

P0017 Frequent detection of human bocavirus in nasopharyngeal secretion of hospitalized children with lower respiratory tract infection

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Background: Human bocavirus (HBoV) is a member of the *Parvoviridae* family that has been associated with respiratory and gastrointestinal tract infection in children. The aim of this study was to determine HBoV incidence among hospitalized children with lower respiratory tract infection (LRTI).

Materials/methods: From November 1, 2016, through February 28, 2017, a nasopharyngeal secretions of 295 children less than three years of age who were admitted to hospitals with LRTI were tested for presence of HBoV, respiratory syncytial virus (RSV), adenovirus (ADV), parainfluenza virus (PIV) types 1 to 3, and human metapneumovirus (HMPV). There were 168 (57%) boys and 127(43%) girls. The inpatients' mean age was 9.7±9.5 months. According to age, the following groups were defined: 0–12 months (n=195), 13-24 months (n=57), and 25-36 months of age (n=43). Human bocavirus was detected using real-time PCR method, and the rest of the viruses were diagnosed using monoclonal antibodies in direct fluorescence assay.

Results: Viral etiology was proved in 76.3% of patients. The most commonly diagnosed virus was RSV (59.3%) followed by HBoV (23.1%). Other tested viruses were detected in 8.8% of the patients (PIV-3 in 3.7%, ADV in 3.1%, HMPV in 1.4%, and PIV-2 in 0.7%). Mean age of RSV infected patients was 8.4±8.9 months, while mean age of HBoV infected patients was 14.0±10.7 months. The highest RSV detection rate was observed in the youngest group of patients, and decreased with age (67.2%, 50.9%, and 34.9% respectively; $P<0.05$). Contrarily, the highest HBoV detection rate was observed in the oldest group of patients, and increased with age (17.4%, 31.6% and 37.2% respectively; $P<0.05$). Co-infection with two viruses was diagnosed in 11.2% of the patients, and concurrent detection of three or more viruses in 1.7% of the patients. Fifty-one percent of HBoV infections were combined with another respiratory virus detection.

Conclusions: Over 20% of LRTIs that requires hospitalization in small children are related to the HBoV detection. HBoV infected children are older than RSV infected children, and HBoV infection increase with age. HBoV is frequently co-detected with another respiratory virus which makes difficult to evaluate its clinical significance.

