

## **NOSOCOMIAL ROTAVIRUS GASTROENTEROCOLITIS IN A TERTIARY PAEDIATRIC HOSPITAL - A MAJOR PROBLEM OF CHILDREN HOSPITALIZED PRIMARY DUE TO RESPIRATORY TRACT INFECTIONS**

**Ernest Kuchar<sup>1</sup>, Aneta Nitsch-Osuch<sup>2</sup>, Anna Kosmala<sup>3</sup> Katarzyna Życińska<sup>2</sup>,  
Kazimierz Wardyn<sup>2</sup>**

<sup>1</sup>Department of Pediatrics and Infectious Diseases, Wrocław Medical University;

<sup>2</sup>Department of Family Medicine, Medical University of Warsaw, Poland;

<sup>3</sup>Pediatric Hospital dedicated to the Memory of Professor Michalowicz, Warsaw, Poland

**Introduction.** Rotaviruses are the leading cause of community-acquired and nosocomial gastroenterocolitis in children. There is little data concerning the epidemiology of nosocomial rotavirus gastroenterocolitis (NRVG) in Central European countries, including Poland. The aim of our study was to analyze the epidemiology of NRVG in a large tertiary paediatric hospital in Warsaw, where the majority of children stayed due to respiratory tract infections.

**Material and methods.** Retrospective chart analysis of 49697 patients aged 0-18 years hospitalized in period 2006-2009. The hospital has 250 beds and consists of General Paediatrics (47 beds), Neonatal Pathology (36 beds), Pulmonology and Allergology (33 beds), ENT (21 beds), Neurosurgery (16 beds), Neurology (10 beds), Traumatic Surgery (30 beds), Ophthalmology (25 beds) General Surgery (30 beds) and ICU (7 beds).

NRVG was defined as acute gastroenterocolitis (> 3 loose, or looser-than normal, stools in 24 hours and/or vomiting), confirmed with rapid immunochromatographic test (BioMaxima, Poland), if symptoms developed > 48 hours after admission. The analyzed data was taken from individual charts and reports collected by Hospital Infection Team. In calculation 95% confidence intervals were used.

**Results.** The total number of 469 cases of NRVG was diagnosed in analyzed period. The cumulative attack rate of NRVG for the hospital was calculated 0.97% (CI 0.86-1.02), the cumulative incidence density was 2.07/1000 bed-days (CI 2.01-2.13). The majority of NRVG were diagnosed at the General Paediatrics Ward (206 cases, 44%) and Allergology and Pulmonology Ward (122 cases, 26%), where the mean duration of hospital stay was longer than 5 days (respectively 9.9 and 10.8 days). The cumulative incidence density rates of NRVG were: 4.75/1000 person-days for General Paediatrics Ward and 3.29/1000 person days for Allergology and Pulmonology Ward, the cumulative attack rate of NRVG was respectively 5.7% and 2.03%. Primary causes of hospitalization of the children with nosocomial rotavirus gastroenterocolitis were respiratory tract infections (including pneumonia, bronchitis and otitis media) present in 287 cases (61.2%). The nosocomial rotavirus infection was mostly diagnosed among patients aged 6 months - 2 years (201 cases, 42.8%), less common were infections among infants younger than 6 months (133 cases, 28.3%) and children aged 2-6 years (115 cases, 24.5%). The mean age of a child with NRVG was 16.2 months (SD 10.2). The mean duration of hospital stay of children with NRVG was longer than the average duration of hospitalization (11.5 vs. 4.5 days,  $p < 0.01$ ).

**Conclusion.** Rotavirus gastroenteritis is the most important nosocomial infection for children hospitalized due to respiratory tract infections and can prolong their hospital stay.