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EDITORIAL

Editorials are written by members of the Editorial Board, and opinions expressed are those of the writers. Any statement that meets with disagreement will be of service if it but stimulates discussion.

LEPROSY AND TUBERCULOSIS¹

It has frequently been pointed out that in many ways leprosy and tuberculosis are very similar diseases. They are both caused by an acid-fast organism; neither of them is an hereditary disease but a predisposition to them may be inherited; they are both contracted most easily in childhood and with difficulty in adult life, and in both diseases transmission of the disease from husband to wife or vice versa is rare; they are both infections to which many people are not susceptible, many persons infected not developing the disease; they both may appear to increase or decrease in a country without any apparent cause; the prevalence of both diseases is influenced by social and hygienic conditions; there is no rapidly effective treatment for either of them. This similarity between the two diseases is becoming more noticeable as knowledge of both diseases increases.

Of course there are also marked differences. Tuberculosis is transmitted by infected air or food, while leprosy appears to be rarely if ever transmitted in these ways although the possibility of this cannot be entirely ruled out. Tuberculosis is much more often and more rapidly fatal than leprosy. There is much

¹An editorial in *Leprosy in India* 11 (1939) 39-43, reprinted verbatim. See also Lowe, J., Leprosy and tuberculosis. *Indian Med. Gaz.* 74 (1939) 482-487.

evidence to show that in tuberculosis, repeated exposure to subliminal infections produces immunity to the disease, but of the occurrence of a similar phenomenon in leprosy there is no such evidence. The bacillus of tuberculosis can be cultivated and it has been possible to produce vaccines which may possibly have some powers of protecting those exposed to infection. In leprosy, culture has not been accomplished, and preventive inoculation is therefore ruled out at present. In spite of these differences the similarities between the two diseases are most striking. Since this is so, it is a good thing for workers whose chief interest is the control of one of these diseases, to study the development of thought concerning the control of the sister disease.

We would draw our readers' attention to an article by Dunlop² which should provide interesting and stimulating reading to workers interested in the control of leprosy. The chief points made in this article by Dunlop may be summarized as follows:

1. Tuberculosis has been declining in Western Europe for many years; the mortality rate in England and Scotland has fallen 75% in the last fifty years.

2. It is almost certain that the decline started before the bacillus was discovered and before any active tuberculosis work began, and that anti-tuberculosis work has not caused the decline but may have accelerated it.

3. There is a strong evidence that at the present time Western Europe is in the phase of decline of an epidemic of tuberculosis of long duration.

4. The "epidemic curve" of any disease is long or short according to whether the disease is acute or chronic.

5. It is probable that racial resistance to tuberculosis has been increased by the elimination by disease of the susceptible stock.

6. The changes in the age-distribution of the population, the proportion of young people to old people being much smaller, has markedly affected the mortality rates of tuberculosis because the highest mortality is always in young people.

7. Thus the decline in tuberculosis appears to be due chiefly to factors beyond our control; the seed of tuberculosis is becoming less common and the number of susceptible persons becoming less.

8. These considerations should not tend to a fatalistic attitude or to a discounting of the beneficial effect of anti-tuberculosis work, especially since there is evidence to show that deterioration of environmental conditions and the cessation of preventive work can cause an increase in tuberculosis in an area where it was previously declining.

9. Children are much more susceptible to tuberculosis than adults and most infections are acquired early in life. It is probable that the disease in adults is often a late manifestation of an early infection.

²DUNLOP, D. M. Modern views on the prevention of tuberculosis. *British Med. Jour.* (1938) 1297-1300, December 24.

10. The most important thing in the control of tuberculosis is the prevention of infection of children.

11. The chief methods of securing this are the segregation of the open cases from children and the provision of a clean milk supply.

12. This segregation can be secured by removing either the infectious parent or the children to a suitable institution.

13. The provision of a pure milk supply is practicable, has been carried out in some countries, and could be carried out in England.

14. There is strong evidence to prove that environmental conditions—housing, nutrition, habits and intercurrent disease—influence the spread of tuberculosis, the first two factors being the most important.

15. The importance of good teaching in medical schools and also of post-graduate courses in tuberculosis cannot be too strongly emphasized.

The question arises as to whether these ideas of Dunlop are applicable to leprosy as well as to tuberculosis. We think that probably all these ideas have a bearing on leprosy.

In 1933 an article by Stewart appeared in our pages³ in which the suggestion was made that leprosy probably occurred in the form of very long period epidemics, the great length of the epidemic period being related to the extreme chronicity of the disease. There appears to be no doubt that in Europe the epidemic of leprosy lasted over one thousand years and then subsided for no apparent reason. Stewart suggested that same thing might be happening in other countries including India.

The period of decline of an epidemic is characterized by diminishing severity of the disease as well as by declining incidence. There seems to be no doubt that in India the average case of leprosy is considerably milder than the average case seen in other countries, but there is little evidence that the incidence of leprosy is declining. It may be, but we have no statistics of real value on this point. The only evidence at present available is that based on census returns and it is worthy of note that between later part of nineteenth and the earlier part of the twentieth centuries, the population of India increased markedly but the census returns of lepers remained stationary. (Recent census returns have been much higher because of increased public interest and less inaccurate enumeration.) We cannot say whether India is or is not on the downward curve of a long period of epidemic leprosy; if it is, the epidemic period must be tremendously long since leprosy has been common in India for thousands of years.

³STEWART, A. D. Leprosy as a public health problem. *Lep. in India* 5 (1933) 183-187.

The emphasis laid by Dunlop on the prevention of infection of children, his opinion that adult disease is a late manifestation of an early infection, and the well recognized fact that husbands rarely transmit the disease to wives and vice versa, are of interest because of similar opinions which have in recent years been expressed regarding leprosy by workers who have studied these matters. We have repeatedly expressed the view that the crux of the leprosy problem in India is the prevention of infection of children by removing parents from children, or children from parents, and by trying to prevent lepers from bearing children. In India of course this is difficult or impossible, but we must recognize the fact that there is little hope of controlling leprosy until it is possible.