

## CURRENT LITERATURE

*It is intended that the current literature of leprosy shall be dealt with fully in this department. It is a function of the Contributing Editors to provide abstracts of all articles published in their territories, but when necessary such material from other sources is used when procurable.*

CONTRERAS DUENAS, F. and RODRIGUEZ PASCUAL, C. La alopecia en los leprosos. (Alopecia in persons with leprosy.) Fontilles 5 (June 1946) 389-402.

Alopecia is most frequent in lepromatous cases, especially when the infection is very acute and of the nodular type. It is more frequently seen in cases of long duration, from five to fifteen years. Alopecia of the back of the neck up to the external occipital protuberance is pathognomonic of advanced leprosy. Besides alopecia of the scalp, that of the brows, eyelashes, axillae, pubis, face, and other regions of the body are also observed. Alopecia may be the result of the inflammatory action of the bacillus on the follicle which leads to its destruction. Besides this direct action of the mycobacterium, it can also act indirectly through the sexual glands and other glands in the endocrine system which have something to do with the distribution of hair. Males are more frequently affected than females, especially when they have been infected since infancy.

—J. TOLENTINO.

CRAWFORD, WALLACE. Report of the leper hospital of the West China Union University College of Medicine and Dentistry for 1946.

The hospital has been handicapped due to lack of personnel. At the end of the year there were 28 patients in residence. Two had been paroled and 8 were attending the regular weekly outdoor clinic. The occupational therapy department has been expanded. The patients spin yarn for their own garments, and have made dental chairs and laboratory apparatus for the University. Late in the fall a supply of promin was received. This is the first time it has been used for leprosy in China. Many other contributions have been received; vitamin tablets, other drugs, and instruments from the International Relief Committee; hospital supplies, and clothing from the Canadian Red Cross. All these have helped to improve the morale of the patients.

—H. BANCROFT.

FIELDING, J. W. Observations on human leprosy: Infection of rats with human excretal organisms. M. J. Australia. 1 (1946) 584.

1. Both patients with advanced leprosy and others with receding clinical manifestations pass organisms in the excreta. These organisms are in large numbers, and in the latter type of case constitute a carrier problem, which points to the necessity for laboratory and hygienic control.

2. These human excreta organisms are capable of invading the skin of rats, producing by superinvasion light internal infection. There was also in some rats evidence that partial immunity had developed.

3. Leprous blood, when hemolysed and inoculated subcutaneously, gives rise to early primary lesions in rats; this suggests its use for the early diagnosis of human leprosy.

4. Climate is considered to be of secondary importance to hygiene in the dissemination of leprosy. Solar radiation in dry areas is probably effective in destroying viability of fecal organisms evacuated on soil; wet areas and incidental vegetation afford some protection to such organisms.

5. Viability of the organisms appears to be destroyed by heating to 58° or 60° C. for a short time, or by extended freezing; short period freezing tends to lower the viability.

6. If stored dry at room temperature for periods up to two years, rat excreta organisms remain viable and invasive and produce early lesions on subcutaneous inoculation.

7. The incubation periods calculated from infection to the appearance of lesions appear to depend on high viability of bacilli and on superinvasion, early neural leprosy being probably like glandular leprosy of rats—a product of early invasions of bacilli.

8. Superficial regional lesions are dependent more on superinvasion than on metastasis.

9. Both human beings and rats with leprosy pass in the excreta numerous organisms capable of invading the skin of rats and of producing intracellularity. Increased virulence is associated with intracellularity of organisms. This is suggestive of a closer affinity between the bacillus of Hansen and that of Stefansky.

—AUTHOR'S SUMMARY.

6 GUILLOT, C. F. and CURCI, A. A. Embarazo y lepra. Consideraciones acerca de la lepra en los estados fisiológicos femeninos. (Pregnancy and leprosy. Observations on leprosy in relation to the physiological periods of women.) *Rev. Arg. Derm.* 30 (1946) 313-321.

The literature cited and our own cases, which although few in number show all the possibilities, permit us to establish that pregnancy is one of the physiologic periods of women in which Hansen's disease may first appear or may become aggravated. The different clinical forms may be modified as follows: (a) In the tuberculoid type, the advancement of the disease is not changed by pregnancy, but reactions may occur, (b) The uncharacteristic form is the most easily affected by energizing influences and the only case among our patients with this type of the disease had a grave reaction during the puerperium which turned the course of the disease to the lepromatous form, (d) After delivery, a latent infection with leprosy may manifest itself and during puerperium may show progressive changes.

