhabitants were Otomi Indians and, later the Olmecas, Cocos, and Tepehuanes. At first this region was known as Chimalhuacan Atenco and at the time of arrival of the Spaniards there were four groups or Heuitlaoan azogos: Tonala, Vol­
ima, Xalisco and Aztecs. The first Spaniards to arrive were Cristobal de Olid and Alonso de Avalos. Nuno de Guzman subjugated the country with his characteristic cruelty and the whole region became known as Nueva Galicia. Guadalajara was its capital. After several relocations Guadalajara flourished and became the principal and great city of the West in the then vast district of Nueva Galicia. The hospitals of this colonial period were San Juan de Dios and San Miguel. This part of the country played an important role in the Mexican struggle for independence, which was achieved following the revolution of 1810. —A. Saúl.


The publications concerning leprosy in Jalisco range from the first information contained in the work of Murriel, who wrote about the patients in the Hospital of Belen, to other references by Lyon, Casillas, Casteneda, De la Pascua, Lucio, and Chavarin. Orvananos writes about leprosy in various municipalities of the state such as Teotihuacan, Ameca, Ahualulco, Atotonilco el Alto, Ayo el Chico, and La Brea. In 1967 it was reported that 540 patients existed in Jalisco. In 1977, the year of the first census, Jalisco was known as the state most affected by the disease in Mexico. Nevertheless, this study was incomplete. Other reports of this period mention some of the drugs which were used such as isoldides and ephedrine. This bibliographic review gives an account of the ideas which at that time prevailed about leprosy in Jalisco. —A. Saúl.

Hernandez-Perez, E. La Biblioteca de Le­

The library of all that pertains to leprosy in Sao Paulo, Brazil, is the most highly developed institution of its kind in the world. It numbers 40,000 volumes and its catalog contains everything referable to leprosy, from the beginning of literature up to the present time. Founded in 1932, the author considers the institution a source of pride for world dermatology and leprosy study. —A. Saúl.

Contreras Dueñas, J. F. Latte contra la lepre et philatelic. [Philately and the cam­

A concise inventory, supported by num­
erosous photographs, is presented, covering the postage stamps of the world bearing on the problem of leprosy. —P. Harren

Other Mycobacterial Diseases


Ninety-seven cases of skin ulcers due to Mycobacterium ulcerans were seen at two mission hospitals in the Lower Congo between 1961 and 1968. There were more
cases than expected among those 5 to 14 years old and fewer than expected in those 15 years or older. No secular changes were noted during the 7-year study period. There was no association of the disease with nationality, nor was there significant familial clustering of cases. The geographic distribution of cases appeared to approximate the population distribution, and there was no temporal relation between geographically clustered cases. The anatomical distribution of skin ulcers differed from that found in Uganda in that there were more lesions on the arms. Comparison of the anatomical distribution of ulcers with the distribution of total skin area among the body parts showed an excess of lesions on the arms and a deficit on the head-neck-trunk. There was no association between climatic variables and the data of onset or presumed date of infection of all cases or of cases by age, sex, or by anatomical distribution of lesions.—Authors' Summary


This not too technical paper presents the atypical mycobacteria first according to their significance as pathogens in man and animals, and then follows with notes on the biochemical tests which can be used to identify the groups, serotypes, and species. It is not intended to be a detailed review, but draws attention to the current classification of atypical mycobacteria, methods of identification, and to the potentials for causing disease processes in man and animals. The current debates about some groupings acknowledge that the geographical occurrences of some are of apparently etiological importance, and that final resolution of classifications is still to be achieved.


The relationship between M. fortuitum and M. ranyoui was studied with respect to their biologic and immunologic properties (tuberculin specificity). The results of Adansonian classification were in accord with those of tuberculin specificity studies, and it was suggested that M. fortuitum and M. ranyoui can be classified as different species.—Authors' Summary


The papers and discussions of the Eleventh All India Leprosy Workers' Conference underlined the fact that from the era of optimism which came in the wake of sulfones and advances in reconstructive surgery, we have passed on to the era of sober assessment and reevaluation. This is not to deny that we have, in the last two decades made phenomenal advances. We have taken the leprosy patient from custody to cure, from care to cure, and from cure to rehabilitation. We have to a large extent succeeded in taking leprosy out of its isolation and linked it up with the general stream of medicine and brought to it the benefits of collaboration between various disciplines of medical research. But we have to look at the road ahead and be realistic and critical of our own achievements so that we may march with a clear head and steady pace to our ultimate goal.—Author's Editorial Summary

[The entire 118 pages of this issue (No. 3 for July 1969) are given to the report of the conference. During five days of scientific sessions of the Indian Association of Leprologists 34 topics were presented, all abstracted in some detail, with reports of the main discussions which followed presentation occupying 22 pages. Unfortunately, it is not practical to present these here, and even a synopsis is impossible, because of the wide range of subjects, although chemotherapy, treatment, and epidemiologic control seem to have dominated the scene. Twenty-five pages report the three sessions of the All India Leprosy Workers' Conference proper. The principal themes were control programs, epidemiologic prevention of leprosy, the role of various agencies in rehabilitation, and the ever changing institutions designed to protect those exposed to leprosy. The student of this issue of Leprosy in India will derive an awesome sense of the problem at hand, the difficulties that are faced, and the attacks currently working.—G. L. Pfei]