REVIEWS

Leprosy in India. Vol. XXIII. No. 1. January, 1951.

This is a special issue devoted to the Third All-India Leprosy Conference held in Madras in October, 1950. The Conference was called by *Hind Kusht Nivaran Sangh*, the body which has taken the place of the Indian council of the British Empire Leprosy Relief Association. The latter was in existence for 25 years, and an interesting paper was read describing the work done and the progress made during that period. The previous two conferences were held at Wardha in 1947 and at Calcutta in the end of 1948. The subject that was most stressed at the conference was the need for anti-leprosy workers who will be willing to live in the villages and work among the people. Without this even the new treatment with the sulphones will not bring leprosy under control. Much time was given to discussion of the sulphones, and especially of the relative toxicity of DDS. Those with most experience of this drug

were able to show that in small non-toxic doses it is as effective as when larger amounts are given.

Another subject discussed was *Rehabilitation of Patients*, and a lecture given on plastic surgery by Dr. Bland was of special interest.

A paper which raised a good deal of interest was on *Positive Bacillary Findings in Neural Leprosy*. Using a special method for examination, 39.7 per cent of neural cases were found to be positive on the first occasion, and of those found negative 48.1 per cent. were found positive after an average period of three years. Possibly this unusually large number of positives depends to a certain extent on the ambiguity of the word " neural."

The report of the conference is given very fully; it is full of items of interest, and is worthy of careful study by all who are interested in the subject of leprosy in India. E. MUIR

Leprosy in India. Vol. XXIII. No. 2. April, 1951.

Of the two original articles, the first, by Dr. Muir, on *Bacteriological Changes under DDS Treatment of Leprosy*, has already been reprinted in the last number of Leprosy Review.

The second article is a review of the three All-India Conferences that have been held in 1947, 1948 and 1951. It traces the indigenous movement to deal with leprosy both in its medical and sociological aspects, taking its origin from the interest and impetus given by Mahatma Gandhi. Another sign of rising interest was the formation of " The Indian Leprologists' Association " at the last of these conferences held in Madras. E. MUIR

Leprosy in India. Vol. XXIII. No. 3. July, 1951.

Treatment of Leprosy with Novotrone, by Drs. Dharmendra, S. N. Chatterji and N. Sen. Novotrone is a sulphone with a chemical composition similar to that of sulphetrone, and it is produced in India. To 15 cases the drug was given intramuscularly and to 12 cases orally. After an average period of 8 months trial the authors report as follows: " As judged by laboratory tests and by the results of treatment of patients with leprosy, novotrone appears to be similar to sulphetrone. Novotrone is quite effective in the treatment of leprosy, and is free from toxic effects. Its continuous use for 8 to 12 months has not produced any appreciable fall in the haemoglobin and R.B.C. values of the blood. It can be given by mouth in daily doses of 1 to 3 gm. or by intramuscular injection of a 50 per cent watery solution twice weekly in doses

of 0.5 to 2 gm. As in the case of sulphetrone, oral treatment is not economical because of the poor absorption of the drug from the intestines. While definite clinical improvement has been produced within a year, bacteriological improvement has been less evident. It may be said that novotrone shares both the advantages and limitations of the other sulphones in the treatment of leprosy.

A Review of the Relative Activity of the Sulphones by Dr. J. M. Mungavin. The relative potencies of the five sulphones: DDS, 2196, Diasone, Promin and Sulphetrone, when given orally to mice against streptococci and other organisms, were respectively 100, 43, 18, 16, 1.

From this and other findings it is concluded that: (a) the soluble sulphone derivatives are partly converted to DDS, probably in the stomach, before being absorbed, and that their therapeutic action reflects their degree of conversion to DDS and the blood concentrations of free DDS; (b) the soluble derivatives are partly converted to DDS, probably in the stomach before being absorbed. The therapeutic action of a soluble derivative depends on the degree of conversion to DDS and the blood concentrations of free DDS produced. When sulphetrone is given intravenously it is almost all excreted very rapidly in the urine and can have very little therapeutic action. The same applies in varying lesser degrees to the other soluble derivatives; (c) 2196 is the only one that is converted to DDS in appreciable amounts in the biological fluids. Indeed it is the only one almost quantitatively converted to DDS *in vivo*. It is therefore likely to be useful in cases where parenteral administration is necessary.

