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**Molecular biology, including diagnostics: Molecular virology**

**Prevalence of respiratory viruses in paediatric population hospitalised during influenza season**

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**OBJETIVES:**

To determine the prevalence of respiratory viruses causing respiratory disease in pediatric population hospitalized in a tertiary hospital during the epidemic weeks of influenza virus in Tenerife, Spain.

**METHODS:**

From January to March (week 1 to 13) 2013 were received a total of 55 nasopharyngeal aspirates from pediatric patients hospitalized by severe viral respiratory disease. All samples were routine tested to detect respiratory syncytial virus (RSV) antigen (BinaxNow, Alere®) and influenza virus by reverse transcription polymerase chain reaction (RT-PCR) (Cepheid®). Negative RSV and influenza samples were tested to detect adenovirus, coronavirus, bocavirus, rhinovirus and parainfluenza virus by RT-PCR (Argene, bioMérieux®). Demographic data of positive patients were collected.

**RESULTS:**

Of 55 nasopharyngeal aspirates from 55 pediatric patients with severe viral respiratory disease hospitalized during the epidemic weeks of influenza virus, 9 were positive for influenza virus (7 influenza A/H1N1 variant and 2 influenza B) and 2 were positive for RSV. By molecular methods other viruses were tested in 44 negative samples of the routine, of which 26 were positive to other respiratory viruses: 9 cases were a co-infection of different viruses (5 rhinovirus/bocavirus, 1 rhinovirus/coronavirus, 1 rhinovirus/bocavirus/parainfluenza virus, 1 bocavirus/coronavirus and 1 bocavirus/parainfluenza virus), 8 cases were rhinovirus, 4 bocavirus, 2 coronavirus, 2 adenovirus and 1 parainfluenza. The prevalence of respiratory viruses found during this period was 40.5% rhinovirus, 32.4% bocavirus, 24.3% influenza virus, 10.8% coronavirus, 8.1% parainfluenza virus, 5.4 % RSV and 5.4% adenovirus. According to demographic data of positive cases 22 (59.4%) were male and 15 (40.5%) female; 31 (83.7%) were hospitalized in pediatric unit and 4 (16.2%) in intensive care unit (ICU).

**CONCLUSIONS:**

In weeks of high incidence of influenza virus, other respiratory viruses were found more prevalent in hospitalized pediatric patient as rhinovirus followed by bocavirus. For that reason in these patients the detection of other respiratory viruses must be realized routinely. We consider that the diagnosis of viral respiratory etiology is essential in this population to avoid the unnecessary use of antibiotics, establish appropriate use of antiviral and minimize the risk of nosocomial transmission in hospitals.