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.

DE SOUZA-ARAUJO, H. C. O combate a lepra no Brazil. (The fight against leprosy in Brazil.) Brazil-Medico 58 (1944) 158-175.

The author describes in detail the progress of the struggle for the control of leprosy in Brazil since 1741, when the "Hospital dos Lazaros do Rio de Janeiro" was established by the Count of Bobadella, to the end of 1943.

The preliminary phase of the modern prophylaxis may be said to extend from 1900 to 1930, which was initiated by the construction of several hospitals undertaken by very active "Societies of S. Lazaros" in the province of São Paulo.

Under the initiation of Oswaldo Cruz, a Commission for the Prophylaxis of Leprosy was established in 1913 for the purpose of perfecting plans on which the government might base action with regard to the control of leprosy. The Commission submitted its report in 1916.

During this 30-year period numerous leprosaria were established in the different states. In 1926, the first "Sociedade de Assistancia dos Leprosos e Defensa contra a Lepro" was established in São Paulo by Mrs. Alice Tibirica and this is the parent society of the present splendid national organization, of which Mrs. Eunice Weaver is the President.

The greatest impetus and progress were made during the period of 1931 to 1943. Modern hospitals and hospital-colonies were established and numerous preventoria and "educandarios" were constructed by the Federation of Women's Clubs.

As of December 31, 1943, there were in Brazil 35 leprosy hospitals with 19,458 patients, of which 24 may be considered as modern "leprosaria" according to the author. At the same time, there were 24 preventoria taking care of 1,940 children born of leprous parents.

-J. N. RODRIGUEZ

CONTRERAS, FELIX. Lepra investigacion de las fuentes de contagio. (Study of source of infection in leprosy.) Direccion general de Sanidad. Ministerio de Gobernacion. Madrid (1945).

This booklet was prepared by the Director of the Colonia-Sanatorio, San Francisco de Borja, Fontilles, at the request of the National Department of Health for the use of practising physicians throughout Spain. It is intended to help particularly those who will investigate the sources of contagion among newly discovered cases.

It describes in detail the signs and symptoms of the disease and is illustrated with good photographs. The author emphasizes that the onset is frequently preceded by high irregular fever and that leprosy in the prodromal stage is often diagnosed as malaria, Malta fever, rheumatism, or grippe. Moreover, the early hypochromic macules with non-specific histology are said to be very rare in Spain and the minor tuberculoid lesions are vaguely described. These observations seem to indicate that either the disease starts in an unusual manner in Spain or that the earliest manifestations are often missed.

The author considers the following steps necessary for the proper sanitary control of the disease:

1. Prohibition of immigration of leprosy patients into Spain and from an endemic zone in the country to an area free from leprosy. 2. Investigation of foci of the disease. 3. Complete census of all cases of leprosy. 4. Census of all household contacts. 5. Classification of all cases into "open" or "closed" cases. 6. Segregation of all "open" cases either at their homes or in leprosy colonies. The requirements for those to be isolated in their own houses are described in detail. 7. Census lists kept by Health officers in charge of the antileprosy campaign should be brought up to date. 8. Marriages between leprosy patients and healthy persons should be prohibited. 9. Building of an adequate number of leprosaria for open cases and of dispensaries for treatment of closed cases and parolees. 10. Establishment of a national office of prophylaxis against leprosy.

-J. N. RODRIGUEZ

CONTRERAS, FELIX. Proteccion sanitario-social del leproso (Prophylaxis against leprosy.) Prize-winning essay in a contest sponsored by the "Orden militar hospitalaria y soberana de San Lazaro de Jerusalen." Imp. V. Taroncher, Valencia. (1945)

The author, citing numerous authorities, presents a full discussion on the prophylaxis against leprosy. An interesting portion of the article deals with the number of known cases in certain provinces of Spain and gives the estimates of authorities as to the possible actual number of cases of leprosy. There were in 1945, 448 segregated patients in the country, of whom 270 were at Fontilles, although all authorities agree that this is well below the actual number of cases.

The author himself, after citing the findings of former surveys, estimates that there are about 2000 cases in the Southern focus (Andalucia and Badajoz) with an incidence of 0.68 per thousand of population; about 1300 are in the Eastern focus (Castellon, Valencia, Alicante, Albacete, and Murcia), with an incidence of 0.52 per thousand; and 600 in the Northern focus (Galicia) with an incidence of 0.48 per thousand. Outside of the peninsula itself, there are estimated to be 650 in the Canary Islands and 8000 in Spanish Guinea where the incidence reaches the excessive figure of 98 per thousand of population. —J. N. RODRIGUEZ

FAGET, G. H. and POGGE, R. C. Treatment of leprosy with diasone. A preliminary report. New Orleans M. & S. J. 98 (1945) 145-150.

