Investigation of norovirus frequency in children with prediagnosis of acute viral gastroenteritis

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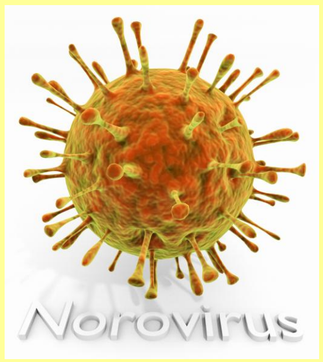
Introduction

Noroviruses are the most common cause of acute gastroenteritis in both sporadic and outbreak cases. This so-called disease leads to the 1.1 million new cases and 218.000 death at emerging countries. Although numerous epidemiologic studies were carried out about norovirus infections around the world, there are only a several studies presented in Turkey. In this study, we aimed at determining norovirus infection frequency in children with prediagnosis of acute viral gastroenteritis.



Materials and Methods

Fecal samples were collected from children presented to our Hospital with episodes of acute diarrheal illness over a 11 month period of 2015. The viral pathogens, norovirus genogroups I and II, rotavirus and adenovirus were detected using immunochromatography. SPSS 20.0 programme was used for statistical analysis. Cross variables were compared using Ki-Kare test (Pearson Ki-Kare/Likelihood Ratio).

Results

Norovirus antigen positivity has been detected for 50 (7.4%) of 678 child patients (51% male and 49% female) who were prediagnosed with acute gastroenteritis. The ages of patients ranged from 24 months to 15 years old (the median was 13 months). Diarrhea, nausea-vomit and abdominal pain are the most common symptoms of norovirus and these symptoms were seen in all cases.

These symptoms were followed with fever (> 37.5 °C) and were observed in 18 patients who received norovirus diagnosis. The highest prevalence of norovirus was detected in young children aged under 24 months (n=37, 74%). The highest level of disease has been observed during the months of February through May. Mixed infections were detected in five cases; while three cases were positive for rotavirus and adenovirus. Co-infection of adenovirus and norovirus was detected in two case. While the frequencies of rotavirus, adenovirus and mixed infections were 11% and 3.5%, respectively. When the relationships between norovirus positivity and the sex, the age and the seasons were analyzed, there was no statistically significant differences.

Conclusions

In our study, norovirus infection frequency was the second most frequently encountered infection especially under 5 years old children. Screening of this pathogenic agent has utmost importance for viral antigen scan with considering the enteric pathogenity of acute gastroenteritis of norovirus at childhood after the rotavirus vaccine programs.

References

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