

Detection of human group and C rotaviruses in pediatric patients with acute gastroenteritis by real time RT-PCR assay : a preliminary study

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Abstrak

Rotavirus causes 25-55% of all hospital admissions for diarrhea and approximately 611.000 deaths every year in developing countries. Clinically, it is not possible to recognize the diarrhea caused by rotavirus and other infections. To know a causative agent of rotavirus gastroenteritis, availability of an accurate diagnosis assay is necessary. Therefore, we developed real time RT-PCR assay (rRT-PCR) assay for confirmation of infections of Group A or C rotaviruses simultaneously. A total of 54 stool samples obtained from pediatric patients (< 5 years old) was used in this study. All samples were tested for Group A rotavirus by Serological rapid test. Result of serological rapid test was compared with rRT-PCR assay to obtain the test accuracies of both assays. Result of this study showed that rates of positive testing for Group A rotavirus by serological rapid test and the rRT-PCR assay were 22.22% and 18.50%, respectively. Forty-two serology-negative specimens for Group A rotavirus were also PCR negative (100% specificity). Two serology-positive specimens for Group A rotavirus was rRT-PCR negative (confirmed by electrophoresis gel); therefore, rRT-PCR assay represents the decrease of 3.70% in the number of specimens that are positive for Group A rotavirus. For Group C rotavirus, all tested samples were no rRT-PCR positive and the results need to be confirmed in the future.