DDS is both effective and cheap, and its manufacture is not protected by patents. It is to be preferred therefore to the more expensive proprietary derivatives. E. MUIR

Leprosy in India. Vol. XXIII. No. 4. October, 1951.

Differentiation of Human and Rat Leprosy Bacilli by Irradiation by Dr. A. Mukerji.

The author found that smears of Myco. leprae, when irradiated for five hours in sunlight, in ultraviolet rays for two hours or for half an hour in roentgen rays (42r) from a 150 K.V.P. plant in some cases lost its acid-fast staining property entirely or appeared beaded with alternate white and red bands. Under the same conditions rat leprosy bacilli are not similarly affected.

Lepromatous Leprosy with Exclusively Localized Macular Lesions. Eight cases were examined and followed up over a period of

years. When first seen all the cases had purely localized macular lesions which were clinically not typical of the lepromatous type. However later after varying periods the lesions became generalized and typically lepromatous. As judged by the results of repeated bacteriological, immunological and histological examinations it would appear that the lesions were lepromatous even when first seen. It can be concluded that in certain cases of the lepromatous type the lesions may remain exclusively localised for a considerable period before becoming generalized, and may during that period simulate tuberculoid lesions in being well circumscribed, the presence of anaesthesia and thickened nerves making the resemblance all the more marked. They are however smooth, soft and succulent, their edges are not as clear cut, bacteriologically they are strongly positive, and the lepromin test is negative. The histological findings may not be definite in the early stages.

E. MUIR

International Journal of Leprosy. Vol. 18 (1950) July-Sept.

Preliminary Report on 4:4' Diaminodiphenylsulphone (DDS) Treatment of Leprosy—Ernest Muir.

In this paper the writer describes the results of a year's trial of the parent sulphone DDS on 94 patients at the Purulia leprosy home, India, commencing April, 1949. The ordinary uncomplicated case— lepromatous or tuberculoid—was found to tolerate 4 mgm/kilogm body weight given orally as a 2.5% suspension. Two important signs of intolerance were anaemia and lepra reaction. If reactions occurred treatment was suspended for 2-3 weeks. As a rule patients were better after each reaction. There was rapid clinical improvement in the majority of patients, especially in the healing of ulcers, blocked nose, eye conditions and lepra reactions. Bacteriological improvement was slow. He believes that in DDS we have an effective, easily administrable, and, with reasonable precautions, safe drug.

Studies of the Absorption, Excretion and Distribution in the body of the Sulphones used in the Treatment of Leprosy.—Sister Hilary Ross.

In this study of a small group of patients in Carville who had had sulphone therapy for from 4 months to 7 years, the absorption, excretion and distribution of promin, diasone, promacetin and sulphetrone is reported. It was found that the drugs were retained in the body up to 14 days after cessation of treatment and occasionally as long as 4 weeks. There are little differences in distribution

regardless of whether the sulphone is given orally, as with diasone, promacetin and sulphetrone, or intravenously as with promin. Diasone, promacetin and sulphetrone are not completely absorbed. Approximately 50% of sulphetrone is absorbed even after one year's therapy. Excretion via the kidney is relatively rapid. The skin concentrations were about the same in most cases, whether the drug was given orally or intravenously. Post mortem studies showed that the liver, spleen, kidneys, skin and nerves serve as organs of storage of the sulphones.

Effects of Sulphetrone Treatment in Fiji—Austin, C. J.

A report on the treatment of 444 patients—317 males and 127 females—with sulphetrone. Amongst the various racial groups the Indians showed the most marked improvement. The most striking result was the emptying of the wards of all the familiar chronic ulcerated lepromatous patients. 413 of the patients treated were lepromatous and 31 tuberculoid. Sulphetrone was found to be markedly toxic when full doses (3.0-6.0 gms) were given daily in spite of one week's rest in four. Forty-five patients were unable to stand the full dosage because of lepra reactions or desquamative dermatitis. Some patients who did well for six months began to get reactions from which they found it difficult to recover. In spite of these drawbacks the writer feels that results have been highly gratifying.

