The modern trend of splitting the influenza virus in order to decrease reactions also needs further evaluation. Although the batches of vaccine tested in the United Kingdom were free from pyrogens when tested in laboratory animals, they caused as many reactions as the whole-virus vaccine when given to man.

These comments obviously refer to inactivated vaccines. The control of living virus vaccines will bring with it special problems, particularly concerning the cell substrate and tests for freedom from extraneous viruses. So far, there are no requirements relevant to these aspects in the United Kingdom.

Vaccination against Hong Kong Influenza in Japan

by HIDEO FUKUMI [a]

Since 1963 mass vaccination against influenza has been carried out in Japan by the imunization, first, of all children in kindergartens and primary and secondary schools (vaccinations conducted through the government public health administration) and, secondly, of workers in factories, offices and certain other places where people are subject to crowded conditions of work (mass vaccinations recommended by the public health authorities but at the expense of those vaccinated).

In accordance with this policy, influenza vaccine is commercially produced, under control of assays by the National Institute of Health, in sufficient quantity to vaccinate approximately 24 million people annually, whether an influenza epidemic is anticipated or not. Until 1968, the vaccine was composed of types A and B, 150 CCA units per ml for each type, or a total of 300 CCA units per ml, the decision as to the particular strains to be employed for vaccine production being taken by the National Institute of Health. The amounts of vaccine inoculated are 0.5 ml twice for adults and 0.3 ml in a single injection for schoolchildren.

On 12 August 1969 Hong Kong influenza virus was found to be distinct in antigenic structure from earlier A2 strains, and the previously used vaccine containing A2 virus was not expected to be effective in preventing the spread of Hong Kong influenza should it reach Japan. The A2/Aichi/2/68 strain, which was isolated in Japan from a member of the crew of an Israeli cargo vessel recently arrived from Hong Kong, was therefore promptly distributed for vaccine production to the 7 manufacturers in Japan.

The goal was to produce sufficient Hong Kong vaccine to immunize 24 million people, starting with the priority groups outlined above and using any remaining vaccine for the general population. Mass vaccination against influenza is usually carried out in Japan from the end of October to mid-November; however, in view of the possibility of an epidemic of Hong Kong influenza, although it was difficult to anticipate when one might break out, efforts were made to hasten production of the appropriate vaccine so that, if it could be made available during October, it could at least be used for the schoolchildren in the areas where the epidemic might be expected on epidemiological grounds to begin.

Meetings were held to discuss all aspects of the vaccination campaign against Hong Kong influenza and it was decided among other things that (1) the vaccine to be produced should be composed of 200 CCA units of A2/Aichi/2/68 per ml and 100 CCA units of type B virus per ml; and (2) vaccine sufficient to immunize about 12 million persons should be produced by the end of October at the latest. At the same time, the committee concerned with the development of influenza vaccine in Japan produced a monovalent Hong Kong virus vaccine containing 300 CCA units of inactivated virus per ml for use in experimental field trials.

The epidemic did break out at the beginning of October, but its progress was slow and the real climax can be said to have taken place early in 1969. Mass vaccination, although delayed somewhat beyond what had been expected, had been almost completed by the end of 1968. The effectiveness of that vaccination is discussed in the paper by Dr Sonoguchi.[b]

[a] Chief, Department of Bacteriology, National Institute of Health, Tokyo, Japan.

[b] See the paper on page 517 of this issue.