This is the first report of the experimental use of diasone (disodium formaldehyde sulfoxylate, a derivative of diamino diphenyl sulfone) at the U. S. Marine Hospital, Carville, La. The drug was given by mouth. At first the dosage was 1 Gm. daily but several patients developed hematuria and it was reduced to $\frac{1}{3}$ Gm. After two or three weeks some tolerance was exhibited and it was found safe to increase the quantity to $\frac{9}{4}$ Gm. One gram daily was the upper limit and was given only to those exhibiting no evidence of intolerance after at least a month. Altogether treatment was commenced in 70 patients, but had to be discontinued in 23. In 6, gross or microscopic hematuria occurred and in 6 nausea and vomiting resulted in a request for discontinuance although some gastric symptoms were observed in about one fourth of the patients. In 4 persistent anemia, in 3 dermatitis, in 1 iridocyclitis, and in one hypertension necessitated permanent withdrawal of the drug. Two absconded.

Sixteen patients were treated for a period of 3 to 6 months, and 11 or 68 per cent showed improvement. Twenty-six were treated from 6 to 12 months and 19 or 73 per cent improved. All of 5 treated for 12 to 18 months showed improvement. These results should be compared with those of Muir reported in the Journal, Volume XII, with diasone from the same source (Abbott Laboratories). Muir treated 43 patients for more than 3 months and 41 for between 2 and 3 months. Of the former, 24 showed marked improvement and 17 slight improvement. Of the latter, none showed marked improvement but 36 showed slight improvement. Thirtytwo of Muir's patients received the drug orally and 52 intravenously. By reducing the dosage to 1.3 Gm. or less than three times a week to all with hemoglobin below 71 per cent he evoided untoward reactions.

-J. A. DOULL

FITE, G. L. and GEMAR, F. Regressive changes in leprosy under promin therapy. South. M. J. 39 (1945) 277-282.

Biopsy findings are reported in 32 Carville patients suffering from mixed or lepromatous leprosy treated with promin during periods of 18 months to 4 years. Bacteriologically positive lesions on the trunk and extremities which had clinically regressed were chosen.

In 14 cases previous biopsies made two or three years prior were available for comparison. Paraffin sections were stained with hematoxylin and eosin, and frozen sections with Sudan IV. In 10 or 31 per cent the biopsied tissue was found free of M. leprae. In those still positive there was a decrease in the average numbers of bacilli per cell. In only three cases were the vacuolated cells still heavily laden with bacilli after treatment.

AUTHORS' SUMMARY AND CONCLUSION

"Under promin treatment, the improvement in leprosy is not accompanied by characteristic cellular changes. Those which do occur are predominately atrophic in character, with extremely slow and gradual lessening of numbers of organisms in the lesions to the point of final disappearance in 10 of 32 cases examined. These changes do not differ materially from similar changes occurring in spontaneous remission without treatment of any sort, or during interim periods of inactivity or regression between phases of acute activity.

"The important finding is that promin appears to eliminate bacillary infection of the blood vessels and blood stream, thereby preventing the formation of new lesions. The atrophy of focal lesions is also more apparent in areas with a more generous blood supply. The results indicate strongly that the best results may be expected in those cases in which treatment is begun in a comparatively early stage of the disease.

"A more powerful bactericidal agent than promin appears necessary for the chemical destruction of bacilli within tissue cells, and especially those within globi." -J. A. DOULL GUILLEN, JAVIER and RODRIGO, MANUEL. Histaminoterapia en lepra. (Histamine therapy in leprosy.) Fontilles 2 (1945) 175-178.

For the treatment of persistent ill-defined pain present in joints and irradiating over extensive cutaneous areas accompanying lepra reaction, the authors experimented with the intradermal injection of histamine in 7 cases with promising results. The dose was 1 cc. of a histamine preparation (dilution not given) injected daily to painful areas for 3 or 4 days.

When the dose of 1 cc. failed to relieve the pain in one case, it was increased to 2 cc. on the following day with favorable results.

J. N. RODRIGUEZ

VILANOVA, XAVIER. Anatomia patologica general de la lepra. (General pathological anatomy of leprosy.) Fontilles 2 (1945) 211-224.

