Influenza and Respiratory Syncytial Bronchiolitis, Are There Any Differences?

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To the Editor: Bronchiolitis remains one of the leading causes of pediatric hospitalization worldwide [1]. Respiratory syncytial virus (RSV) is the main etiologic agent, although Rhinovirus, Influenza virus (IV), Adenovirus and Parainfluenza are also isolated [2]. It is unclear whether virus identification has any clinical relevance [3]; in fact, the most recent guidelines do not recommend routine virologic testing [4].

Our objective was to determine the clinical differences between moderate-severe bronchiolitis caused by IV and RSV in patients admitted to a Pediatric intensive care unit (PICU).

For this, a retrospective descriptive study was carried out with infants younger than 12 mo with diagnosis of bronchiolitis admitted to a PICU (in Oviedo, Asturias, Spain) between November 2013 and June 2018 (56 mo). Demographic, clinical and microbiological data were analysed.

One hundred thirty five patients were identified; of which 122 (90.4%) had bronchiolitis due to RSV and 13 (9.6%) had bronchiolitis due to IV. Co-infections were observed in 21 patients (mainly Adenovirus, Enterovirus, and Cytomegalovirus). The median age at admission was 1 mo. Non-invasive ventilation (NIV) was required in 89.6% of patients and invasive ventilation in 5 infants. Survival was 100%.

No differences were found between groups regarding age, sex, history of cerebral palsy, severity on admission, as well as length of stay in the PICU, need for NIV, maximum oxygen requirements, or the incidence of co-infection. Significant differences were found in the history of prematurity (RSV 19%

vs. IV 53.8%; $p = 0.009$) and low birth weight (RSV: 17.2% vs. IV: 53.8%; $p = 0.023$).

As expected, infants with a single virus were significantly younger (median 1 mo, IQR 1–3 mo) than those with co-infection (median 5 mo, IQR 0.5–6.5 mo) ($p = 0.002$).

Different strains of IV were observed over the years, with H3N2 standing out in the winter of 2016/17. Infection by the H3N2 strain is an emerging cause of bronchiolitis that has already been described in previous studies [5].

In conclusion, no clinical, therapeutic, or prognostic differences were observed between IV and RSV bronchiolitis, although infants with IV bronchiolitis had a longer history of prematurity and low birth weight.

Compliance with Ethical Standards

Conflict of Interest None.

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