

## Correspondence

CHURCH MISSIONARY SOCIETY HOSPITAL,

YUNNANFU, CHINA, 15th September, 1933

*To the Editor, "Leprosy Review," London.*

DEAR SIR,—I have read with interest the criticism of text-book descriptions of Leprosy by Dr. A. McKenzie in your April number, and Dr. Lowe in the July one. The former of these deals with the explanation of nerve involvement—the so-called ascending nerve type.

Dr. McKenzie says "I have seen cases—many of them of over 10 years duration who show no signs of ever having suffered from involvement of a main nerve," and suggests that the involvement of main nerve trunks, when it does occur, is due to embolic (Haematogenous) spread rather than by infection of the nerve endings in the skin and ascending peri-neural spread.

I have given a certain amount of thought to this question and in particular to the question of the origin of the "pure nerve type." I have come to the conclusion that in some areas this type is never seen, and therefore that those discussing the general classification of leprosy may be at cross purposes. In contrast to the heavily infected skin type mentioned by Dr. McKenzie, there may only be involvement of one main nerve. There may be no macules to be seen and no signs at all of skin involvement. For years few except the expert would think that such a case was a leper at all. Then there are grades with involvement of more than one main nerve, especially one ulnar and one facial, and a few macules to that of the most familiar of all in South China, to which the experience of the disease by the writer is limited, the so-called mixed type.

If we grant that the pure nerve types are embolic originating from some minute skin infection, we still are in a dilemma and have to explain how it is that heavily infected skin types may have no main nerves infected. It is hardly a question only of resistance—though it would seem highly probable that where the resistance of the community is high, a greater proportion of pure neural cases are to be found, and that these are an index of the time that leprosy has been endemic in any region.

One would endorse the suggestion of Dr. McKenzie in regarding the infection of the great nerves as embolic in origin (either blood or lymph spread) and to be a matter of chance. The question as to why, when the number of lepra bacilli is exceedingly small, is it possible to have, say the ulnar nerve involved and apparently no other tissue of the body; and on the other hand, how is it that cases with myriads of bacilli (and I have known a case with 25 severe lepra reactions where there is a lepra septicaemia in a man with heavy cutaneous infection who had no signs at all of peripheral nerve involvement) in various areas of the skin, with no main nerve affected, can be dealt with in a statistical manner.

One assumption is necessary, *i.e.*, that a large number of people after infection with leprosy, recover without ever having shown signs of it. We may regard it as a matter of chance whether leprosy bacilli in the blood stream reach the larger nerve trunks in sufficient numbers to cause clinical symptoms. Of those heavily infected this occurs in the majority of cases. In other words, the old so-called mixed types of leprosy predominate in most districts where leprosy occurs.

Among those where the resistance is high, clinical leprosy does not occur, but in a small number of cases, and unfortunately for the patient, the bacilli happen to become deposited in the large nerve sheaths, and a minute lesion by pressure on the nerve causes symptoms out of all proportion to its size. If this be so, we may assume that in those areas where there are a fair proportion of more or less pure neural types there have been many more among that particular population who have been infected but recovered without clinical symptoms of leprosy.

Dr. Lowe is sceptical about the somewhat confident and detailed descriptions to be found in textbooks of the onset of leprosy, and he is probably not far wrong in thinking that the phenomenon of lepra reaction is the pitfall for the man who only sees a few cases of leprosy. As Rogers has pointed out, it is also to be borne in mind when assessing the value of any alleged specific treatment.

I am, yours faithfully, A. J. WATSON.

WETE, PEMBA, October 17th, 1933.

To the Editor, "The Leprosy Review."

SIR,—Reference is made in a recent abstract (1) of an article by Rao (2) to his finding that the Formaldehyde Test in uncomplicated leprosy is never positive. If this observation holds good in the light of further experience, then the significance of a positive Wassermann Reaction, or of other serological equivalent, in a case of leprosy can readily be ascertained. Thus a positive Wassermann Reaction associated with a definitely positive Formaldehyde Test will indicate a very strong probability of the presence of active Syphilis or of Yaws; but if the latter test is negative then these diseases will probably not be present.

Dye (3) wrote that he found the Formaldehyde Test strongly positive in an unstated number of cases of leprosy of all types. Dunscombe (4) carried out the test in connection with thirty-eight patients, all stages of leprosy being represented, but his findings differed widely from those of Dye. McKenzie (5) found, as a result of the study of one hundred and thirty various cases of leprosy, that the result of this test varies with the severity of the disease. None of these three authors states that he was dealing with uncomplicated leprosy, and sources of error may have been overlooked.

It would be interesting to know if any attempts have been made to associate Wassermann and Formaldehyde Test findings on the lines suggested above, and, if so, with what results.

I am, Sir, yours obediently, T. B. WELCH.

#### REFERENCES.

- (1) Trop. Dis. Bull., 1932, December, Vol. 29, No. 12, p. 849.
- (2) Rao (G. Raghunatha).—Studies on Serum Proteins in Leprosy with Special Reference to Hydnocarpus Treatment. Ind. Jl. Med. Res., 1932, April, Vol. 19, No. 4. (Original not consulted).
- (3) Dye (W. H.).—The Serum-Formalin Reaction in *Trypanosoma rhodesiense* Infection. Trans. Roy. Soc. Trop. Med. and Hyg., 1926, March and May, Vol. XX, Nos. 1 and 2, pp. 74—92.
- (4) Dunscombe (W. H.).—The Serum-Formalin Reaction in some cases of Leprosy. Trans. Roy. Soc. Trop. Med. and Hyg., 1927, April, Vol. XX, No. 8, pp. 512—513.
- (5) McKenzie (A.).—Some Non-Specific Serological Tests in Leprosy. Lep. Rev. 1933, July, Vol. IV, No. 3, pp. 99—112.