

# ROTAVIRUS SURVEILLANCE AT THE NORTH COLOMBO TEACHING HOSPITAL, SRI LANKA, 2007-2008

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## **INTRODUCTION**

Rotavims disease is a common paediatric problem and accounts for severe dehydrating diarrhoea, a large number of hospital admissions and an annually estimated 600,000 deaths across the world. Prospective rotavirus surveillance was initiated at the North Colombo Teaching Hospital (NCTH), Sri Lanka from April 2005. The serotype distribution in our previous study was; G9P[S] 35.2%, G12P[8] 14.7%, G3P[4] 17.2%, G2P[8/4/6] 14%, G1P[8/4] 6.5% and G4P[8/4] 3.3%.

## **OBJECTIVE**

To describe the serotype distribution of rotavirus responsible for hospitalization at the NCTH.

## **DESIGN, SETTING AND METHOD**

A prospective hospital-based study was conducted in the paediatric units of the NCTH from November 2007-October 2008. Stool samples of children admitted with diarrhoea were analyzed for Group A rotavirus antigen by enzyme linked immunosorbent assay (ELISA) (Rotaclone). Stool samples positive for rotavirus were characterized by electropherotyping (PAGE) and serotyping (reverse transcription polynasase chain reaction - RT PCR).

## **RESULTS**

Group A rotavirus was detected in 78 (33%) of 231 children less than 5 years of age admitted with diarrhoea. G9, G1, G2, G3 and G non-typable infections were seen in 33(42%), 31 (40%) 7 (9%), 1 (1.3%) and 4 (5%) respectively. A predominance of G9 serotype (84%) was seen during the initial seven months. Dramatic transition of genotypic predominance to G1 (70%) occurred in the latter half of the year. All G1, G3 and G9 strains assayed for P genotype contained P8 except two mixed G9 infections which were associated with P4 and PS. In contrast to the previous report, all G2 strains identified were associated with P4 and serotypes G12P [8] and G4P [8/4] were not detected. Polyacrylamide-gel-electrophoresis revealed the presence of E1, E2, E3, E4 and E5 electropherotypes with a co-dominance of Eland E5 (30.7%).

## **CONCLUSIONS**

- During the study period a rising trend in prevalence with a fluctuating genotypic distribution was observed at **CNTH, Sri Lanka**.
- The diversity of rotavirus serotypes requires a vaccine that confers adequate homotypic and heterotypic protection against these strains.