

The Curability of Leprosy.

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LEPROSY is curable in the same way as tuberculosis, and the methods that prove efficacious for the treatment of the latter are efficacious also for the former.

Leprosy, like tuberculosis, may cure spontaneously. If this method of cure has not been reported very often, it is because early diagnosis of the disease is difficult, so difficult, in fact, that it is rarely made. When leprosy shows itself by external signs it is already very far advanced, and has reached a stage exactly comparable to that of cavernous tuberculosis. It is no wonder then that spontaneous cure is not seen to occur in manifest leprosy. But when earlier infections are studied carefully, regressive phenomena may be observed which are comparable to those occurring in incipient tuberculosis. Doubtless the general state must be favourable, and the patient must have those conditions of comfort, rest, good food and fresh air that are required by consumptives.

I have observed in the laboratory the spontaneous cure of a sewer-rat, *Mus norvegicus*, whose inguinal glands, punctured at the time of capture, contained Stefansky's bacilli. After being kept for some time in the laboratory under good living conditions, it was killed in an apparently good state of health, and at autopsy showed nothing more, amidst a considerable panniculus adiposus, than some glands of small

size free from all bacillary infection. This observation, unique, but well authenticated, induced me to recommend my pupil, Dr. Lebœuf, who was going to take up anti-leprosy work in New Caledonia, to hunt up in the colony the cases previously discovered by Auché. The latter, in 1898, had examined cutaneous fragments from 29 persons apparently unaffected by leprosy, and had found amongst them seven who were harbouring Hansen's bacillus. Lebœuf traced five of these individuals. Two had become evident lepers, two others had died, one in 1906, the other in 1911, without showing any outward signs of leprosy: the fifth was still in good health, and living in his tribe free from all infection.

Here, then, is a case subjected to successive examinations by two perfectly qualified observers, which proves that spontaneous cure may occur in man as it does in the rat.

Observations of this kind would doubtless become very common if we possessed signs for discovering leprosy in the early stages as easy to demonstrate as those by which we can diagnose incipient tuberculosis. We should have still more astonishing surprises if we possessed for leprosy a reagent of a sensitivity as great as that of tuberculin. Without doubt we should in leprosy areas obtain proportions, if not of 98 per cent. as for infections with Koch's bacillus (for the latter is carried by very subtle means), yet certainly of unsuspected size. There probably exist discrete infections like those we find in the murine leprosy of the majority of sewer-rats, which remain quiescent in some gland, and never become generalised, but continue unnoticed throughout life. In order to develop, the infection certainly needs a favourable soil: an organism subject to nutritional disorders that allow the development of the Hansen bacillus as also of the Koch bacillus. These conditions are found together in lepers, who are nearly always consumptives also. The same methods of treatment that succeed in raising the general condition of the latter, and in enabling them to resist the infection, are therefore to be recommended for those infected with Hansen's bacillus.

There is no doubt, moreover, that objective treatment gives remarkable results. Progress due to the researches of the firm of Bayer, and to those of Sir Leonard Rogers, in the use of chaulmoogra oil and its derivatives has enabled, if not perfect cures, at least equivalent improvements to be achieved. Iodine, arsenic, antimony, copper and gold have also procured regressive phenomena.

Lastly, in my laboratory, Dr. Markianos has obtained relative successes by the use of defatted Stefansky bacilli in

man as well as in the rat. It is allowable to suppose that the researches undertaken will lead to still better results. Valtis and Markianos also, under my observation, have obtained the regression of large ulcers in the rat by the use of BCG, which in the hands of Pons and Chastel (1), Jouenne and Guilbert (2), Remlinger and Bailly (3) and Mme. Delanoe (4), has given results in man. We have not had the same success: the patient who had been subjected to this method of treatment reacted violently. No doubt there was a concomitant tuberculous infection which provoked the appearance of the Koch phenomenon, and was the cause of the intense rise of temperature observed by us. It would be necessary, as with tuberculin, to work with extremely weak doses of a thousandth or a ten-thousandth of a milligram.

In this connection I should like to refer again to these reactions, which by some leprologists are regarded as favourable. The fact is that after an outbreak of symptoms, disquieting by their violence (fever, suppuration, etc.), the tubercles are generally seen to disappear, and the skin to take on a normal appearance again. But there is another side to the picture. This reaction, like that produced by tuberculin in consumptives, involves a mobilisation of the microbes, and all too frequently, alas, it is followed after a more or less short interval by ocular accidents, so that the benefits do not always compensate for the disadvantages. In my opinion, it is better to avoid these violent reactions.

From this brief statement I think the following conclusions may be drawn:

1. Leprosy is curable in the same way as tuberculosis.
2. The discrete forms are capable of spontaneous cure.
3. A fortiori these discrete forms are more accessible to treatment.
4. We possess in the therapeutic and hygienic arsenal weapons that are efficacious against the disease.
5. The progress that it would be most desirable to see realised is that which would furnish us with the means of discovering discrete infections with Hansen's bacillus as easily as tuberculin proclaims the presence in the organism of Koch's bacillus.

REFERENCES.

- (1) Pons and Chastel, *Bull. Soc. Path. Exot.*, 1926, **xix**, 500.
- (2) Jouenne and Guilbert, *Ibid.*, 1927, **xx**, 91.
- (3) Remlinger and Bailly, *Ibid.*, 1928, **xxi**, 283.
- (4) Delanoe, *Ibid.*, 1929, **xxii**, 848.