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Burden of Rotavirus Gastroenteritis in the Pediatric Emergency Service

Dear Editor,

Studies have been done in our countries by many centers to establish the epidemiologic characteristics of rotavirus infections in an attempt to specify the prevalence and seasonal distribution. However, the studies in which detailed laboratory results are discussed are limited (1). Similarly, the studies investigating the effects of this disease on the pediatric emergency departments are restricted as well. Therefore, I read the article titled (2) "The Burden of Rotavirus Gastroenteritis Patients in the Pediatric Emergency Departments" by Oğuz et al. (2) with great admiration and interest.

It was found that the most prevalent acute diarrhea agents in children under 5 were viruses and in these viruses, rotavirus group A was the most prevalent responsible agent (3). Although rotavirus infection can be seen in all age groups, the symptomatic infection is most common in children under 2 years age. Rotavirus diarrheas are more severe and complicated than viral other diarrheas. Knowing which age group and frequency of rotavirus positivity is expected will make it easier for the physicians working especially in pediatric emergency services in which there are no facilities for diagnosis of rotavirus and those in primary healthcare institutions convenience in the therapy. The most important limitation of this study is the lack of rotavirus positivity together with patients' distribution by age. A similar problem is true for the seasonal distribution of the patients as well. It is not clearly understood in the study in which season and frequency a physician will encounter rotavirus infections.

Another limitation of the study is that; the monitoring periods as specified by the researchers have not been reached. Besides, if it was specified the reasons of keeping the patients under surveillance and the therapies that were implemented, the reader would have been more informed about the burden caused by rotavirus diarrheas in the emergency departments.

I hope that my comments and feedback will positively contribute towards Mr. Oğuz et al.'s (2) study.

Çapan Konca, MD
Department of Pediatrics, Adıyaman University Faculty of Medicine, *Adıyaman, Türkiye*
Phone: +90 416 216 10 10 (4278)
E-mail: dr.capan@hotmail.com
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Response to the Editor

Dear Editor,

We would like to thank honorable Dr. Çapan Konca for his interest in and contributions to our study.

Many studies were carried out in our country investigating the epidemiologic and clinical characteristics of rotavirus infections and it was demonstrated that symptomatic infection prevalence increased in winter and in children under two (1, 2). In our study, we aimed to highlight the burden that rotavirus-positive gastroenteritis cases place on pediatric emergency departments, rather than all the gastroenteritis cases. Therefore, the distribution prevalence of rotavirus-positive gastroenteritis cases by age and season was evaluated within itself.

As we specified in the limitations part of our study, since our study was a retrospective one, the data regarding the follow-up periods in the pediatric emergency observation rooms and the therapies implemented were not accessible. The follow-up form (outpatient basis, emergency observation room or inpatient basis), follow-up duration, and the therapy to be implemented were decided by the physicians who monitored the cases. In viral acute gastroenteritis cases, the main therapy is

composed of the supportive therapy. For mild cases whose general status is good and can be fed orally, oral rehydration therapy will be sufficient. However, the cases with a bad general status, severe dehydration symptoms, unable to tolerate oral dehydration fluid or insufficient oral feeding and with a diarrhea volume of 10ml/kg/hour need intravenous fluid nutrition (3, 4). The viral acute gastroenteritis cases in our pediatric emergency observation room are not given routine antiemetic, zinc or prebiotic therapies except vital symptom tracking, oral feeding support and intravenous fluid nutrition. It is clear that prospective studies will help us to obtain more objective and definitive results regarding the subject.

Sinan Oğuz, MD
Department of Pediatrics,
Division of Pediatric Emergency, Ankara University Faculty of Medicine, *Ankara, Turkey*
Phone: +90 312 508 67 95
E-mail: sinoguz@yahoo.com

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Burden of Rotavirus Gastroenteritis in the Pediatric Emergency Service

Dear Editor,

I read the article titled (1) “The Burden of Rotavirus Gastroenteritis Patients in the Pediatric Emergency Departments” by Oğuz et al. (1) with great interest. Rotaviruses (RV) are the leading reasons of serious gastroenteritis leading to diarrheas in infants and children under 5, especially causing hospitalizations and infants mortality; and it is estimated that there occur annually all over the world RV-related 111 million home-bound diarrhea attacks, 25 million hospital admissions and acute gastroenteritis requiring hospitalization (AGE) and the rate of 352,000-592,000 (on average 440,000) pediatric mortality in children under 5 years old (2). In the study done by Oğuz et al. (1), qualitative rotavirus evaluation was implemented in the stool samples by the immunochromatographic card test. It was found that the specificity of the test was 98% and sensitivity 99%. 552 (18.1%) of the 3046 cases with gastroenteritis in the study were found to be rotavirus positive. It was also stated in the study that 46% of the patients were hospitalized and monitored in the emergency observation room or pediatric infectious diseases clinic, and 66.8% of the hospitalized cases were children under two. In a prospective and multi-centered study we carried out in Bursa, the epidemiologic and clinical characteristics of rotavirus gastroenteritis (RVAGE) in children aged 0-14 in the Bursa city center and their cost analyses were evaluated in perspective of inpatient and outpatient basis of the cases. In our study, rotavirus antigen was found by using monoclonal rotavirus antigen kit (BioMerieux, France). It was found that RVAGE constituted 21% of all outpatient gastroenteritis cases and 28.5% of all hospitalized AGEs (3). The sensitivity of the kit we used in our study was 96.1% and specificity 97.2%, and we are of the opinion that these values are comparable with the immunochromatographic tests that uses monoclonal antibodies. In Oğuz et al.’s (1) study, 51.4% of the cases were male and 89.9% were children under 5. In our study, 60% of the cases were male and 86% were under five. Our results had similarities with this study. Rotavirus infection is frequently common in winter in Turkey. In Oğuz et al.’s (1) study, 40.3% of the cases with rotavirus infection were common in the winter season. Similarly, in our study, 40.2% of cases were seen in the winter season. In Oğuz et al.’s (1) study, it was reported that 46.4% of the cases with rotavirus infection were followed up in the emergency department observation room; this particular result demonstrates the burden caused by the disease on the pediatric emergency departments. Protection against rotavirus infections through vaccination is possible. In our study in which we investigated the cost effectivity of monovalent and pentavalent rotavirus vaccines, the protection of the monovalent and pentavalent rotavirus vaccines against serious rotavirus gastroenteritis were respectively assumed to be 83.7% and 90% (4).

In this study, when vaccination program was implemented with coverage rate of 85%, it was found in this study that it was cost-effective and cost-saving (4).

In conclusion; rotavirus gastroenteritis is an infection that is common in childhood and usually has the risk of causing complication; and it enables protection against severe rotavirus gastroenteritis and complications through effective and reliable rotavirus vaccines.

Solmaz Çelebi, MD
Department of Pediatrics, Division of Pediatric Infectious Diseases, Uludağ University Faculty of Medicine, *Bursa, Turkey*