

ABSTRACT

Profile of Rotavirus Carriers Post-Vaccination in Surabaya

Emily Gunawan, Maria Inge Lusida, Soetjipto, Subijanto Marto Sudarmo

Background: Rotavirus gastroenteritis accounts for significant childhood morbidity and mortality worldwide, with diarrhea being its prominent manifestation. Vaccination using Rotarix and RotaTeq was introduced considering tremendous disease burden. Most vaccine efficacy studies measure the incidence of subsequent symptomatic rotavirus infections and overlook subclinical cases. The objective of this study was to discover subclinical cases in post-vaccinated children presenting as rotavirus carrier(s) and examine their clinical manifestation(s) and isolated strains.

Methods: A cross-sectional study was executed in healthy, vaccinated children below 5 years old from a young mothers' community in Surabaya between January and March 2016. Rotavirus in stool samples was identified using rapid-test kits and/or further confirmed with multiplex reverse transcription PCR. Genotype was determined by sequencing. Clinical manifestations were measured using Vesikari score. Other variables investigated were factors presumed to affect vaccine efficacy.

Results: Thirty subjects were analyzed, 22 received Rotarix and 8 RotaTeq. Two rotavirus carriers were discovered with Vesikari scores 0. Carriers appeared healthy. Genotypes isolated were G1P[8] and G3P[8]. There was no significant correlation between vaccine type received and the incidence of carrier.

Conclusions: There are rotavirus carriers presenting as healthy children. No unique manifestation of carrier was recognized. Isolated strains G1P[8] and G3P[8] are local and global circulating strains.

Keywords: Rotavirus, Carrier, Post-Vaccination, Genotyping