The author gives a clear and detailed description of the fundamental histological structure of the lesions produced by this disease, separately dealing with the lepromatous, tuberculoid, and non-specific reactions. Furthermore, he would add a fourth type of reaction, namely, the fibrous. The writer realizes that this last may be considered unnecessary, due to the fact that fibrosis is the final curative stage of granulomas. However, in this disease, the fibrosis may so involve the peripheral nerve trunks as to greatly modify the symptomatology, so that it cannot be properly ignored.

The writer believes that a knowledge of the pathogenesis of leprosy is of value only when applied to secure a better understanding of the development of the disease. A histological study of the elementary lesions undoubtedly serves as a sound basis for the diagnosis but it is well to remember that in its clinical application, the structural composition of the lesion is not sufficient; its topography, extention, volume, location, etc. are equally important. Pure histological information cannot take the place of clinical knowledge since the same histological pictures may be produced by dissimilar tissue reactions and may have a varying biological significance.

The author is opposed to the currently proposed classification which divides cases of leprosy into (a) lepromatous, (b) tuberculoid, (c) nonspecific in which the first would correspond to the lepromatous type of the Cairo classification and the last two to the neural type. This manner of interpreting the neural type carries two grave faults in the opinion of the writer: (1) omission of lepra fibrosa which is so important in its localization in the nerve trunks and (2) it divides instead of integrating into one group or modality histologic mechanisms which merely represent different phases of the same reactional change. He therefore proposes two main types: (a) the lepromatous, designated by the letter L, and (b) the reactive, represented by R. The R type may be further subdivided into tuberculoid (Rt), non-specific (Ri), and fibrous (Rf). The latter would probably correspond to the subtype Na of the Cairo classification.

The classification proposed by the author would seem to differ from the Cairo classification in regard to 2 minor points, namely (1) change of the designation of the second main type from "neural" (which in the minds of some, connotes a morphological meaning as something pertaining to or belonging to the nerves) to "reactive," and (2) he provides a histological basis for the Cairo sub-type "neutral anesthetic (Na)."

Unfortunately the term "reactive" proposed by the writer is not altogether free from objections, on account of possible confusion not only with

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the "lepra reaction" phase of the lepromatous type, which he describes so well, but also with "tuberculoid leprosy in reaction" which he does not mention at all.

This article, written by the head of the Department of Dermatology and Syphilology of the Faculty of Medicine, University of Valencia, merits careful study by all workers interested in the classification of leprosy.

- -J. N. RODRIGUEZ

FAGET, G. H. and POGGE, R. C. The therapeutic effect of promin in leprosy. Pub. Health Rep. 60 (1946) 1165-1171.

This report is based on the treatment of 137 patients at the National Leprosarium who have received 32,000 intravenous injections of promin totalling 126,961 Gm. (For a more complete report see the JOURNAL, Vol. 14 (1945) 30-36.) The average daily dose per patient, including days of rest when no promin was given, varied from 0.4 Gm. to 4.6 Gm., depending upon individual tolerance. The initial dosage was usually 1 Gm. daily and this was gradually increased in an attempt to reach the optimal dose of 5 Gm. daily. The routine technique consisted of daily intravenous injections for 6 days a week, in courses of two weeks' duration, with one week of rest between courses.

Improvement was apparently more directly related to the total dosage received and to the duration of treatment than to the size of the average daily dose. Of patients treated for 2 to 3 years, 74 per cent showed improvement and 6 patients treated for 3 to 4 years all improved. The authors emphasize the slow action of the drug and that improvement manifests itself only after 6 or more months of treatment, but point out that the patients treated had had the disease for an average of more than 4 years at time of admission to Carville. They urge further research to discover a more effective chemotherapeutic agent. —J. A. DOULL

DHARMENDRA and SANTRA, I. A study of the course of the disease in leprosy. Lep. in India 18 (1946) 43.

In an intensive leprosy survey conducted in 1936-37 in a rural area of Bengal with a population of 10,000, the authors found 424 cases of leprosy, a prevalence of 4.2 per cent, of which 22.6 per cent were of the lepromatous type. Completing a resurvey of the same area in 1946, they found 494 cases, a prevalence of 4.9 per cent, of whom only 15 per cent were lepromatous. The present report is a study of the course of the disease in 336 cases, 268 neural and 68 lepromatous, detected in 1936-37 and re-examined periodically during the intervening period between the two surveys. Among 268 neural cases, there was definite improvement in over 40 per cent; in 30 per cent the disease remained stationary, and in 26 per cent the disease became worse, including a change in 7 cases (2.5 per cent) from the neural to the lepromatous type. One third of the 68 lepromatous cases showed clinical improvement, but none became bacteriologically negative; the remainder showed no change or became worse. Only one fourth of all the cases received treatment. No apparent relation between treatment and improvement of neural lesions was observed, although among the lepromatous, improvement seemed to have been observed more frequently among those who received treatment. The authors have noted a prognostic value in the lepromin test. Of 229 neural cases, 171 were positive and 58 were negative to lepromin; of 65 lepromatous, 59 were negative and only 6 gave 132

