REVIEWS

International Journal of Leprosy, Vol. No. 2, April-June, 1940.

Familial Susceptibility as a Factor in the Propagation of Leprosy in North America, by W. L. Aycock. Three areas of leprosy frequency in North America are dealt with in this paper. The first area includes Wisconsin, Minnesota, Manitoba and Saskatchewan, where Norwegian, Swedish and Russian immigrants with leprosy, either active or latent, are described. In the second two areas, viz. New Brunswick and Louisiana, the disease is supposed to have originated with French settlers expelled from Nova Scotia some 150 years ago.

"The studies of these two foci, which are recorded in this paper, indicate that leprosy tends to recurrence in successive generations in certain family lines in which intermarriage is common. Moreover, though the two localities are widely separated, the same family lines have been involved in both places. In another small focus the records of cases show a high frequency of relationship to previous cases in the same and in distant localities. In still other groups, where family studies have not been carried out, the restriction of the disease to certain minority groups, originally from areas of prevalence, are indicative of the operation of the same familial factor in the occurrence of the disease."

[The fact that intermarriage is common in a community may indicate that the community is exclusive, and either unwilling or unable to mix with surrounding communities. The opportunity of spreading infection to its own members would be increased in proportion as that of spreading it to surrounding communities was diminished. Therefore, while considering special susceptibility as a cause of familial leprosy, the effect of social customs in exclusive families should be kept in mind. E.M.]

The Lepromin Test in Lepra Reaction, by J. O. Nolasco.

This paper is summarised as follows:—

"Of forty-eight hospital patients with lepromatous leprosy in various states of lepra reaction that were tested with lepromin, only four, or 8.3 per cent, gave clear-cut positive reactions—one 3+ and three 2+. The 1+ reactions are considered not significant, a point to be discussed in a subsequent paper. Irrespective of whether the patients were in the reaction state or not, retests made from two to four months after the original ones tended to give from slightly to moderately stronger lepromin reactions in twenty-four out of forty-eight patients (including the controls) that were retested. No apparent relation in the intensity of the lepromin test to the presence of lepra reaction can be shown in the different groups into which the cases had been arbitrarily classified. Similarly, no deductions can be made concerning the intensity of the lepromin test in relation to the time of the injection after the onset of lepra reaction in the mild, or mild brief and mild recurrent cases. From the results of these studies, no apparent conclusion can be drawn to support the hypothesis that lepra reaction is a manifestation of allergy. Lepra reaction remains an obscure condition."

[In lepromatous reacting cases almost the whole surface of the body is infected, though visible lesions may not show in certain parts of the skin. The injection of lepromin, a bacillary

suspension, into such skin is only like "sending coals to Newcastle", and an allergic reaction in such cases cannot be hoped for, especially as a non-reacting part of the skin would naturally be chosen for the inoculation. This does not mean that an allergic reaction is not taking place in other parts of the skin where perhaps the *gloea* surrounding large masses of bacilli has given way, bringing these bacilli in contact with the surrounding tissues. E.M.]

The Histopathology of the Reactive Phase of Lepromatous Leprosy, by N. I. Ermakova.

"The histopathology of the leprous process in the reactive stage warrants the conclusion that lepra fever represents an allergic state. The degenerative and necrotic changes of the collagenous element and of the smooth muscles (fibrinoid swelling), noted in the reactive nodules are the morphologic expression of the hyperergic reaction of tissue sensitization. In some instances of lepra fever the hyperergic reaction passes with hemorrhages and necrosis analagously to the Schwarsman phenomenon. The changes in the reactive capacity of the organism are reflected in the cellular picture of the specific leprous tissue. There appear numerous lymphoid, plasma and polymorphonuclear cells. In the reactive nodules in which suppuration develops there occurs considerable degeneration of the bacilli, even to the loss of acid-fastness. The polymorphonuclear leucocytes which invade the leprous infiltrations exercise a fermentative action upon the cells of the specific granuloma and the bacilli."