—AUTHOR'S SUMMARY

6 JIQUETI DEL POZO, P. La ginecomastia en la lepra. (Gynecomastia in leprosy.) *Fontilles.* 4 (1946) 283-295.

The author, after discussing various possible theories to explain the gynecomastia sometimes observed in leprosy patients, concludes that this condition is apparently the result of a "profound disequilibrium of the function of the testes" which is due to frequent extensive involvement of this organ. This in turn produces a "diminution or absolute disappearance of the male sex (androgenic) hormone, permitting a relative preponderance of the female sex (estrogenic) hormone," leading to a hyperplasia of the breasts of male leprosy patients.

To test the validity of this theory, the author gave weekly injections

of testosterone propionate in doses of 10 milligrams to 2 cases of leprosy gynecomastia. After the 5th injection, there was complete relief of the pain accompanying the breast enlargement in both patients, and after the 15th dose, the size of the hypertrophied breasts had been reduced by as much as 80 per cent.

It is interesting to note, however, that in 2 of 34 cases of gynecomastia studied by the author at Fontilles, the enlargement of the breasts was noticed by the patients at about the same time as the appearance of the initial cutaneous lesions. It is not conceivable that in this very early stage, sufficiently severe damage to testes could have been produced by the disease.

—J. RODRIGUEZ.

LLANOS, LEONIDAS. Posibilidades evolutivas de la lepra. (Factors influencing the evolution of leprosy.) *Rev. Arg. Derm.* 30 (1946) 307-313.

The elements on which the prognosis rests are: the histopathology, the bacteriological examination, and immunology (Mitsuda test). The clinical type and duration of the disease, the age of the patient, the treatment and presence of complications should be taken into consideration. Segregation of the patients in leprosia is beneficial.

—G. BASOMERIO.

MADRAMANY, C. El tetanos en el leproso. (Tetanus in leprosy.) *Fontilles* 5 (June 1946) 407-410.

This is a presentation of a case of tetanus in an unrecognized case of tuberculoid leprosy. The patients' only complaint was difficulty in swallowing solid food for fifteen days and subsequently liquids also. There was no history of wounds within fifty days prior to the onset of the complaint, and examination revealed nothing that could explain it. After four days with polybromides, the dysphagia improved, but the neck became stiff, and the diagnosis of tetanus was made which was confirmed by a specialist in traumatic surgery. On the twenty-fifth day the dysphagia and stiffness in the neck disappeared, but the patient was found to have a well-defined hyperpigmented and anesthetic area over the right hand, forearm, and flexor surface of the arm, some scars of tropical ulcers in the fingers. The patient also revealed the history that his father died of leprosy. A leprologist was consulted and he confirmed the diagnosis, classifying the case as N-1. It was believed that the portal of entry was the tropical ulcers.

—J. TOLENTINO.

MENDONCA DE BARROS, JOSE. As complicações oculares da lepra. (The ocular complications of leprosy.) *Rev. brasil de leprol.* 14 (1946) 103-134.

This is a good summary of the different eye complications of leprosy, as observed by the well-known former eye-specialist to the "Sanatorio Padre Bento" in 1279 patients belonging to all types and stages of the disease.

The usual lesions involving the tissues surrounding the eyeball, the conjunctiva, episclera, cornea, iris, ciliary body, and the posterior segments of the eye are well described. The author's observations on the corneal lesions are particularly informative and the article is accompanied by

excellent illustrations of the infiltrative keratitis and of involved corneal nerve twigs as seen under slit-lamp examination.

Everyone of the 540 cases presenting eye complications among 826 patients of the lepromatous type in the group examined by him showed corneal involvement.

Of timely interest is the proportion of eye complications in the uncharacteristic and tuberculoid types. Of 192 patients belonging to the first type, 19 presented eye lesions. This finding suggests that the cornea in uncharacteristic cases should be systematically examined and then followed up by means of slit-lamp examinations. In this manner, a definite diagnosis may be arrived at earlier in doubtful cases.

Of the 261 tuberculoid patients, in not a single case was direct involvement of the eye itself present. It is interesting to contrast this finding with the frequency of eye complications in sarcoidosis among the Negroes. In four cases of reactive tuberculoid, the eyelids or the facial nerve were involved with subsequent paralysis of the orbicular muscles.

—J. RODRIGUEZ.

1921  
MIRO CARBONELL and GUILLEN PRATS, J. Tratamiento de la lepra en la Colonia-Sanatorio de San Francisco de Borjã. (The treatment of leprosy in the Colonia-Sanatorio de San Francisco de Borja.) *Fon-tilles* 5 (June 1946) 371-388.

The article stresses the importance of hygienic surroundings, of the treatment of concurrent diseases, as well as complications in the treatment of leprosy. The authors are of the opinion that the religious atmosphere in the colony provided by the religious people is a contributing factor in the improvement of the patients. Colony life approaching that of a town is better than a hospital.

