

REVIEWS

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Studies on the Lepromin Test, by John Lowe. This paper consists mainly of a review of the literature on the subject since K. Mitsuda first reported in 1916 the local reactions following the intra-cutaneous injections of a boiled emulsion of lepra bacilli obtained from leprosy nodules, now usually known as the Lepromin test. The strength in bacilli is roughly standardised by counting the bacilli in a smear. An early erythematous reaction, regarding the value of which opinions differ, is followed after seven or more days by a local infiltration which may go on to ulceration. Positive reactions are a measure of the resisting powers of the patient and the mildness and curability of the case. Negative

results are met with in the severe lepromatous cases with little resistance to the spread of the bacilli over the body. Repeated lepromin injections lead to an increase in the reaction as shown by papers by Lara already summarised in this journal. The reaction appears to be of most value in prognosis, but Lara found no prophylactic value in the injections, but this is a point the Calcutta workers propose to investigate further. This paper affords valuable information on the work already done on this reaction for the guidance of future workers on the subject.

Report on the Leprosy Survey of Jodhpur State, 1937 to 1939, by E. W. Hayward. This is the largest of the Rajputana States and has a comparatively low rainfall for India. Leprosy decreased after the famine of 1899 as usual. The 1931 census returned only 117 cases and the numbers attending hospitals is also low. Among 6,444 schoolboys only two, together with one teacher, were found to be infected. The Propaganda, Treatment and Survey method was used for the purpose of attracting as many cases as possible. The examination of a population of 960,874 persons in 1,029 villages revealed 888 cases, a rate of 0.08%, with 48.81% of lepromatous cases; an unusually high rate for India in spite of the total incidence being low. The age distribution showed only 5.4% up to the age of 14 years, 36.5% from 15 to 29, and 57.8% from 40 upwards; unusually high ages. The proportion of males to females was 4.7 to 1, due mainly to the purdah system limiting the number of women who could be examined. The author concludes that leprosy is not decreasing in the Jodhpur State, and that the true incidence is probably about 1 per mille, with a total of between 2,000 and 4,000 whom it is beyond the financial resources to isolate. He advises a central leper asylum for selected cases for treatment, and small colonies in villages with out-patient treatment at the existing hospitals and dispensaries.

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Epidemiological Survey in the Nepoko, Kibali-Ituri District, Belgian Congo, by J. Degotte, with an introduction by A. Dubois. The system in the Belgian Congo of examining the whole population for sleeping sickness has been extended to a search for leprosy cases in certain areas by a whole-time epidemiologist, who does not have to deal with medical treatment. He is assisted by a European sanitary agent, three native microscopists and native dressers. About 400 persons are examined in one day and their general state of health and the presence of signs of leprosy, yaws (which is now not very common), venereal affections, sleeping

sickness and splenomegaly in children noted. The leprosy cases and suspects are classified according to the Cairo Congress system. The climate is tropical with a high rainfall and small variations in temperature at different seasons. The great majority of the people seen were Mabudu of the Bantu race, together with a few hundred Pygmies. Their diet is mainly carbohydrate and their standard of living very low. Only a few of the patients had been isolated in formerly established leper villages. Among 38,120 persons examined the leprosy rate was at the high figure of 5.29 per cent, and among the Pygmies it was 7.07 per cent. The lepromatous cases constituted 8.61 per cent of the total, Nt cases with combinations 14.95 per cent, and Na and Ns cases 76.44 per cent. In the case of the Bantus males and females were nearly equally affected, but male Pygmies were as 8 to 4 females. The age incidence showed only 10.35 per cent from 0 to 19 years, 73.41 per cent from 20 to 49 and 16.24 over the latter age. In 43 per cent of the foci the appearance of highly infectious lepromatous cases had soon been followed by an extension of the disease. For the detection of the diffuse lepromatous cases microscopical examinations are necessary. Where village segregation had been relatively well carried out the cases were about one-third as numerous as where this measure was relatively defective. Segregation of such cases is therefore considered to be the best method of combating leprosy in this area.

