ACTIVE IMMUNITY TO ROTAVIRUS INFECTION

Savithra Senanayake, Lalitha Mendis,
Kumudini Jayawardene and H.A. Nanayakkara
Dept. of Microbiology, Faculty of Medicine,
University of Colombo.

15 cases infected with rotavirus in the first four months of life and 12 age matched controls were followed upto the age of 2 years. The

stools of 64 healthy neonates and 238 infants aged 1 - 6 months with non rotavirus diarrhoea were used to establish base line levels of rotavirus specific antibody in stools of breast fed children.

Enzyme immunoassay was used to detect virus in stools and class specific, virus specific antibody (IgG and IgA) in serum and stools. Coproantibody titres were standardised against levels of Total IgG and IgA determined by the Mancini techniques.

The proportion of post infection seroconversions and coproantibody conversion increased to 100% after the tertiary infection and quartenary infection respectively. Repeated infections enhanced the Geometric Mean titre of virus specific serum IgG from 1:327 after the primary infection to 1:900 after the tertiary infection.

The duration of the serum IgG response increased from 6 months after primary infection, to 9 months after tertiary infection. Neither the quantity nor duration (6 months) of IgG coproantibody increased with repeated infection. However, secondary infection at an average age of 15 months resulted in a significantly longer serum and coproantibody response compared to secondary infection at an average age of 8 months (9 months vs 6 months).

These results are relevant to the planning of vaccine strategy.