

REVIEWS

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K. Kitamura and M. Nishiura write on *Classification of Leprosy in Japan*. A symposium on this subject was held at the 28th annual meeting of the Japanese Leprosy Association. Four questions were put forward and answered:

(1) Should the neural type be maintained as one of the main types of leprosy? The general opinion was that cases which have nothing other than neurological syndromes and/or anaesthetic hypochromic macules should be brought together either as a type or subtype.

(2) Is the indeterminate group necessary as a clinical unit of leprosy? About this there was some absence of unanimity, but there was a tendency to regard this as a stage (passing from one of the two main types to the other) rather than as a fixed group or type.

(3) Is the borderline group necessary as a clinical unit of leprosy? The majority considered it unnecessary, but four of the fourteen speakers considered it was necessary, to include cases passing from tuberculoid to lepromatous, and also those passing in the other direction.

(4) An acute infiltration condition was described, being a syndrome with erythematous infiltrated skin lesions, with fever of 37-39° C. and joint pains, "all occurring acutely either in an early phase of lepromatous leprosy, or in the absorption period". It differs from ordinary lepra reaction, and sections reveal tuberculoid structure with coexistence of lepra cells. The Mitsuda reaction tends to change from negative to weakly positive. [This seems to be what most workers would call the "borderline" group.]

Dr. Kitamura points out that the classification of leprosy is influenced by general ideas of medicine at the time when the problem is discussed. Especially in the last decade or two it has become more and more complicated by accepting from the immunobiological and pathological points of view various transitional and intermediate forms. There is no doubt that clinical manifestations of leprosy differ under various geographical and racial conditions. It was hoped that the symposium would be of use in drafting a universally acceptable classification at the international congress to be held in India in 1958.

R. V. Wardekar gives a *Preliminary Report on the Data of the Control Units of the Gandhi Memorial Leprosy Foundation*, which is

a progress report of work begun in 1951. Ten leprosy control units have now been established. In locating these all over India, variations in diet, customs, etc., have been represented. They are supervised regularly by a trained worker. Each unit covers an area of 3 to 5 miles radius and a population of 15 to 26 thousand; it contains 2 or 3 clinics according to the population. The incidence of leprosy found varies from 1 to 6 per cent. Details are given of the unit at Sevagram, the first to be started and the centre from which the others are supervised. The area is surveyed and resurveyed, and an attempt is made to survey at least 90 to 95 per cent of the population in each period of two years. At Sevagram in 1952, 357 cases were detected and 213 registered at the clinic; in 1953 there were 17 detected and 89 registered; in 1954 there were 125 detected and 104 registered. This makes totals of 499 detected and 406 registered during the three years. Of the 499 detected cases 69 were lepromatous and 430 non-lepromatous. Of the 406 registered cases bacteriological examination showed 16.5 per cent to be infectious, and 83.5 per cent to be non-infectious. From this it was calculated that of the total detected number 82 were infectious and 417 non-infectious. The question is discussed as to whether so few infectious cases could have infected so many non-infectious ones. "If it should be proved that negative cases are infective, that would be a further obstacle to control of leprosy by chemotherapy." Much stress is placed upon examination of contacts of registered patients. Out of 618 contacts of 191 patients, 10 had leprosy, 5 of them being contacts of non-infective and non-lepromatous patients.

[This paper is worthy of careful study in the original.]

R. G. Urgarriza discusses the *Leprosy Problem in Paraguay*. Besides the 400 patients in the leprosarium of Santa Isabel there are 1,590 known cases, of which 100 are in the capital. From findings among the troops it was calculated that there are probably some 5,000 in the country. Since a visit of the WHO representative in 1950 and 1954, efforts are being made to carry out a census of leprosy, to standardize the treatment and to obtain the necessary specialists. There is a preventorium with 120 children.

J. Convit writes about his *Investigation of Leprosy in the German Ethnic Group of Colonia Tovar in Venezuela*. His paper deals with the fourth stage of an investigation into the clinical findings and changes in the Mantoux and Mitsuda reactions in 110 persons who were vaccinated with BCG in 1950. They all share quarters with lepromatous patients, and thus are placed in great danger of infection. Before vaccination with BCG all gave

negative Mitsuda reactions and 100 of them negative Mantoux reactions, but in none was there any sign of leprosy. Of the 106 examined 10 weeks after vaccination 93 had converted to positive Mitsuda reactions, 58 giving 1 plus, 21 giving 2 plus, and 14 giving 3 plus. The negatives and 1 plus cases were revaccinated, some twice, and at the end of June 1955 all were Mitsuda positive. The person who failed to show for vaccination in 1950 and had remained unvaccinated showed macular lepromatous leprosy in 1953, and 3 others showed incipient tuberculoid lesions though their Mitsuda reactions were strongly positive. Since 1953 there has been no new case of leprosy in the group. In the Mantoux tests made in 1953 the number of positives had risen to 46, but in 1955 it had fallen to 31. [Indicating that in that period of time the positive conversion after BCG vaccination is more stable with the Mitsuda than with the Mantoux test.]

A. T. Roy gives the *Bacteriological Results of Treatment of Lepromatous Cases with Diaminodiphenyl Sulphone by Mouth for Periods up to Five Years*. Details of treatment with DDS in 99 lepromatous cases are given and the results after five years. As some of the patients fell out others were added, so that the length of treatment varied from 14 to 60 months, with an average of 44.5 months. During this period 9 patients became bacteriologically negative, 10 nearly negative, in 25 the bacilli diminished by 25 per cent and in 32 by 50 per cent, 19 were only slightly improved and 4 remained stationary. "It is impossible to predict from the degree of bacteriological positivity at the beginning of treatment how long it will take a case to clear up if it is to do so. Some cases with low BI [bacteriological index] took more time to become negative than cases with high BI's."

