

CORRESPONDENCE

This department is provided for the publication of informal communications which are of interest because they are informative or stimulating, and for the discussion of controversial matters.

BCG IN THE PROPHYLAXIS OF LEPROSY

TO THE EDITOR:

In 1939 I was able to show that it is possible to convert a negative late lepromin (Mitsuda) reaction in normal individuals into a positive one by inoculating BCG (1). This observation was made in an experiment involving 123 children, without any history of association with leprosy and negative to both the Mitsuda and Mantoux (1:10) tests, who were inoculated intradermally with 0.15 mgm. of BCG. One month later 99 per cent of them were Mantoux positive, 92 per cent gave positive Mitsuda reactions. On the basis of these results I suggested that BCG inoculation should be practiced as a prophylactic measure in lepromin-negative persons exposed to leprosy.

Later studies of Ginés and Poletti (2), Chaussinand (3), Azulay (4), Rudiansky (5), Floch and Destombes (6), Dauden *et al.* (7), and especially of Souza Campos, Rosemberg and Aun (8) and more recently of Neyra Ramirez (9), have confirmed this finding that BCG induces lepromin positivity, whether the vaccine is inoculated intradermally or given by mouth.

The idea of vaccinating lepromin-negative persons exposed to leprosy, with BCG as a prophylactic measure is based on the assumption that a positive lepromin reaction is always advantageous. This view is supported by the following facts:

1. A positive Mitsuda reaction in leprosy patients signifies resistance to the infection, because the positive cases—with only rare exceptions—present the benign forms of the disease, whereas in the lepromatous cases the reaction is characteristically negative.

2. Whenever contacts develop the disease, the benign forms predominate among those who had given positive reactions, while lepromatous cases are more frequent among lepromin-negative ones.

3. For several years I have had under observation a group of children who were inoculated with BCG after birth and who

have continued to live with their leprous parents. As yet, none of them has developed the lepromatous form.

I do not hold that BCG confers absolute protection against infection. I do believe, however, that with it one can establish a sufficient degree of resistance, by strengthening the body defense, so that if the disease develops it will be of the benign type. For me the principal significance of a positive Mitsuda reaction in a healthy individual exposed to a focus of contagion is that he will either remain uninfected or will acquire a benign form. To my mind it would be a great achievement if by vaccination one could only prevent the development of lepromatous cases. We would then be suppressing the form upon which the propagation of the disease depends and the prognosis of which is gloomy.

If my assumption is confirmed by the demonstration of a protective effect of BCG, the prophylaxis of leprosy could be organized on a more solid basis in accordance with the following program: (a) isolation and intensive treatment of "open" cases; (b) intensive outpatient treatment of early, benign, and doubtful cases; and (c) preventive vaccination with BCG of all lepromin-negative persons in endemic areas.

It is as yet impossible to demonstrate in laboratory animals whether BCG does or does not protect against leprosy. One can, however, determine its efficacy by studying comparatively the incidence and the type of the disease among vaccinated and unvaccinated individuals in endemic areas.

I shall be grateful if you will publish this letter in order to start a preliminary enquiry regarding the following questions:

1. What is the value of a positive Mitsuda reaction induced by BCG in a healthy individual?
2. What, if there are statistical data available, is the incidence of leprosy among subjects vaccinated with BCG and among those not so vaccinated?
3. Are there any reports of well-substantiated cases of lepromatous leprosy in individuals previously given preventive vaccinations of BCG?

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