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EDITORIALS

Editorials are written by members of the Editorial Board, and occasionally by guest editorial writers at the invitation of the Editor, and opinions expressed are those of the writers.

United States-Japan Leprosy and Tuberculosis Conference

The Leprosy and Tuberculosis Panels of the United States-Japan Medical Science Program held meetings, including one half-day joint session, on 18-20 May 1966 at the Museum of Scientific Technology in Tokyo. Fifty-three medical investigators from the United States and Japan who were actually engaged in clinical and laboratory work on leprosy, took part in the meetings of the Leprosy Panel. Present in addition were invited observers from England, India, Australia, Malaya, the Philippines, Korea and the World Health Organization.

Papers presented at the various sessions dealt with the cultivation of *M. leprae* and its transmission to animals, the lepromin reaction, and the chemotherapy and prophylaxis of leprosy. There was active discussion of each paper. It was the consensus of the participants that the meetings contributed greatly to progress and plans for researches in these several fields.

Detailed consideration was given to prophylaxis against leprosy. Since field trials of the prevention of leprosy by chemoprophylaxis and BCG vaccination were being carried out in several countries, it was agreed at the Honolulu conference on 4-7

October 1965 (see THE JOURNAL 33 (1965) 909-910) that reports would be made, and the subject discussed at length, at the Tokyo meeting. There was general agreement that the discussions were encouraging and appeared to furnish hope for the realization of productive leprosy control projects in the near future.

Reports on the value of prophylactic administration of DDS in Korea and the Madras district of South India were made by Dr. J. Lew and Dr. Dharmendra respectively. Although both of these reports were still to be considered as interim communications, the results thus far obtained appeared to establish the protective value of DDS. It was believed that a reliable answer had been given to the question whether or not chemoprophylaxis would protect healthy child contacts against leprosy.

Trials in Korea had been conducted in two separate fields. One study was carried out on 760 children 6-18 years of age who were born of leprosy patients in preventoria, and separated from sources of contagion after more than six years of contact. Among 325 of these children, who were given 50-150 mgm. of DDS a week

for periods from seven months to five years, nine cases (2.7%) of dermal patches of leprosy developed; these disappeared gradually as the preventive medication continued. In a control group consisting of 435 children, 31 cases (7.1%) of leprosy developed.

Another study is being made in Korea on chemoprophylaxis in household contacts. Observations in this investigation, up to the time of the report, had been carried on from one to seven years, and no case of leprosy had developed among 778 contacts in the experimental group. In contrast, 44 cases of leprosy had been identified in a control group, consisting of 749 contacts, in observations lasting from one to 30 years, i.e., an incidence of 5.9 per cent. Thirteen of the 44, including ten indeterminate, two tuberculoid, and one lepromatous case, had been detected in periods of observation ranging from one to seven years, i.e., an incidence of 1.9 per cent.

The Madras trial, carried out by the Central Leprosy Teaching and Research Institute, which has been planned for a five-year course, was started at the end of 1961 in an area of high prevalence of leprosy, viz., 21 per 1,000, with a lepromatous rate of about 15 per cent. The total number of intrafamilial contact children under 15 years of age, randomly selected for the trial, was 732. Contacts in the experimental prophylaxis group of the study were given DDS by oral administration in semiweekly doses ranging from 10-75 mgm. according to age. During the course of 33 months of observation, 53 cases of leprosy were detected in the control and experimental groups. Four of the 53 occurred in contacts added during the first year of the study. Of the remaining 49 cases, 35 were detected among 286 contacts in the control group, i.e., an incidence of 12.25 per cent, and 14 in 283 contacts in the prophylactically treated group, i.e., only 4.95 per cent.

The protective value of DDS in these intrafamilial contacts appeared established among children up through the age of ten years. No protective effect was evident in contacts in the 11-15 age group. It was concluded that, under the conditions of

the trial, DDS treatment had been effective in protecting healthy contacts of leprosy patients against the disease. Dr. Dharmendra emphasized the fact that the treatment should be started as soon as possible after exposure, i.e., in intrafamilial contacts in infancy or early childhood.

