

REVIEWS

Leprosy in India (April, 1946) **18**, 37.

In the Editorial Notes a review is given of possible new remedies in leprosy (see also Lep. Rev. **16**, 4). Besides the drugs reviewed in Lep. Rev. *aspergillin* is also described. This is derived from the Aspergillus group of fungi *A. fumigatus* and *A. flavus*. Its effect in limiting the growth of cultures of *M. tuberculosis* suggests the possibility of its usefulness in tuberculosis and leprosy. Streptomycin from *Actinomyces griseus* has been found effective in considerably diminishing, though not entirely inhibiting the growth of tuberculosis in inoculated guinea-pigs, and more

effective than promin. The low toxicity of these drugs is of great importance.

Dharmendra and I. Santra publish an important *Study of the Course of the Disease in Leprosy*. The study was made in a rural area with 42 villages and a population of 10,000 persons. In a survey made in 1937, 424 (4.2%) cases were found, of which 96 (22.5%) were lepromatous. In March, 1946 the total number of cases in the area was 494 (4.9%), of which 75 (15.2%) were lepromatous. This is partly accounted for by an intervening famine during which "a large number of deaths occurred amongst the patients, specially of the lepromatous type, leading to a fall in the number of cases, more marked in the lepromatous cases. Later this fall was more than made up by the detection of a large number of new cases, specially of the neural type, the number of which is actually higher than in 1937, although the cases of the lepromatous type are still below the figure for 1937. It is considered that this increase in the number of recorded cases has been caused by two factors; firstly, because of the thorough re-survey several previously existing but undetected cases were recorded, and secondly, the famine conditions had resulted in a large number of fresh cases in the area." Other interesting points in the report are as follows:—

"Amongst the 68 lepromatous cases, clinical improvement was seen in about one-third, although they did not become bacteriologically negative. In the remaining cases, the disease either remained stationary or became worse. Only about a quarter of the cases have taken treatment. In the neural cases, the improvement seen does not appear to be related to treatment; in many cases there has been improvement without any treatment, while in others the disease has progressed in spite of the treatment. In the lepromatous cases, however, improvement has been seen more frequently in the treated than in the untreated cases. The study confirms the prognostic value of the lepromin test. In the lepromatous type a few cases had a weak positive reaction, and improvement has been seen more frequently in these cases than in the larger group of lepromin-negative lepromatous cases. In the neural cases improvement and subsidence was more frequent in the larger lepromin-positive group than in the smaller lepromin-negative group. Moreover, the change from the neural to the lepromatous type was confined to the lepromin-negative group.

Amongst the neural cases definite improvement and complete subsidence was much more frequent amongst the group having only patches, than in the group having sensory changes in the extremities, with or without patches. The average duration of the disease in the neural cases under observation has been 18 years, the shortest period being 9 and the longest 56 years.

The change in type from the neural to the lepromatous has been seen only in about 2.5% cases. The lesions of the neural type most likely to change later into the lepromatous type are the small rather ill-defined flat patches with little or no definite sensory changes, and with a negative lepromin reaction."

Treatment of Tuberculoid Leprosy with Methylene Blue and Glucose is reported on by N. Figueredo and S. D. Desai. Previously methylene blue injections had caused fever and weak-

ness. By using methylene blue with pH 7, and by adding glucose, these two complications have been eliminated. Methylene blue 1% in 10 c.c. doses with an equal quantity of 50% glucose is given twice a week into the vein. Of the 45 cases treated for 2 to 6 months, 36 showed complete subsidence of raised lesions with disappearance of bacilli in cases in which they were found before treatment and 8 showed slight improvement, only 1 showing no change.

Dharmendra describes a family of 28 persons belonging to three generations, having among them seven neural cases of leprosy but no lepromatous case. However the history showed that they were exposed to infection by lepromatous type neighbours while staying in Rangoon before the evacuation of Burma. Twenty-six of them were tested for resistance and of these 25 were lepromin-positive, including two who had been born after leaving Burma and therefore, presumably, had missed the contact with infection. The only lepromin-negative member (male, aged 19) showed no signs of the disease, which is considered an anomalous finding, although there are many possible reasons why contact might have been less,

International Journal of Leprosy, Vol. 13, December, 1945.

This is the Fourth Special War Number and Volume XIII of the Journal. A Foreword by Dr. Wade explains that the contents of this issue consist of articles and manuscripts prepared for publication at the end of 1941. These, which were preserved intact from the ravages of the Japanese, are now published as the annual volume for 1945.

The Fate of the Bacilli in Incubated Lepromatous Tissues and the Question of Microscopic Growth, by John H. Hanks.

This article, which should be read in full, records the results of incubation of cubes of lepromatous tissue by various methods and on different media. The technical account, which is too detailed for summary, discusses the pitfalls encountered in bacillary sampling and counting, methods of calculating possible bacillary growth and the influence of various tissue cultures. The author summarises as follows:—

“The impression of earlier workers that leprosy bacilli seem to grow *in vitro* in small bits of lepromatous tissue has been confirmed by use of the direct smear method. However, when a method was developed for complete disintegration and suspension of the tissues and for actually estimating the numbers of bacilli recoverable from the tissues, it became evident that growth did not occur. The conditions which were studied included incubation of tissues on a standard solid medium, in liquid media particularly well adapted to the growth of small numbers of other acid-fast bacteria, and in tissue-culture solutions suitable for the cultivation

of fibro-blasts or of blood monocytes. They also included incubation in the presence of added carbon dioxide and oxygen. Several procedures which have been thought to promote growth have been found simply to increase the erroneous impressions which result from nonquantitative microscopic methods. Other sources of error are pointed out. It is concluded that the supposed microscopic growth of leprosy bacilli must be attributed to reliance on methods which are incapable of dealing with an unusual combination of misleading circumstances."

In short "*Note on the Numbers of Bacilli which may occur in Leprous Nodules*, the same author gives a small series of calculations on the bacillary content of a cubic centimetre of lepromatous nodule. One of his figures gives a total of seven thousand million bacilli in a cubic centimetre of nodule, and 'the total number in a lepromatous individual would require representation in astronomical terms'."

Leprosy in Trinidad, by E. Muir. This is a short account of the inception of modern leprosy control methods in Trinidad. The author, who made a special study of the problem at the request of the Trinidad Government, outlines the anti-leprosy campaign undertaken by him there on the well known P.T.S. (Propaganda-Treatment-Survey) System.

An official Phillipine memorandum on *The Problem of Home Isolation of Lepers* gives a detailed study of the dangers attached to the policy of segregation in private houses. It stresses the illusory nature of the resulting freedom, the difficulty of medical aid to the patient himself, and above all, the fact that the home is the essential breeding ground of the disease. The memorandum is important as a considered and experienced statement on leprosy policy.

Outpatient Clinics Operated by the Chiengmai Leper Asylum by H. J. McKean, is an interesting account of a system of voluntary clinics. Ex-patients from the Asylum are persuaded to set up on their own local clinics, and the total expense involved is the actual price of medicines and injection equipment. The system might well be considered for adoption elsewhere.

A Further Note on *Inoculation of Monkeys with Human Leprosy Material after Splenectomy*, by R. G. Cochrane, K. P. Menon, and C. G. Pandit, *Inoculation of Monkeys with Human Leprosy Material*, by R. G. Cochrane and K. Ramanujain.

These articles continue the report on the inoculation of splenectomised monkeys under various conditions. The authors make no claim that they have reproduced the disease in monkeys, but they have obtained in different cases bacillary dissemination, some erythematous lesions of an unidentified type, and very interesting lepromin results. This experimental series is both significant and promising.