

## E0154 **Monitoring respiratory syncytial virus in patients infected in different epidemiological seasons**

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**Background:** Human respiratory syncytial virus (HRSV) is a mayor etiologic agent of lower tract infections and a leading cause of hospitalizations among infants. Relating viral load and viral dynamics to disease severity will expand our understanding of RSV pathogenesis. The objective of this work is the monitoring of HRSV-infected patients in different epidemiological seasons.

**Materials/methods:** From Dec 2014 to April 2016, 18874 respiratory samples were collected from 14140 patients (mean age: 35.50±32.45 years old; range: 1 month-104 years) with respiratory infection. Detection and quantification of HRSV and human  $\beta$ -globin gene were performed by a real time PCR technique. Viral load were expressed as log<sub>10</sub> copies/1000 cells.

**Results:** HRSV was detected in 1611 (11.39%) patients [mean age: 23.55±32.54 years old; range: 0-104 years; mean viral load: 4.52±2.04 log<sub>10</sub> copies/1000 cells]. Only one viral episode was detected in 1302 (80.82%) patients. Of them, 765 (58.76%) were less than 6 years old and 537 (33.33%) were older. The mean viral load was 4.88±1.90 and 3.64±1.75 log<sub>10</sub> copies/1000 cells, respectively ( $p < 0.0001$ ). Of the remaining 309 (19.18%) patients who had more than one viral episode, 270 (16.76%) had only one positive sample [195 (12.10%) were less than 6 years old and 75 (4.65%) were older; mean viral loads were 4.80±2.16 and 4.27±2.05 log<sub>10</sub> copies/1000 cells, respectively ( $p = 0.0682$ )]. Of the 39 (2.42%) patients with more than one positive sample, 12 [21.83±31.83 years old] and 27 [3.48±13.54 years old] were infected in the same or different season, respectively. The mean viral load in the first and the second sample was 5.88 ± 1.69 and 3.12±1.68 log<sub>10</sub> copies/1000 in patients infected in the same season and 6.44±1.50 and 4.40±1.79 log<sub>10</sub> copies/1000 cells in patients infected in different seasons ( $p < 0.0001$ ). Of the 27 patients infected in different season, 22 (81.48%) had a lower viral load in the second infection than in the first one.

**Conclusions:** The detection of HRSV in different episodes was more frequently associated to children less than 6 years and with a higher viral load.

Viral load in those patients infected in different seasons was lower in the second infection than in the first one.