ABSTRACT

Studies on rotavirus infection in Sri Lanka, including epidemiological,clinical, and immunological aspects are reported, as well as a comparison of Dakopatts ELISA and WHO ELISA for rotavirus detection.

The investigations included a hospital based study of one years duration, on acute diarrhoea in children; a two year prospective study on rotavirus infection in the first two years of life; studies on neonates and in adults.

ELISA was used to detect rotavirus in stools, and rotavirus specific IgG and IgA in serum, breast milk and faeces. Single radial immunodiffusion was used to quantitate total IgA in faeces. Electrophoresis of rotavirus RNA was performed in polyacrylamide gel using the Laemmli buffer system and a silver stain. Viruses were serotyped at the WHO Reference Laboratory in Birmingham.

Rotavirus infection was prevalent throughout the year. 2%of adults were infected at any one time. Children below two years experienced 0.9 episodes of rotavirus infection per child per year. 75% of such infections were asymptomatic. They caused 5% of diarrhoeal episodes in the first 2 years, and 20-30% of episodes requiring hospitalisation. The 4 month -2year age group was the commonest requiring hospitalisation. The commonest presenting symptoms were watery diarrhoea, vomiting, and fever. Some episodes of blood stained diarrhoea appeared to result from double infections involving rotavirus. Such double infections were associated with protracted diarrhoea too. Case fatality associated with rotavirus diarrhoea was low.

Prevalence studies of S-pattern and L-pattern electropherotypes taken together with serotyping results indicated that, herd immunity to serotype 2 rotavirus lasted at least 3 years, and that there was no cross protection between serotype 2 and serotype 4.

Although nearly 100% babies received high titres of rotavirus specific placental and breast milk antibody, there was no evidence to show that they protected against rotavirus infection.

A primary reponse to rotavirus infection (serum and intestinal) was observed in 75% of cases and lasted approximately 5 months. Secondary and tertiary infection increased the number of reponders to 100% and significantly enhanced serum but not intestinal antibody. The duration of the secondary response was similar to that of the primary response.