EPIDEMIOLOGICAL AND EXPERIMENTAL STUDIES ON COXSACKIE VIRUSES

by

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1956
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VII. REFERENCES
I. INTRODUCTION – THE COXSACKIE VIRUSES – A REVIEW OF THE LITERATURE

The isolation of a filtrable agent pathogenic for infant mice and hamsters was first described by Dalldorf and Sickles (1948). The virus was recovered from acute-phase faecal specimens from two children with paralysis during a small epidemic of poliomyelitis in the New York State village of Coxsackie. Histological examination showed that the virus produced a severe and widespread degeneration of skeletal muscle and this limited tropism, together with the pathogenicity for infant animals, characterised the virus.

Further isolations of viruses pathogenic for infant mice were made from faeces which were collected from patients during the 1947 Wilmington, Delaware, poliomyelitis epidemic. During the course of this work, Dalldorf et al. (1949) showed that three of the viruses induced lesions of the central nervous system in infant mice, as well as skeletal muscle lesions which were similar to, although less severe than, those described in the earlier work.

Following the work of Dalldorf and his associates, Malnick, Shaw and Curnen (1949) investigated the poliomyelitis epidemic which occurred during the summer of 1948 in Rhode Island and Connecticut. These workers isolated agents pathogenic for infant mice from the faeces of patients with illnesses resembling non-paralytic poliomyelitis or aseptic meningitis. The lesions induced in the infant host by these viruses were similar to the lesions described by
Dalldorf and his colleagues.

Because knowledge of these hitherto unnamed viruses was rapidly accumulating, Dalldorf (1949) suggested that they be designated provisionally the "Coxsackie group of viruses".

Subsequently the world-wide distribution of the Coxsackie viruses was established as reports of their isolation were forthcoming from many countries.

1. **Classification**

Dalldorf (1950) classified the Coxsackie viruses as completely as knowledge would then permit and he placed the 28 strains which were isolated in the Albany laboratories into two groups defined by the morbid anatomy of infection in the infant mouse. The organisms which induced a severe and generalised lesion in skeletal muscle but failed to induce lesions in other organs were included in group A; and the viruses which induced a less severe focal muscle necrosis and a severe encephalopathy involving the cerebral hemispheres were included in group B. In addition, the group B viruses may induce a focal necrotic lesion in the fat pads. This classification, which is based on groups designated by capital letters and serological types within the groups by Arabic numerals was accepted by the Virus Subcommittee of the International Committee on Bacteriological Nomenclature during the Sixth International Conference on Microbiology held at Rome in September, 1953.

Earlier, at a conference on Virus and Rickettsial Classi-