Subsequent Evolution of the Induced Mitsuda Reaction in Clinically and Bacteriologically Negative Lepromatous Cases, is the subject of a paper by S. Schujman. In 40 lepromatous cases which had become clinically and bacteriologically negative after several years of treatment, vaccination was performed with Stefansky antigen in 13, with BCG orally in 19, and with BCG intradermally in 8 cases. In none of these was there an early reaction induced, but there was a late reaction in 47 per cent of those given oral BCG, in 50 per cent of those injected with BCG, and in 69 per cent of those receiving the Stefansky vaccine. These positives appeared 3 months after vaccination, but within 6 months they had again become negative. When they were again vaccinated with their former vaccines they again became positive. It was found that after the 4th month few responded, and after

the 5th month none responded. The induced lepromin reactivity in lepromatous cases has no protective value.

Leprologia

The above is the title of the official organ of the newly formed *Sociedad Argentina de Leprologia*. The Society has been formed under the presidency of the well-known leprologist, Dr. José M. M. Fernandez. There are 104 original active members (socios titulares), 18 honorary members and 11 associate members. There are also 24 corresponding members from 9 different countries. The secretary is Dr. E. T. Capurro. The first number of the journal, dated January to June 1956, contains no fewer than 17 original articles, many of which were presented at the first meeting of the society held in Corrientes on the 20th of August, 1955.

The first article, by J. M. M. Fernandez, is on the *Immunological Relationship between Leprosy and Tuberculosis*. It is summarised as follows:—

Antigens with tubercular material were prepared by the methods used for the preparation of lepromin, and the reactions provoked by them were observed in guinea pigs in the following conditions: (a) normal, (b) calmetized, (c) previously injected with the tubercular antigen. Tuberculin positive and tuberculin negative human subjects were also tested with these antigens.

Tubercular antigen (Tb), equivalent to bacillary lepromin, is a suspension of human type Koch bacilli killed by heat.

Tubercular antigen (Ti), equivalent to integral lepromin, was prepared from lymph glands of tubercular guinea pigs by the Mitsuda-Hayashi method for preparing lepromin.

In guinea-pigs, tuberculized by inoculation of dead bacilli or calmetization, (Tb) and (Ti) provoked: (a) an early reaction appearing within 48 hours, consisting of erythema and edema, similar in its aspect and course to the Fernandez reaction; and (b) a late nodular reaction, appearing between the second and third weeks, similar to the Mitsuda reaction. In normal guinea-pigs the early reaction was negative, and the late reaction was either negative or weakly positive. In guinea-pigs which had been previously injected with (Tb) or (Ti), the second injection provoked early and late positive reactions.

Tuberculin-negative subjects showed a negative early reaction, and a positive late reaction in 70 per cent of the cases. Tuberculin-positive subjects showed positive early and late reactions.

The results of the early reaction to (Tb) or (Ti) usually coincided with those of the Mantoux test. The late reaction was positive in 70 per cent of Mantoux (1/10) negative cases.

The results of the early and late reactions to the tubercular antigens used were similar to those of the Mantoux test in animals and human subjects infected with or sensitized to the Mantoux test. In normal subjects the results differed in more than 50 per cent of the cases.

The early reaction provoked by the tubercular antigens used is considered to be a sensitization reaction, similar to the tuberculin and Fernandez reactions. The late reactions, similar to the Mitsuda reactions, cannot, however, be considered as a prognosis reaction without further studies.

There are two papers on the *Treatment of Lepra Reaction with BCG*, by L. A. Pitt, and C. A. Consigli, and by A. J. Vaccaro, F. V. Compá and E. A. Carbani. In the latter trial 23 patients were given 200 mgm. of BCG orally once a week for 15 weeks to 8 months. The results were that in 26.1 per cent the results were good, in 17.40 per cent they were medium, and in 56.50 per cent they were nil.

In the former trial 10 patients with lepra reaction were given 200 mgm. orally once a week for 3 to 24 months. There was a marked desensitizing action in most of them with flattening of lesions, fall of temperature and general improvement of condition.

Two further papers deal with the *Mechanism of Lepra Reaction* and *Experimental Lepra Reaction*. Dr. Schujman writes of the very rare occasions in which tuberculoid leprosy is transformed into the lepromatous type.

F. F. Wilkinson and C. V. Colombo give their *New Experience with Hialuronidase Intraneurally in Leprosy*. This substance, otherwise called Diamox, was injected into 110 nerves of 64 patients suffering from painful neuritis. Half to one tablet was dissolved and injected daily for a number of weeks, the only inconvenience being polyuria. In 12 the result was excellent, in 12 it was very good, in 18 less good, in 12 slight, and in 10 there was no effect. [For another trial see the April 1956 number of *Leprosy Review*, p. 61.] F. F. Wilkinson and C. M. Brusco, writing on the same drug, question its effect on neuritis as being due only to its action as a diuretic; they think its action is more likely to be its power to regulate electrolytic balance.

Three further papers deal with legal matters concerning marriage of patients and their return home after discharge. The last three contributions describe special cases and difficulties in diagnosis.

The Argentine leprologists are to be warmly congratulated on their new venture, and on the quality of their journal.