Visceral Tuberculoid Leprosy—Jorge Campos, R. de C., and Marino Molina, S.

Sections of liver were obtained by laparotomy from 7 patients with tuberculoid and undifferentiated types of leprosy. Histological sections were studied. In all the 5 tuberculoid cases and one of the 2 undifferentiated, characteristic tuberculoid follicles were found which the writers attribute to the action of leprosy bacilli. ' The existence of these visceral granulomas in tuberculoid cases,'' they consider, '' permits the conclusion that in this type of leprosy the infection is not confined to the skin, nerves and superficial lymph nodes, as has been maintained by almost all authors.'

Leprosy and Leprosy Work in East Africa—Innes, J. R.

Eight leprosy surveys were made by the writer in Uganda, Kenya and Tanganyika during the 3 years 1947-1950. Out of 361,943 people examined, 6,107 cases of leprosy were found, i.e. 16.8 prevalence per thousand, giving an estimated total of 215,210 cases. Only 20% were lepromatous.

A Note on Leprosy in Liberia—Poindexter, H. A.

' There is no hospital in Liberia set aside for the treatment of leprosy, and segregation is not enforced. There are, however, three leprosy colonies or villages with 200-300 residents, and several smaller stations where patients may come for treatment once or twice a week.'

Reactions to Tuberculins in Leprosy—A Review. Wade, H. W.

In his summary of this long and careful review the author says

" When Koch's Old Tuberculin was given by subcutaneous injection in treatment, it often induced lepra reaction. It is not known whether they were tuberculoid cases which reacted in that way, or whether tuberculin can by non-specific effect induce reactions in lepromatous cases which lepromin cannot provoke. Diagnostic skin tests employing Old Tuberculin by the von Pirquet method have given results which afford no evidence that leprosy infection may give rise to false positive reactions. In all cases where control data on normal-population groups are given, the results are closely comparable. The results of diagnostic tests by the Mantoux method with O.T. are mostly of like tenor. When purified protein derivatives have been used in the Mantoux test there is evidence of a tendency to lowered frequency of reaction in lepromatous leprosy than in other forms. These products are less prone to cause non-specific reactions than is O.T. In lepromatous cases which have recovered there is a suggestion of a tendency to recover, of activity to various antigens. The indications seen in one report that children living in contact with lepromatous cases may be more reactive to tuberculin than contacts of tuberculoid cases is also of interest. Further investigations with various antigens in varying doses and in different ways might be profitable." G. O. TEICHMANN.

International Journal of Leprosy, Vol. 18 (1950) Oct.-Dec.

Thiosemicarbazone (TB1) in the Treatment of Leprosy. Preliminary Contribution—Vegas, M., Convit., J., Medina, J. A. and de Blomefield, E.

This preliminary report on the use of conteben in the treatment of 42 patients with lepromatous leprosy for 3-6 months indicates that the drug has marked therapeutic activity. All the patients showed clinical improvement. No manifestations of intolerance were noted, apart from lepra reactions which subsided after reduction of dose. The daily dosage for adults—beginning with 25 mgm and increasing weekly by 25 mgm. The maximum daily dose received by one patient was 900 mgm (18 tablets). Children began with 5 mgm and gradually increased to 25 mgm.

The Sulphone Treatment of Tuberculoid Leprosy—Lowe, John.

The writer considers that sulphones constitute the therapy of choice in tuberculoid as well as lepromatous leprosy. This report is on 50 cases of tuberculoid leprosy with active lesions. After a preliminary phase of focal reactions in the skin lesions, signs of activity slowly subsided, and usually within 6 months the lesions became inactive and " residual." Thickening, tenderness and pain in nerves subsided much more slowly. G. O. TEICHMANN.