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Severity of acute diarrhea in children by rotavirus under 5 years might be caused by rotavirus infection with the highest prevalence of genotype G2P1

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Background: Rotavirus infections are a major cause of diarrhea in children under 5 years in both the developed and developing countries. Rotavirus is often associated with acute infection with high severity level that causes death. Genetic rotavirus, patient immunity, and environmental are thought to be related to the severity of the incidence of acute diarrhea due to rotavirus in infants and young children.

Objective: To prove correlation rotavirus genotypes and severity degree of acute diarrhea.

Methods: Cross sectional study was conducted in children aged 1-60 months with acute diarrhea hospitalized at gastroenterology ward Dr. Soetomo Hospital between January to June 2014. Examination of rotavirus in stool specimens made from bed-side examination using BD-Rota/Adeno Examine kit, whereas rotavirus genotypes examined by molecular methods, namely reserve transcription-polymerase chain reaction (RT-PCR) two-step at the *in situ* of Tropical Disease (ITD) University Airlangga by personnel trained analysts at ITD. The severity of diarrhea was measured by using a scoring system scores Ruuska and Vesikari (1990).

Result: A total of 88 children met the criteria, 80.7% were aged 6-24 months. Average value of the total score of severity of diarrhea was 10.21 (SD 2.12). Most rotavirus genotype G2P {4} (19.3%) to group common genotype and genotype G1P {4} and G9P {4} for group genotyping uncommon with a prevalence of respectively 4.5% . There are significant differences between the types common genotype and uncommon genotype to the total score of the severity degree of diarrhea ($p < 0.05$)

Conclusion: Severity degree of acute diarrhea in children with genotype G2P {4} is the highest prevalence genotype of rotavirus in East Java.

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