



B.C.G. Vaccination in India

By

B. K. SIKAND, M.B.B.S., D.P.H. (London),
*Director, New Delhi Tuberculosis Training and
Demonstration Centre*

ISSUED BY
THE DIRECTOR OF INFORMATION AND PUBLICITY
MADRAS
1955

B.C.G. VACCINATION IN INDIA

A controversy on B.C.G. has lately appeared in the lay Press. The approach has been mostly emotional. Perhaps this could not be helped when a highly technical subject is dealt with in a lay fashion. In a subject like B.C.G., where even all doctors and bacteriologists would not feel competent to express opinions, it is only correct that the subject should be viewed in the light of the opinion of the world scientists and world experience of its use.

The most exacting laboratory tests extending over 30 years carried out in some of the finest laboratories in the world and in many countries, have established the non-pathogenic status of B.C.G. The protagonists of B.C.G. vaccination are some of the best and well-known bacteriologists of the world. Apart from the bacteriologists connected with the Pasteur Institute in Paris, mention may be made of Professor K. A. Jensen of Copenhagen, Professor Frappier of Montreal, Canada, Dr. Berkog of New York State Laboratory and Dr. Rosenthal of Chicago. Epidemiologists and clinicians are following their advice in the application of this vaccination as a public health measure.

The experience of over hundred million vaccinations in different parts of the world has shown that B.C.G. can be considered harmless. It is probably the most harmless of all vaccinations. It is in reality far less harmful than smallpox vaccination which is commonly accepted and used compulsorily in many countries. World medical literature has quoted so far only three deaths associated with the B.C.G. germ. Even here the B.C.G. germs recovered from these fatal cases were still non-pathogenic to even the most susceptible of animals suggesting that it was that individual constitutional defects that caused these deaths rather than the possibility of the change of B.C.G. to a harmful

organism. No curative or public health measure can ever be absolutely safe. Nearly every therapeutic and prophylactic procedure used on human beings may under special circumstances involve a certain danger, and we have to decide how much there is to lose and how much to gain. There were, for example, 43 deaths from smallpox vaccination in England alone between 1941-49. With its record, it will be the grossest exaggeration to call B.C.G. dangerous and "live poison".

During the controversy many ailments have been attributed to B.C.G. It must not be forgotten that the vaccinated as well as the unvaccinated in a large population will suffer from the common ailments peculiar to the time, place and age of the individuals. It is difficult for lay persons to differentiate between the coincidence and causation in these cases. No doubt all complaints following B.C.G. must be thoroughly investigated, but it is grossly unfair to condemn B.C.G. because of such rare coincidences. A case of blindness in a Coimbatore girl, prominently quoted during the controversy, when investigated by a team of specialists and as reported in the Press completely absolved the B.C.G. The New Delhi Tuberculosis Centre had been following up cases vaccinated in the Centre and also some of the cases vaccinated during the mass campaign that was completed in Delhi three years ago. A number of complaints were investigated by us; the commonest finding has been that either tuberculin test has been mistaken for the B.C.G., or it was some other ailment causing the alleged symptom, and there was no evidence to show that these ailments were due to B.C.G. Even after the mass campaign in Delhi three years ago, which covered the whole of the young population of the area, such complaints have been extremely few and far between. Besides India, mass campaigns have been planned and executed in other countries including Germany, Italy, Poland, Austria, Hungary, Czechoslovakia, Finland and Japan soon after the last War. The Scandinavian countries were having regular B.C.G. programmes during the last 20 years. In Russia and Argentina, B.C.G. vaccination is compulsory for all new borns and school

children. In England, B.C.G. vaccination, no doubt, was very cautiously adopted, but is now being extended to cover larger groups of population and practically all at the school leaving age. If B.C.G. were harmful, its application would not have been extended to increasing areas and groups in that country. Thus the present storm over B.C.G. appears to be based on complete misunderstanding. Surely those countries do not love their children less than we do ours in this country.

A proof has been demanded of the value of B.C.G. as a preventive measure against tuberculosis. It is difficult to assess the effect of a single factor in the epidemiology of a multifactorial disease like tuberculosis, unless controlled studies over long periods have been carried out. Such studies and reports from Norway, Canada, U.S.A. and Sweden bear out the enormous advantages of the vaccinated against the unvaccinated. Limited studies are also going on in this country, but it will take years for proper assessment. It is only correct to emphasise that such studies should be extended to many places, but that does not mean that the world experience should be rejected, till we find our own proofs. There might be some minor quantitative and qualitative differences in the experience of different countries ; these ought to be investigated. In fact these are being investigated in India and also by World Health Organization Tuberculosis Research Office. But such minor differences are not of material significance so as to come in the way of adoption of this measure in India.

The claim that B.C.G. would not have the same protective value in this country on account of the poor nutrition is not supported by facts. The marked benefit obtained by Japan from B.C.G. vaccination in post-war years supports this. The nutritional status of Japanese soon after the war were admittedly very poor and was possibly worse than ours. As a matter of fact poor nutrition is one of the causes of tuberculosis assuming an epidemic form, and therefore, is a special condition where mass vaccination should be considered urgent.

The argument against vaccination on account of the natural resistance of the large sections of the population is based on wrong premises. The so-called resistance of the adult is acquired as a result of infection with virulent tubercle bacilli very often in childhood, and is at the cost of the death of lakhs of children and others every year. Even the so-called resistant individual carries the potentiality of T.B. disease, because he often carries live virulent germs in his body. B.C.G. vaccination by replacing this virulent with avirulent and non-pathogenic germ gives the necessary protection without any harmful effects. The protection by B.C.G. is not absolute, therefore, some amongst those who get B.C.G. would get T.B. from fresh infection, but the vaccinated will have definite advantage over the unvaccinated as they usually develop a milder type of disease than those not protected. To try to secure this immunity from undependable and dangerous natural infection with virulent germs, is to ignore the loss of lakhs of lives by deaths, and the misery among millions. Not to take advantage of the protective value of B.C.G. is to ignore this large toll of sickness and death.

B.C.G. is not recommended as an isolated anti-tuberculosis measure. Raised standard of living and specific measures for diagnosis, treatment and isolation of tuberculous, are two other essential components of anti-tuberculosis programmes. The latter being costly, is likely to take time and B.C.G. being comparatively cheap and easily extendable to cover the whole population, was adopted only as a priority programme. Even for this comparatively cheap programme, we needed international help. No doubt other tuberculosis measures need to be encouraged and pushed as quickly as possible as our resources allow. But this is in no sense an argument for ignoring the useful preventive measure through B.C.G.

Nobody will deny that it is necessary to improve the machinery for dealing with complaints that may arise from those who are B.C.G. vaccinated. All such complaints must be fully investigated in the interests of science and humanity and for the protection of the fair name of B.C.G.