Seroepidemiological survey of rotavirus in Thailand, 1978

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In 1973, Bishop et al. found rotavirus for the first time with electron microscopy in a biopsy material and a fecal specimen from a child suffering from acute gastroenteritis¹⁾. The virus has been confirmed to be a pathogenic agent of an infantile diarrhea in the Temperate Zone in winter²⁻⁸⁾.

One hundred and seventy-eight serum samples collected in Thailand in August, 1978 were tested for the complement fixing (CF) antibody to Nebraska calf diarrhea virus (NCDV), which has common antigen(s) with human rotavirus (HRV) and grown in a tissue culture⁷⁾. Twenty sera were obtained at Chiang Mai and 158 were at Bangkok and Central Thailand.

Fig. 1 Distribution of antibody to rotavirus, Thailand, 1978. CB: cord blood

The Fig. 1 shows the age distribution of the CF antibody to NCDV, in which 1:5 or more of the antibody titers was referred as positive. The percentage of the positive cases in 9-10 years of age is greater than 0-4, 7-8, 11-15, and 21-30 years of age, respectively (chi square test, $p < 0.05$). The antibody to rotavirus appeared since 1-4 years after birth, then increased to the maximum at 9-10 years of

age, and decreased thereafter. The presence of 90% positive antibody cases in cord blood reflects the maternal antibody and 0 for 0 year of age may be its disappearance. Although it is not completely clear why many samples of cord sera contained the RT-CF antibody, it should be mentioned that cord blood samples were collected in Bangkok.

According to Urasawa et al.⁹⁾, who studied the age distribution of NCDV-antibody at Sapporo, about 90% of 3 to 5 years old children had the antibody. It is apparent that the rotavirus infection occurred frequently at older ages in Thailand than in Japan. How-

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ever, the virus-neutralizing (VNT) antibody to HRV determined with the fluorescent focus reduction method⁹⁾ was found in 100% of children of one year of age in the Sapporo sera⁶⁾. If antibody of serum samples from Thailand were tested with the fluorescent focus reduction method to HRV, acquisition of the antibody could be found more frequently in young age groups than those in our results of this paper.

Diarrhea with HRV has been reported also in the Tropical Zone^{10~12)}, and diarrhea is one of the most important diseases in Thailand. The precise survey of HRV and diarrhea among Thai children should be conducted in the future.

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