Many problems still remain, however, in the chemoprophylaxis of leprosy, which must be investigated in the future. One of these, as Dr. Dharmendra pointed out, is determination of the nature of the DDS action, i.e., whether DDS treatment only suppresses the development of infection, or actually kills off the invading microorganisms. Other problems included determination of the optimum dosage of DDS, the necessary period of prophylactic treatment, and the value of combined DDS administration and BCG vaccination.

Several reports were made on large-scale field trials of the prevention of leprosy by BCG. Dr. L. M. Bechelli reported on a WHO trial in Burma, Dr. D. A. Russell on a trial in Karimui, New Guinea, and Dr. R. J. W. Rees on one in eastern Uganda.

The WHO trial in Burma, which was started in August 1964, is being conducted in the Singu and Madaya townships. Its main objectives are to observe the value of BCG vaccination, in a region of high leprosy prevalence and high lepromatous rate, in providing protection against leprosy in child populations not exposed to *M. leprae* at home and in child household contacts of known infectious cases. Dr. Bechelli reported that up to the end of January 1966, 17,484 inhabitants had been examined, and 6,837 children had been included in the trial. Follow-up of these children began in November 1965. It is expected that two or three years of observation will be required before preliminary results become evident.

Dr. Russell and his associates in the Karimui trial compared results in a vaccinated group of 2,318 inhabitants and 2,295 in an unvaccinated group. During the first year of observation, from March 1963 to March 1964, 26 definitely new cases of leprosy developed, eight of them in the vaccinated group and 18 in the nonvaccinated group. Dr. Russell stated that thus far, un-

der the conditions of the trial, it could not be concluded that BCG had been effective in the prevention of leprosy, but that present results have suggested that BCG raises the level of general resistance to invasion by *M. leprae*, plays a role in the development of inapparent or self-healing forms, rather than the more severe forms of the disease, and prevents relapse of the self-healed cases.

Dr. Rees reported preliminary results of the investigation of the prophylactic value of BCG vaccination planned by the Uganda government, and conducted by the Leprosy Committee of the British Medical Research Council. The first progress report of this large-scale trial of BCG vaccination against leprosy in children, was published by J. A. K. Brown and M. M. Stone in the *British Medical Journal* early in 1966.

The trial in Uganda, based on large experimental and control groups, was carried out on 16,301 tuberculin-negative children, more than 80 per cent of whom were under ten years of age, and all of them contacts of known leprosy patients. The BCG-vaccinated group consisted of 8,149 children and the nonvaccinated group of 8,152 children. At the first follow-up, 107 cases of leprosy were discovered, 89 of them (11.0 per 1,000) among 8,071 unvaccinated children, and, in contrast, 18

or 2.2 per 1,000 among 8,091 BCG vaccinated children.

The results thus far obtained indicate that BCG vaccination of children in eastern Uganda has conferred substantial protection against early tuberculoid leprosy for a period of one to three years. Vaccination before and during the incubation period appeared to be effective regardless of the age of the children. It was concluded, therefore, that the preliminary results of the Uganda trial indicate that BCG vaccination is worth considering in a leprosy control program.

The participants in the Tokyo Conference felt that an important field for future study is the prophylactic effect of BCG vaccination against lepromatous leprosy. It is expected that the first results of the WHO trial in Burma, where the lepromatous rate is high, will be available for study by the end of 1967.

The Conference also discussed the subject of laboratory investigation of the value of BCG vaccination. Dr. C. C. Shepard, reporting on studies in the mouse, stated that an effect "appears to have been exerted at two times, one, early, against the newly inoculated bacilli, and the other later, by suppressing growth at some lower plateau value."

—YOSHIO YOSHIE