

**ABSTRACT**

A study on passive and active immunity to Group A rotaviruses; observations of some general aspects of rotavirus infection in Sri Lanka; and a comparison of DAKOPATTS-ELISA with WHO-ELISA for rotavirus detection, are reported.

The study on immunity included 13 cases, 12 age matched controls, 64 neonates and 238 infants aged 1 - 6 months with non-rotavirus diarrhoea. The study on comparison of techniques included 210 consecutive cases of acute watery diarrhoea.

ELISA was used to detect rotavirus in stools, and class specific antibodies in breast milk, cord blood, serum and stools. Single radial immunodiffusion was used to quantitate total IgAs and IgGs in stools. Stool trypsin levels were estimated using a gelatin hydrolysis test. Viruses were subgrouped and serotyped at the WHO Reference Laboratory in Birmingham, U.K.

The number of episodes of diarrhoea, and the rotavirus attack rate were 1.9 and 0.7 respectively per child per year. Rotavirus accounted for 27% of childhood diarrhoeas admitted to hospital and 7.5% of diarrhoeal episodes in the community.

Susceptibility to rotavirus infection was not related to nutritional status, passive immunity, levels of trypsin in the gut, or economic status.

The results on active immunity are relevant to the planning of vaccine strategy.

The proportion of post infection seroconversions and coproconversions increased to 100% after tertiary and quaternary infections respectively. Repeated infection enhanced the Geometric mean titre of virus specific serum IgG from 1 : 327 following primary infection to 1 : 900 following tertiary infection. However, neither the quantity nor duration (6 months) of IgA coproantibody increased with repeated infection. The duration of serum IgG response increased from 6 months after primary infection, to 9 months after tertiary infection.

A primary serum as well as coproantibody response was observed following rotavirus infection in the neonatal period despite the cover of high levels of maternal antibody.

The DAKOPATTS-ELISA was as, or more sensitive and specific than the WHO-ELISA.