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ABSTRACT BOOK



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BURDEN OF RSV INFECTION AMONG PEDIATRIC PATIENTS IN THE POST-LOCKDOWN PERIOD: A SINGLE CENTER EXPERIENCE

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Introduction: Respiratory syncytial virus (RSV), a leading cause of acute lower respiratory tract infections in infants and young children, puts a high pressure on the health care system. Implementation of COVID-19 quarantine interventions in many countries, including Lithuania, resulted in a strong reduction of RSV activity in 2020-2021, followed by a rapid return of RSV cases to pre-pandemic levels in the post-lockdown period.

Objective: This study aimed to evaluate the burden of RSV infection among pediatric patients in the post-lockdown period (in 2021-2022 and in 2022-2023 cold seasons).

Methods: A single-center retrospective cross-sectional study was performed at the pediatric emergency department in Vilnius during two cold seasons – from October 1, 2021, to April 30, 2022 (Season I) and in the same period in 2022-2023 (Season II). Patients under 18 years, who had been tested for RSV, were enrolled in the study. Nasopharyngeal swabs were tested for RSV using real-time reverse-transcriptase polymerase chain reaction (RT-PCR) tests.

Results: RSV PCR tests were positive for 14.5% of tested children (1021/7058). The infection predominated among patients under the age of 3 years (67.8%), especially infants (31.1%). Positive tests increased from 8.8% (430/4875) in Season I to 27.1% (591/2183) in Season II. More than a third of patients (38.3%, n=391) were hospitalized, 7.2% of them (n=28) required treatment in pediatric intensive care unit (PICU). The proportion of RSV hospitalizations was higher in Season II (33.7% vs. 41.6%, p=0.01). Patient rates in PICU did not differ between seasons (p=0.450). More cases of X-ray confirmed pneumonias were diagnosed in Season II compared to Season I (23.6% vs. 14.2%, p=0.010). RSV types were specified in 65 patients. Type A prevailed in Season I (56.7%, 17/30), and type B – in Season II (88.6%, 31/35). Type B tend to be more associated with pneumonia (33.3% vs. 28.6%) and treatment in PICU (25.0% vs. 9.5%) compared to type A, but the differences were insignificant (p>0.05).

Conclusions: Burden of RSV infection was high among pediatric patients in the post lockdown period, especially in 2022-2023 (Season II), as there was higher number of cases, more RSV infected patients with pneumonia and higher hospitalization rates, compared to 2021-2022 (Season I). Children under three years of age, particularly infants, were the most vulnerable group. Type B dominated in Season II and there was a trend for type B to be associated with pneumonias and hospitalizations in PICU.

Keywords: RSV; children