

Severe Pneumonia requiring ICU care caused by Human Metapneumovirus (hMPV) in infants

Olga Smilevska Spasova, Julija Ivanovska, Gorica Popova, Katerina Boshkovska, Irena Chakalaroska, Mirjana Popovska, Vesna Fidanovska Jovichikj

Institute for respiratory diseases in children-Kozle, Skopje, R. N. Macedonia

Introduction:

The human Metapneumovirus (hMPV) usually causes mild, cold-like symptoms, but in infants it can lead to serious problems like bronchiolitis and pneumonia.

We observed an increased number of hospitalized children under the age of 5 that had severe pneumonia, requiring oxygen support and prolonged hospital stay of at least two weeks. We suspected that an invasive virus was circulating in the community resulting in an increased number of cases of severe pneumonia in infants. Our aim was to try to identify the respiratory pathogen that may have been responsible.

Method:

Retrospectively, we analyzed in total 18 children under the age of 5, which were hospitalized in our unit in a period of one month (01.04-30.04.2022). All of the patients were with acute community acquired pneumonia and had no other prehistory of chronic health issues. Other than the standard laboratory, microbiological and imaging techniques for diagnosing pneumonia, all the patients underwent a complete molecular respiratory RT-qPCR panel for 19 viruses and multiplex PCR for 7 bacteria.

Results:

With the above mentioned method Adenovirus was isolated in 5 children (27%), Parainfluenza in 5 children (27%), hMPV in 4 patients (22%) and RSV in 4 patients (22%). Bacteria *H. Influenzae* was found in 7 children (39%) and *Streptococcus pneumoniae* in 4 patients (22%). 50 % of the hospitalized children had a mixed viral and bacterial infection. In all of the patients that had severe pneumonia requiring oxygen support, hMPV was isolated.

Conclusion: hMPV may be associated with worsening of the clinical and radiologic outcome of pneumonia in young children

Key words: hMPV, severe pneumonia, RT-PCR