Development of the Lesions of Leprosy, with Particular Reference to Tuberculoid Leprosy and the Significance of the Lepromin Test, by R. G. Cochrane. This paper is mainly of a theoretical nature which cannot well be summarised. A complicated diagram illustrates the author's views regarding the development and transformations of his three types of incipient lesions of childhood, simple macular lesions and tuberculoid macular lesions, which are described in detail and points of differentiation pointed out. Tissue sensitiveness is considered. An intermediate class between tuberculoid and lepromatous cases is also described, which are exceptional in giving negative lepromin reactions, and yet almost invariably recover. His studies are being continued on these lines. Illustrations of cases and histology are included.

Injections Intra-Arteriellles d'Huile de Chaulmoogra dans le Traitement de la Lèpre, by J. Tisseuil. This brief paper records favourable results, both general and locally on perforating ulcers, in two cases following the injection into the femoral artery of a chaulmoogra oil marked "Uclaf" in doses of 2 to 4 cm. twice

weekly up to eleven injections. Some temperature reaction may result, but the local oedema rapidly became reduced and the ulcers became healthy and filled up, with extrusion of a piece of bone in one case. The technique of the intra-arterial injections is not described, although they must require care and skill.

Morphological Changes in the Cutaneous Nerves in Leprosy, by N. A. Torssujew. This is a highly technical paper with histological illustrations which will doubtless be read in the original by the research workers interested in it.

Attempted Cultivation of Mycobacterium Leprae, by Florence L. Evans. As the results reported were negative it will suffice to mention that the culture media used included those prepared with legumes, milk, egg, or egg yolk, *M. phlei*, or various combinations of these ingredients.

Importance of the Preventorium in the Rehabilitation of the Child of the Leper, by Eunice Weaver. This paper deals with institutions for looking after the children of leprosy patients with a view to saving them from infection through their leper parents. Such institutions include three in Hawaii and India, and more recent ones in Brazil from 1915 onwards now number eight with more than 1,000 children in them. No child removed from its parents at birth has developed leprosy. All admitted children are carefully examined, and those who have died from other conditions up to the age of four years have shown no lesion or lepra bacilli in any of their organs. They are examined every month or oftener for the first symptoms. Among 500 children in one preventorium in the course of ten years, 62 became leprous, two-thirds during their first two years residence, and most of the rest during their third year, and only four during the fourth year. Good diet, with abundant vitamins, is provided. Many of the children have been refused care by relatives for fear of the disease and also by schools and orphanages, so special institutions are essential for their protection. Agricultural work and training for other vocations and education are provided. Brazil is once more in the forefront in caring for the children of the leprous.

Observations of Patients with Atypical Mitsuda Reactions, after an Interval of Ten Years, by Masa Igarashi and Fumio Hayashi. This paper is best summarised in the following conclusions of the authors:—

“Of a total of 35 improved lepromatous cases the lesions of which had been resolved long before the tests were made and which gave positive reactions, 28, or 80 per cent, have remained well, without relapse. The other 7 cases of this original group (20 per cent) have

relapsed, the Mitsuda reaction of course becoming negative. This observation answers the hitherto unsettled question of whether or not improved lepromatous cases that give positive reactions may undergo relapse.

"Of a total of 11 similarly improved lepromatous cases that gave only weakly positive (\pm) Mitsuda reactions, only 5 have relapsed. The other 6 have, unexpectedly, remained without further symptoms, indicating an about even chance of favourable outcome in such cases. Most of the lepromatous cases with resolved lesions that gave negative Mitsuda reactions have relapsed. Such cases are regularly of poor prognosis.

"Three neural cases whose reactions were repeatedly negative have all relapsed. It is noteworthy that this significant result of this test precedes by a considerable time the unfavourable turn of the clinical course. One neural case with a typical positive reaction that has, nevertheless, become lepromatous is mentioned.

"The element of sex appears to have influenced the outcome of these cases. (a) Among the resolved lepromatous cases with positive reactions that have not relapsed are 12 males and 16 females, a ratio of 1:1.3, which is in contrast with the usual ratio of 2:1 to 3:1 among leprosy cases in general. (b) On the other hand the 7 cases of this category that have relapsed are all males. (c) The six resolved cases with weak reactions that have not relapsed are all females, but all cases with that grade of reaction were of that sex. (d) The three neural cases that had negative reactions and that relapsed were all males. Even as males predominate numerically among leprosy cases in general, and among female cases the neural type is relatively predominant, so in the cases the subject of this study there is evidence that the prognosis is more favourable and the disease process more stable among females than among men."