a weakly positive lepromin reaction. In the neural type, improvement was more frequent in the lepromin positive group. All 7 neural cases which changed into the lepromatous type were lepromin negative. Among the lepromatous, improvement was more marked in the 6 cases which were lepromin positive. Lesions of the neural type considered most likely to become lepromatous were the small ill-defined flat patches with little or ne definite sensory changes and negative lepromin. A higher percentage of improvement was noted in the neural group having only patches than among those having sensory changes in the extremities with or without patches. The average duration of the disease in the neural group studied was 18 years, varying from 9 to 56 years; that of the lepromatous was 19 years, the shortest being 9 and the longest 36 years. -R. S. GUINTO

DHARMENDRA and SEN, N. R. Study of leprosy in a family. Lep. in India. 18 (1946) 54.

Seven cases of mild neural leprosy were recently discovered in a family of 28 members in Calcutta, all of whom were examined. Since only an open case is presumed to be a source of infection, it was expected that there would be a lepromatous case in the family itself or in the neighborhood, but no such source could be traced. It was found, however, that this family had been living in Rangoon prior to 1941, where they had been in undeniable contact with a neighboring family in which there were several cases of leprosy, presumably lepromatous. The fact that as many as 7 members of the family possibly acquired leprosy through contact with neighbors indicated that the contact was probably close and frequent. The authors note that the resulting relatively mild neural infections would indicate a comparatively high resistance of this family to leprous infection, and in support, cite the fact that all the members, except one, were found to be lepromin positive. The single finding of a negative lepromin test in a well member who was also presumably exposed to the infection along with the others was considered to be an anomalous finding.

-R. S. GUINTO

FAGET, G. H., POGGE, R. C., and JOHANSEN, F. A. Promizole treatment of leprosy. A preliminary report. Pub. Health Rep. 61 (1946) 957-960.

Promizole is the trade name for 2,4'-diamino-5-thiasolylphenyl sulfone. The present report is preliminary and is published because clinical improvement appears in some cases more rapid with promizole than with either promin or diasone. Treatment was commenced on 11 patients and 7 had been treated for approximately one year at the time of report. These patients were started on doses of 0.5 Gms. three times daily by mouth, dosage being increased to 2 Gms. three times daily. In two of the original patients the drug was discontinued because of toxic reactions. Another patient absconded and a fourth died of a cerebrovascular accident.

Objective clinical improvement was observed in some patients after 6 months and because of these encouraging results, treatment was commenced on 8 additional patients, making a total of 15 now under treatment. Others will be added when more of the drug becomes available. It is felt that results obtained are sufficiently encouraging to warrant further clinical study.

J. A. DOULL

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Current Literature

FIGUEREDO, N. and DESAI, S. D. Treatment of tuberculoid leprosy with methylene blue and glucose. Lep. in India 18 (1946) 51.

The use of a 1 per cent solution of methylene blue in distilled water was first tried by de Souza Araujo in 1927 and by Montel in 1934. The authors report that when the treatment was first tried in the Ackworth Leper Home, Bombay, in 1935, the immediate effect was marked weakness, chills, and fever following each injection, but these untoward effects were later eliminated with the use of a methylene blue solution with a pH 7 to which glucose was added. Methylene blue 1 per cent solution in distilled water in 10 c.c. doses, with added equal quantities of 50 per cent glucose, was given intravenously twice a week to 163 cases with thickened and raised tuberculoid lesions, 57 diagnosed at Nt₁, and 106 as Nt₂. The period of treatment varied from 1 to 7 months. The authors report improvement in 77.2 per cent of the Nt₁, and 82.6 per cent of the Nt₂ cases, observed most frequently after treatment for 4 months. —R. S. GUINTO

FIGUEREDO, N., and DESAI, S. D. Trial of penicillin in a case of leprosy. Lep. in India 18 (1946) 53.

A lepromatous case was given 25,000 units of penicillin every 2 hours for ten days, a total of 3,000,000 units. The treatment did not produce any clinical improvement in the lesions. Smears taken before, during, and after treatment failed to show any reduction in the number of leprosy bacilli. Similar results have already been reported by Faget, Pogge, and others. -R. S. GUINTO

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