NEWS OF BCG

Leprosy Control

[Quoted from the Chronicle of The WHO, July 1956.]

The Assembly (of WHO) considered a recommendation by the Executive Board, arising from a decision of the Fifth World Health Assembly, concerning the intensification of leprosy control and a proposal by the Government of Burma for convening a conference on this subject in South-East Asia. The Burmese proposal was strongly supported.

In India, leprosy affects 2-4 per cent of the population in regions where it is endemic and a total of approximately 1,500,000 inhabitants throughout the country. There are at least 30,000 sufferers from leprosy in Viet Nam, and so far compulsory isolation has been a complete failure, since the number seems to be increasing rather than decreasing. In the Belgian Congo, there are nearly 250,000 persons with the disease, out of a population of about 12,000,000.

Leprosy is a problem which is encountered in all the WHO regions, although in various degrees of seriousness, and the Assembly requested the Director-General to study the feasibility of holding an inter-regional conference to discuss the control of this disease in countries having similar epidemiological, social and administrative problems.

Although it is perhaps premature to talk of eradication, there is no doubt that the new methods of treatment will bring about a definite decrease in the endemicity. The various delegations which took part in the discussion of this question attached great importance to early case-finding; the selective and voluntary isolation of lepers in hospitals; mass chemotherapy, which has been found, wherever it has been employed (e.g., in India and central Africa) of value not only from the curative but also from the preventive viewpoint (mass treatment with sulfones and DDS has led to a considerable decrease in contagiousness); and the physical, physiological, functional, and occupational rehabilitation of persons diagnosed and treated in time.

Planning and Assessment of BCG Campaigns

[Quoted from Official Records of WHO, No. 73.]

The Committee considered the document entitled "Planning and Assessment of BCG Projects" and had before it also reports on the work of assessment teams in the South-East Asia, Eastern Mediterranean and Western Pacific Regions. Certain practical problems connected with mass campaigns were discussed,

particularly that of selecting persons for vaccination in areas with a high prevalence of non-specific sensitivity to tuberculin, and the question of the relatively low degree of post-vaccination allergy obtained in many areas by mass campaign vaccination, as opposed to that which had been obtained following vaccination by the assessment teams. The Committee heard that several factors, including the relative potency of vaccines, might explain these findings, but the result of the assessment work pointed especially to defects in mass campaign techniques, particularly with respect to the handling of vaccine. The Committee agreed that it was important to achieve and maintain a high standard of techniques in the mass campaigns, and that it was necessary to continue the work of the special teams for planning such campaigns and for assessing the quality of their execution.

The question of the protection against tuberculosis given to children by mass BCG vaccination campaigns in under-developed countries was discussed at the request of the UNICEF Executive Board. Controlled investigations in countries with a relatively high standard of living continue to show that BCG vaccination confers protection against tuberculosis. The Committee discussed to what extent results obtained in relatively highly developed communities might be applicable in areas where individuals had a low resistance to disease and were highly exposed to infection. The Committee agreed that there was no evidence to show that BCG vaccination could not give a similar degree of protection in such areas. The difficulties connected with carrying out scientifically controlled studies on the protective value of BCG vaccination were stressed, and the Committee on the whole felt that it did not seem expedient for such studies to be undertaken at the present time in under-developed areas, but as evidence is accumulated it should be made available.

The Committee agreed that the existing WHO/UNICEF policy on BCG mass vaccination campaigns was sound, and that it should be continued.

Effect of Storage at 37° C. on Immunizing Power of Dried BCG Vaccine, by C. Cho, *et al*, Research Institute, Japan Anti-Tuberculosis Association, Tokyo, Japan.

[The following is the synopsis from the Bulletin of WHO.]

Experiments were carried out to determine the effects of storage at 37° C. on the immunizing power of dried BCG vaccine. Vaccines were prepared with sodium glutamate and with sucrose, and were preserved for 6 months at 5° C. and at 37° C. The pre-

served vaccines were then injected into four groups of 12 tuberculin-negative guinea-pigs; a fifth group of 12 non-vaccinated animals acted as controls. Six weeks after inoculation, all surviving animals were given a challenge dose of virulent human tubercle bacilli. After a further six weeks the guinea-pigs were killed and an examination was made of the macroscopic and histological changes produced in the lymph-nodes and viscera.

No significant difference in the tuberculous changes induced by the challenge infection was observed among three of the groups of vaccinated animals—namely, the two inoculated with the sodium glutamate vaccines and the one inoculated with the sucrose vaccine preserved at 5° C. The fourth vaccinated group showed greater changes than the other three, indicating that the immunizing power of the sucrose vaccine had decreased markedly during storage for 6 months at 37° C. The non-vaccinated control group, however, showed the most conspicuous changes of all the five groups.

BCG Vaccination in Lepromatous Leprosy

[The following is abstracted from a paper by Dr. J. A. Doull, of the Leonard Wood Memorial.]

At present, with the co-operation of Philippine and South African institutions, the Memorial is conducting a controlled study of the effect of repeated BCG vaccination in patients suffering from lepromatous leprosy who were negative to tuberculin and to lepromin at the outset. The vaccinated groups are carefully matched against other groups comparable as regards age, sex, stage of disease and other factors. This study will be carried on at each of three institutions for 48 weeks. Judging from the experience of others it seems probable that some will become reactive. Whether or not this reactivity will be postively associated with clinical or bacteriologic improvement is a question which can be answered only when the final condition of the group receiving BCG is compared with that of the other groups.

British BCG

[Quoted from the Lancet, June 30th, 1956.]

The rather tentative official support for BCG in this country in the past few years has been fortified by a statistically unassailable experiment; and, although the vaccine cannot yet be freely used, there are signs that control is being relaxed. So far all the BCG vaccine routinely used in this country has been imported. But the first report of a British BCG, a freeze-dried vaccine, has now appeared. Freeze-dried vaccine, if it is as con-

sistently potent as the liquid products, has obvious advantages. It can be kept for many months at room-temperature without serious loss of potency, so that each batch can be fully tested before it is released. Instead of having to be ordered in advance and used without a delay, the freeze-dried product can be kept in store and is promptly available—an obvious advantage to those who use it infrequently and in small quantities. Freeze-dried vaccines have been manufactured and tested in many countries, notably in France, the United States, Russia and Japan. The extensive Japanese experience of its manufacture has recently been reviewed by Obayashi in a WHO monograph.

The new British vaccine was produced in the Glaxo laboratories and, after detailed bacteriological and animal tests, two batches were put to clinical trial. Lorber and his colleagues vaccinated 276 newborn infants. After six weeks 88% of those vaccinated with one batch and 77% of those vaccinated with the other gave a positive tuberculin skin reaction. But twelve weeks after vaccination the proportions of " convertors " has risen to 96% and 92%. This delay in the appearance of the sensitivity produced by freeze-dried vaccine was also noted by Ebina *et al.* The vaccination lesions were small and in only 8 infants were there palpably enlarged axillary lymph-nodes. None had any detectable general disturbance of health. The vaccine was kept at room-temperature during the fourteen weeks of the trial. There was no important change in the vaccine during this period and counts of viable cells were of the same order as at the start of the investigation. Lorber *et al.* believe that this particular British freeze-dried vaccine would not be suitable for vaccination of contacts; for it may be desirable in contacts to induce tuberculin skin sensitivity as quickly as possible with the least risk of failure. This is, however, not a serious deficiency; for most of the vaccine required in this country will probably be needed for routine vaccination of those not especially exposed to infection.