The paper is illustrated with several excellent photo-micrographs.

Leper Colonization of Kengtung State, Burma, by R. S. Buker. The author describes antileprosy work among the primitive people of the Shan States in the corner between Burma, Thailand and China, where it is calculated there are 4,000 lepers among 230,000 people. First a central colony was started at Kengtung, the chief town. The people were trained to help with treatment and were fed with a minimum of expense. Later other colonies were begun to which trained workers were drafted from the central institution. The latter were on a self-supporting basis, free treatment and a little help in building houses being all that was given.

"With a budget of less than one rupee per month per leper, which amount has been increased by one half, or in some cases doubled, we have established nine colonies in which 900 lepers are receiving treatment."

Murine Leprosy and Carotinoids, by F. Ribeiro. This paper is summarised as follows:—

"In this study of the effect of substances of the carotinoid type in the treatment of murine leprosy, it has been observed that there is a difference in the distribution of the Stefansky bacillus in the organism of mice according to whether the germs used in the inoculation are alive or have been killed by heat (autoclaving at 120° C for 20 minutes). Within the period of 80 days after inoculation pieces of the liver were always negative when the inoculated germ was dead, and positive in the majority of cases when the germ was alive. Similar though less clear-cut

findings were obtained with regard to the spleen. With infected animals treated with a crude substance of carotinoid type it was observed that the distribution of bacilli was the same as if they had been inoculated with dead germs, and that was also true when the treatment was with one of the fragments (fraction A) of the primitive substance. Two other fractions (B and C) were inactive, although it would appear probable that the active substance (fraction A) originates through the oxidation process from fraction C. A substance obtained in the laboratory through oxidation of raw carotinoid (fraction D) showed activity in a small number of observations.

International Journal of Leprosy, Vol. VIII. No. 3, July-Sept., 1940.

Skin Reaction Tests with Tuberculin-type Extracts of Leprous Spleens. This is a report by the Joint Committee on Leprosy Skin Tests in the Philippines working with a view to discovering a reliable test for leprosy on the lines of tuberculin in tuberculosis. Extracts were made from the spleens of three fatal cases of leprosy in which numerous acid-fast bacilli were present, together with control tests of similarly prepared antigens from healthy spleens. Three different preparations were tried, but the contact and control healthy groups of patients gave more positive reactions within twenty-four hours than did leprosy patients. They therefore conclude that the protein extracts of leprosy spleens used in the tests did not contain any substance giving a specific response in leprous patients.

An Attempt to obtain Specific Antigens from Leprosy Spleens, by Howard J. Henderson. This is a research on similar lines to the above which also yielded negative results.

The Lepromin Test in Lepra Reaction. II. Histology of the Reaction Lesions and Persistence of the Injected Bacilli, by J. O. Nolasco. This paper, which is illustrated by micro-photographs, reports a study of biopsy material from thirty-five of forty-eight lepromatous cases during lepra reactions following the lepromin test. The specimens in the cases giving three-plus reactions both showed histological tuberculoid pictures, as did four of five of the two plus reactions, but only three of nineteen one-plus reaction cases showed such changes. In the two three-plus reactions the test sites suppurated and in one of them numerous bacilli were found in the necrotic focus. Leprotic foci were found in 33 of the 37 lepromatous cases in the healthy sites of the lepromin tests.

Specific Affections of the Folicular Apparatus in the Skin in Leprosy, by A. A. Stein. The writer has found no records of a peculiar affection of the follicular structure of the skin which he

has met with in 33 per cent of his cases. The lesions appear clinically as yellowish-brown, somewhat sunken follicular spots with atrophic epithelium. Histologically specific granuloma with lepra cells and bacilli are found, which rapidly destroy the hair follicles and hairs. The skin of the lower extremities is principally attacked and the follicular lesions form starting points for the formation of lepromatous granulomata.

Borderland Tuberculoid Leprosy, by H. W. Wade and J. N. Rodriguez. This is a detailed account of three cases illustrated by photos. Two for long periods remained in a " borderline " condition repeatedly suspected of becoming lepromatous, and the other was of a " relapsed tuberculoid " type.

