A STUDY ON ROTAVIRUS GASTROENTERITIS IN CHILDREN UNDER FIVE YEARS IN COIMBATORE

ABSTRACT

Background of the Study: Rotavirus is the commonest cause of acute gastroenteritis in infants and young children worldwide which accounts for around 125 million cases of diarrhoea every year. In India around 26% of all diarrhoea related hospitalization among children are attributable to Rotavirus. The study aimed to determine the prevalence of Rotavirus and its molecular characterization in the area. Materials and Methods: This study was conducted for one year (July 2015 to June 2016) in the Department of Microbiology, Coimbatore Medical College, Coimbatore. Overall hundred children less than five years were chosen as study population. The stool samples were tested for Rotavirus antigen by ELISA (Enzyme Linked Immunosorbent Assay) and ICG (Immunochromatography) method. Positive samples were further analyzed by RT-PCR and G/P typing to detect the molecular characterization of the prevalent serotypes of Group A Rotavirus in the area. Results: From overall 100 samples, 24 were positive for Rotavirus antigen; of which 58 were male children while 42 were females. Out of 24 positive samples, 12 were sent for RT-PCR. Of these two samples did not amplify; 10 samples were confirmed by PCR which were further analyzed for characterization of strains. The results showed G1P[8] 60%, G2P[4] 30% and un-typable 10%. The majority of cases were found to occur in the cooler months of the year (September to February). The peak incidence occurred in children in the age group of 6-12 months. In detection of Rotavirus antigen from stool specimen, both ELISA and ICG showed equal sensitivity and specificity. Conclusion: Rotavirus infection being the commonest cause of diarrhoea in children less than five years as evidenced from the study. ICG can be used as a screening test for detection of Rotavirus antigen whereas ELISA can be used when sample load is high. Rotarix and Rota-teq are the currently available effective vaccines against Rotavirus throughout the world as recommended by the WHO. Rotavac is an indigenous vaccine of India which shows good safety profile and excellent efficacy in preventing diarrhoea related illness and mortality in children below five years as recommended by the Indian Academy Of Peadiatrics (IAP).