

Direct BCG Vaccination - the best Protection Against Tuberculosis

In India, five million people are estimated to suffer from tuberculosis of the lungs and about one and a half million of these can transmit the disease to others. The World Health Organisation holds the view that although people who have developed tuberculosis must be treated, it is much more promising to prevent people from developing the disease.

Tuberculosis control—yesterday

THE mere mention of the word "tuberculosis control" conjures up the picture of a mobile X-ray unit summoning people with blaring loudspeakers. Tuberculin testing, sputum examination and ambulatory treatment of detected cases of tuberculosis are other associations connected with the same household word. But the most important measure that can be applied in tuberculosis control, namely BCG vaccination, often remains far back in the mind.

Apart from the fact that systematic case-finding operations by means of X-ray apparatus are not only very expensive, practice has shown that this method for technical reasons alone has contributed very little to the enormous task of controlling tuberculosis. The task is to find the infectious sources in the community from where the disease is transmitted again and again, and to render the contagious patients harmless through appropriate treatment. Bacteriological examination is the only adequate method of case-finding. It is a method which is not at all difficult to apply also on a mass scale.

But even if everything is done to spot and remove infectious sources from the community in order to lower the risk of infection with tuberculosis, for example, for our children, these efforts will always remain rather incomplete, patchy. It requires a colossal organisation to carry out such an undertaking with a reasonable degree of efficiency and success. Year after year, new cases of tuberculosis keep developing and spreading the disease to others. Nothing can be done to prevent this vicious circle from encompassing the com-

munity because most of these tuberculous cases have picked up the infection with tubercle bacilli long time ago, mostly during childhood. Decades often have passed during which the tubercle bacilli harboured in the infected persons lay dormant until they suddenly, often for no apparent reason, broke through the body resistance, multiplied explosively and caused the clinical tuberculosis disease. Nothing could prevent these outbreaks from happening again and again, year after year.

During the recent years, very powerful and effective anti-tuberculosis drugs have been developed, able to kill the tubercle bacilli. Patients undergoing treatment with these drugs who were infectious before starting the treatment very soon stop excreting bacilli. They can now be treated in ambulatory manner, often even without interrupting their work. Hospitalisation and isolation from others are things of the past, and yet.....

Tuberculosis control—today

...Would it not be more promising to prevent people from developing tuberculosis rather than to find the cases after they have already developed the disease? The answer in the affirmative spells "BCG vaccination." BCG stands for "Bacillus Calmette Guerin" which is an attenuated bovine tubercle bacillus that was used by two French scientists, Calmette and Guerin, for the first time in 1921 in the preparation of an anti-tuberculosis vaccine. Since then, millions of people, especially children before they are infected with tuberculosis, have been vaccinated with BCG and thus protected against the disease. Many scientific trials have been carried out and have proved

that BCG vaccination is highly effective.

One of the largest trials was undertaken by the British Medical Research Council and has shown that for the period of investigation which by now is already in its tenth year the annual incidence of tuberculosis in the BCG-vaccinated group is only 0.4 per 1000 compared to 1.9 per 1000 among those who were not infected with tuberculosis at the time of admission to the trial and who were not given BCG. This represents a reduction of 79 per cent. attributable to BCG vaccination.

Freeze-dried BCG vaccine—another step forward

The liquid BCG vaccine which has been used in the past was a rather perishable product and lost very soon its potency when exposed to heat and sunlight. It was impossible to keep the vaccine well protected against light and heat, especially in tropical countries, where vaccine distribution was additionally aggravated by difficulty of quick transport to many localities. All these difficulties have now been overcome with a freeze-dried BCG vaccine that is heat-stable for long period and does not require refrigerated storage as was necessary for the liquid vaccine.

However, to make maximum use of the advantage offered by the freeze-dried vaccine, that is, ready availability at all peripheral health centres and possibility of integrating BCG vaccination with the general health services, it is necessary to institute the new operational approach of *direct* BCG vaccination.

Direct BCG vaccination

BCG vaccination, using the
(Continued on page 154)