Bullous Tuberculoid Leprosy, by J. N. Rodriguez and H. W. Wade. In this case the sudden appearance of numerous bullae, followed by ulceration and finally leading to the formation of pigmented, achromic and spotted scars, suggests that it was one of the so-called " lazarine leprosy."

The History and Distribution of Leprosy in Formosa, by Yutaka Kamikawa. The island of Formosa is peopled by the descendents of Chinese immigrants of the seventeenth century, who largely displaced the aboriginals. Little is known of the early prevalence of leprosy here, but the author now records the results of a recent survey. This showed an average rate in samples of seven localities of 2.2 per mille, or double the number previously known to the police. This would bring the 1936 police figure of 827 cases in the island up to 1,241. An examination of 500 cases in government or private leprosaria showed the following differences from the conditions met with in Japan. In Formosa leprotic alopecia was comparitively rare, but ulcers and nodular cases were more frequent. The Government propose to establish a leper asylum for the 1,000 open cases they estimate to be present " to the end that the disease may be eradicated within the next few decades."

" Alfon " treatment.—In *Leprosy Review,* Vol. XI. Apr., 1940, pp. 114-115 appeared an English abstract by Dr. J. W. Lindsay from the report in Portuguese of the Sao Paulo Leprosy Association on the " Efficacy of the Alfon Treatment of leprosy " which appeared in the *Revista Brasileira de Leprologia* VII., 4 Dec. 1939, p. 456, which was not favourable to the claims of the originator of the method. A letter has been received from Dr. Gomes maintaining and defending the findings as to the value of

the " Alfon " treatment, and asking for further trials of the method. During the last few months Dr. Muir has had a voluminous correspondence on the subject with the advocates of the method, and has maintained a sympathetic attitude and arranged to look further into the question during a visit to Brazil. That visit has had to be postponed for a time owing to the war conditions, but Dr. Muir has already proceeded to the West Indies on leprosy work. The controversy can only be decided by further trials by competent authorities in different parts of the world, which must be awaited. Advantage will be taken of any offers by British workers to carry out carefully controlled tests of this and any other methods which appear to be worthy of trial.

Leprosy in India, Vol. XII, No. 3, July, 1940.

Leprosy in Kengtung, Southern Shan States, Burma, by Richard S. Buker. This state has a scattered population of 300,000 and it borders on China and Siam. During 1939-40 groups of villages inhabited by different races have been surveyed with the following results. Among slightly less than 10,000 people examined, 609 cases of leprosy were found, or 6.1%. The Lalu race showed the high rate of 14.2%, the Kachins came next with 8.3 and the Shans and Kaws respectively had 3.6% and 3.3%. The one Chinese village showed no cases. In the Shan valley the disease is said to have increased after a famine. It was noticed that the incidence of leprosy in the different races was in inverse proportion to the numbers showing enlargement of their spleens. Inquiry also showed that all the affected races eat forms of colocasia. The conclusion was come to that leprosy is an increasingly serious problem in Kengtung State, in which ten leper colonies now accommodate a total of 1,100 patients.

Tuberculoid Leprosy affecting the Palpebral portion of the Lachrymal Gland, by R. G. Cochrane and T. B. M. Sloan.

This short note records a case of this rare complication, illustrated by a photomicrograph showing giant cell formation and also the clinical appearance.

This number also contains a review of *Leprosy* by Sir Leonard Rogers and Ernest Muir. Unfortunately it consists essentially of a statement of the points in which the reviewer's personal opinions differ from those of the authors. We would suggest that the readers of *Leprosy in India* would be well advised to read one of the more instructive reviews in the *British Medical Journal, The Lancet, The Bulletin of Tropical Diseases* and the *International Journal of Leprosy* before forming their opinions on this work.

The remainder of this issue is taken up with Notes on Early Leprosy Institutions in India, a reprinted article, abstracts and reports of local interest.