Besides providing adequate diet, vitamin deficiency is believed to be a predisposing factor in the development of leprosy, and the authors advise giving vitamins A, C, and B complex.

The beneficial effects of baths to the body in general, and to skin diseases (common in leprosy patients) in particular is mentioned, as well as the salutary effect of sea bathing on patients in isolation. The indications of specific kinds of baths are given.

Occupational therapy and recreational therapy are considered important factors in the treatment.

Preparations of mercury, bismuth, gold, iodine, arsenic, antimony, copper, and aniline dyes were reviewed. Experience with these medicines has been rather disappointing, so that they have been abandoned in the active treatment of leprosy. The result with rubrophren will be reported in a separate article.

Their experience with promin agrees in most respects with those reported by Faget and his co-workers, but the resolution of lepromas is, in their opinion, slow and not very evident. However, they concede that the general condition is improved, rhinitis abates, ulcers heal, recurrent lepra reaction is stopped, and sedimentation rate is reduced.

Diphtheria toxoid is not only without value but may be harmful in some.

Autohemotherapy and protein therapy are of some value in the treatment of lepra reaction, and penicillin is valuable in the treatment of secondary infections, especially in eye infections.

The authors are convinced that of all medicines so far tried for leprosy, none can equal the effects of the time-honored chaulmoogra oil, even when given by mouth, if in large amounts, but especially the ethyl esters. However, they do not consider it to be a specific medicine for leprosy.

For lepra reactions, rest in bed, appropriate diet, pyramidon, nonspecific protein therapy, vitamin C, and sulfathiazole give excellent results. For neuritis and leprosy pains, sodium salicylate, atophan, vitamin B<sub>1</sub>, and novocaine blocks are resorted to, and if these fail, histamine intradermally around the painful area may give relief.

Surgical treatment consists of excision of tissues for the preparation of antigens, amputation of digits, removal of sequestrum, and tracheotomy. Operations for conditions other than leprosy are also done by them.

Local treatment of ulcers is carried on along the treatment of non-leprosy ulcers with antiseptic dressings and cauterization of granulation tissue, but they also use chaulmoogra ointment.

Carbon dioxide snow is very effective in the resolution of leprosy nodules, and is good in the treatment of leprosy together with active medical treatment, but of very little value if used alone.

Their ten major criteria in the treatment of leprosy are: (1) moral and religious education, (2) temperate climate, (3) moderate physical exercise, (4) measures to improve physical and moral status of the patients, (5) early diagnosis and treatment, (6) adequate and balanced diets, (7) hot and hygienic baths as well as sea baths, (8) "kidney factor," (9) ethyl esters of chaulmoogra as the effective medicine, if given in massive doses, (10) great hopes in promin.

—J. TOLENTINO.

MIRO CARBONELL and CONTRERAS DUENAS, F. Exploracion objetiva de los trastornos nerviosos iniciales de la lepra. (Exploration of the initial nervous disturbances in leprosy.) *Fontilles* 5 (June 1946) 403-406.

The histamine and pilocarpine tests are considered of great diagnostic value in the initial skin lesions of leprosy which present utmost difficulties in diagnosis. The pilocarpine intradermic test is considered the test of choice in the demonstration of the disturbances of the sudoriferous glands. For testing alterations in the superficial sensibilities, various peripheral vasodilators can be used as well as the simple excitation of the skin, but the histamine test is the best as it is the most delicate and the most objective. When it is impossible to make a diagnosis bacteriologically, these tests give the deciding factors in early diagnosis and at the same time in the early treatment of leprosy, especially when there are other suggestive findings.

—J. TOLENTINO.

MOMÁ ARTURO M. Quimioterapia de la lepra con Promin (Chemotherapy of leprosy with promin) — *Prensa Med. Arg.* 48 (1946) 2390-2404.

The chemotherapy of leprosy with promin administered in periods of from five to twelve months in 54 patients caused an improvement in 68.51 per cent of the cases. Only 1.8 per cent became worse in spite of the treatment, probably due to several causes. Seven cases were rendered bacteriologically negative.

Of those with the lepromatous type, 60.42 per cent became positive to lepromin.

False positive serological reactions disappeared in 22.6 per cent of the lepromatous cases.

Histological studies demonstrate that bacteriologically negative findings and definite regressive changes can be produced under the influence of promin.

The complications of leprosy are improved or definitely cured in the large majority of cases. Promin favors the reappearance of the hair in the eye-brows and the eye-lashes of the lepromatous cases.

The promin treatment causes anemia of the hemolytic type in 40 per cent, leucopenia in 9 per cent, allergic dermatitis in 7.4 per cent, and albuminuria in 11 per cent, of the treated cases. All the toxic phenomena were reversible.

