ROТАVIRUS INFECTION IN CHILDREN AND ADULTS WITH ACUTE GASTROENTERITIS IN THAILAND

Leera Kittigul¹, Thitiluck Swangsri¹, Kannika Pomsubpa¹, Noppor Howteerakul², Pornphan Diraphat¹ and Chakrit Hirunpetcharatt¹

¹Department of Microbiology, ²Department of Epidemiology, Faculty of Public Health, Mahidol University, Bangkok, Thailand

Abstract. Rotaviruses are the most important cause of severe diarrhea in infants and young children, but rotavirus gastroenteritis in adults is uncommon. In this study, 260 stool samples collected in Thailand from January 2006 to February 2007 from patients of all ages with acute gastroenteritis, were tested for group A rotavirus and compared with rotavirus infections in children and adults. Rotavirus was detected in 42% of the patients’ samples, but children (< 18 years old) have a significantly higher prevalence (57%) of rotavirus infection than adults (≥ 18 years old) (27%) (OR 3.55; 95% CI: 2.11-5.96; p < 0.001). The highest attack rate was found in the age group of < 2 years old (14%), followed by 2-4 years of age (9%), 18-59 years of age (8%), 5-17 years of age (6%) and ≥ 60 years of age (5%). The dominant genotype was G1P[8] (27%), followed by G2P[4] (7%), G3P[8] (1%), and G9P[8] (1%). The rare genotypes identified were G1P[4], G1P[6], G2P[6], G2P[8], and G3P[6]. Mixed infections mostly occurred in children, comprising G1P[4]/P[8], G1P[4]/P[6], G1P[6]/P[8], G1/G2P[4], G1/G3P[4], and G1/G3P[4]/P[8]. Rotaviruses G3, G9, and P[4] were found only in children and genotype P[6] was found in adults (75%) at a higher frequency than in children (25%) (p < 0.001). The number of rotavirus in children was 1.99x10⁸/ml and in adult patients was 7.32x10⁶/ml. The present study highlights the higher prevalence of rotavirus infection in children compared to adults and rotavirus genetic heterogeneity.

Keywords: acute gastroenteritis, adults, children, genotype, rotavirus, Thailand