It is concluded that promin is, at the present moment, the drug of choice in the treatment of lepromatous leprosy. No definite results are obtained with this drug in the tuberculoid type. Clear cut results should not be expected before the first year of treatment.

As the toxic hemolytic action of the drug is slow and controllable, an adequate antianemic medication should be started at the same time as the treatment; (in other words, at the very start) the physician should not withhold treatment until the anemia appears.

The delicate technique and continuous necessary control requires that therapy with promin be given only to hospitalized patients.

*Addendum.* Investigations are now under way with the simultaneous administration of both promin and chaulmoogra ethyl esters in high doses (duodenal and intramuscular routes). The first impressions obtained are that the results seem to be better than when promin alone is used.

—G. BASOMBRIO.

WHARTON, L. H. Annual report for the year 1946. Mahaica Leprosarium, British Guiana.

During the year extensive repairs have been made on several buildings. A new building for male "pay patients" was completed. The general sanitary facilities have functioned well and all essential articles of diet have been available. Clothing for the colony has been made in the patients' work shop. There has been a definite improvement in the social life for the patients, with organized dances, concerts, and sports events. This has improved the general morale.

During the year the first general leprosy school survey was completed. Of 42,811 children examined 94 early cases of leprosy were found. Three of these were admitted to the hospital, the balance receiving home treatment. A second general school survey was started.

Out-patient clinics were held in five areas with 614 attending, 1538 treatments being given. Treatment with chaulmoogra oil has been supplemented by chemotherapy. At the end of the year 130 patients were under chemotherapy treatment, the majority receiving promin. Sulphetrone and soluthiazole were also being used. The results were encouraging.

At the end of 1946 there were 1074 known cases of leprosy, 372 of whom were in-patients. Thirty new cases were admitted, 22 lepromatous, 3 tuberculoid, and 5 uncharacteristic. Nine patients were paroled during the year.

—H. BANCROFT.

- WILSON, C. J. Leprosy and cockroaches. *East African M. J.* 23 (1946) 385-389.

The author considers the hypothesis of Bernard Moiser that leprosy is transmitted by cockroaches as deserving of the most serious consideration. He suggests that full investigation be carried out to ascertain whether Hansen's bacillus can survive ingestion by the cockroach; whether it multiplies or undergoes any development in the cockroach; whether any organ other than the gut is invaded; and whether the acid-fast bacilli passed in the feces of the cockroach are in fact derived from the bacilli originally ingested. He also suggests that anyone who has to do with the care or treatment of leprosy patients make it his business to collect cockroaches from the houses or huts in which patients are said to have lived, and to examine the gut contents to establish the fact that micro-organisms resembling Hansen's bacillus are commonly found in cockroaches associated with human leprosy, and are not found in cockroaches generally. These findings, in his opinion, would be evidence of the association of leprosy with cockroaches which would demand further investigation, and would justify the instigation of preventive measures such as campaigning against cockroaches.

—J. TOLENTINO.

- MCDONALD, S. The laboratory diagnosis of leprosy. *Transactions Royal Soc. of Tropical Med. and Hygiene.* 40 (1947) 451-456.

In this review of the role of the laboratory in confirming a clinical diagnosis of leprosy, the author suggests that the South American classification of leprosy into the lepromatous, the tuberculoid, and the nonspecific forms be given consideration, particularly from a laboratory viewpoint. Methods of laboratory diagnosis by bacteriological examination, lepromin test, serology, and skin biopsy are given, with particular reference to the last mentioned. While smears from the skin by standard technique, stained by the Ziehl-Neelsen method, remain the method of choice in the lepromatous form, the author states that a large number of cases in India, particularly among the military, are of the bacteriologically negative type, where clinical signs are often doubtful. The information derived from skin biopsy in such cases gives a higher percentage of confirmed diagnoses than can otherwise be obtained, since lepromin is usually not available in military practice. In differentiating tuberculoid leprosy from tuberculosis cutis it is noted that in leprosy, epithelioid cell reaction in the dermis and subcutaneous tissue is both superficial and deep in early cases, caseation is uncommon, and typical destructive perineuritis and endoneuritis are found, while in tuberculosis cutis the epithelioid reaction is more often limited to deeper layers, caseation is common and nerve fibrils are not specially affected. In an analysis of a series of 174 skin biopsies from suspected leprosy patients of the Central Military Pathological Laboratory in India, 80 cases or 46 per cent were diagnosed definitely as leprosy. In mentioning serology as an aid to the laboratory diagnosis of leprosy, the author quotes Hopkins and Faget, who draw attention to the fact that the Wasserman and Kahn tests are positive in 41 per cent of their cases of leprosy.

—R. S. GUINTO.