Evaluation of Respiratory Tract Virus According to 2015-2016 Data of Our Laboratory

Sevim Mese, Aysun Uyanik, Murat Ocal, Ali Agaçfidan

Istanbul University, Istanbul Faculty of Medicine Department of Medical Microbiology, Virology and Fundamental Immunology Unit. email: drsevimmese@gmail.com

INTRODUCTION

In most cases, respiratory viral infections are self-limiting and confined to the upper airways, where they evoke relatively mild symptoms such as sneezing and a runny nose. However, in susceptible individuals, such as newborns and the elderly, the symptoms can impact on the lower airways, resulting in wheeze, shortness of breath, bronchiolitis or pneumonia.

In this study we aimed to investigate the respiratory viruses by multiplex real time rtPCR method in acute respiratory tract infections.

RESULTS

One or more respiratory tract viruses were detected at 34.9% (565/1617) of the investigated samples. Mean age of the patients with detected respiratory viruses is obtained to be 15 ± 21. 309 (54.7%) of positive samples were determined to be belong to male patients and 256 (45.3%) of it to the female patients. While one, two and three factors were respectively detected in 492 (87.1%), 69 (12.2%) and 4 (0.7%) of positive samples, in total 642 respiratory viruses were detected.

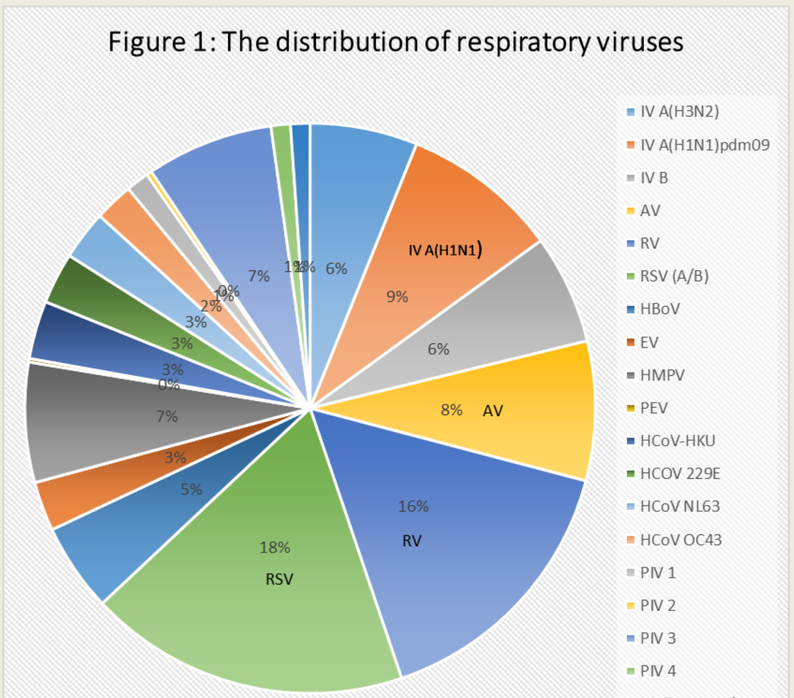
Numerical distribution of IV A (H3N2), IV A (H1N1)pdm09, IV B, AV, RV, RSV (A/B), HBoV, EV, HMPV, PEV, HCoV-HKU, HCoV-229E, HCoV-NL63, HCoV-OC43, PIV 1, PIV 2, PIV 3, PIV 4 and M. pneumoniae in the detected 642 respiratory viruses were obtained as 39, 57, 40, 51, 101, 117, 32, 18, 44, 1, 21, 19, 18, 14, 8, 2, 46, 7 and 7, respectively. The distribution of these viruses in percent (%) is given in Figure 1. RSV, RV, IV A (H1N1) pdm09 and AV were the most frequently detected viruses in 18.2%, 15.7%, 8.9% and 7.9%, respectively.

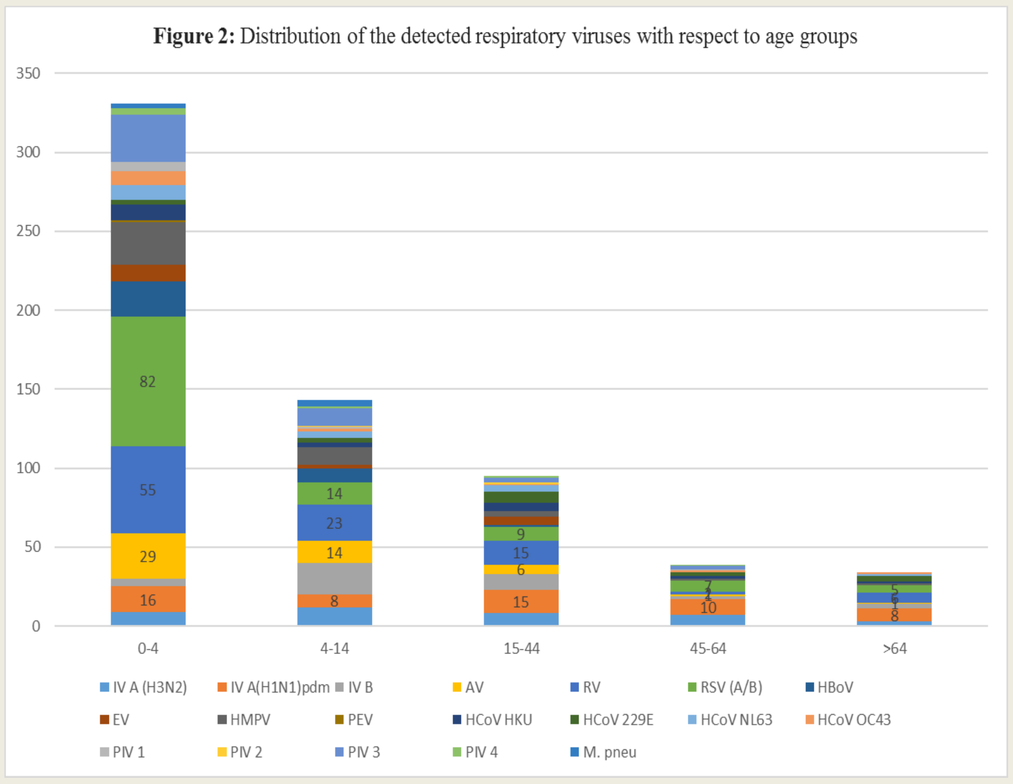
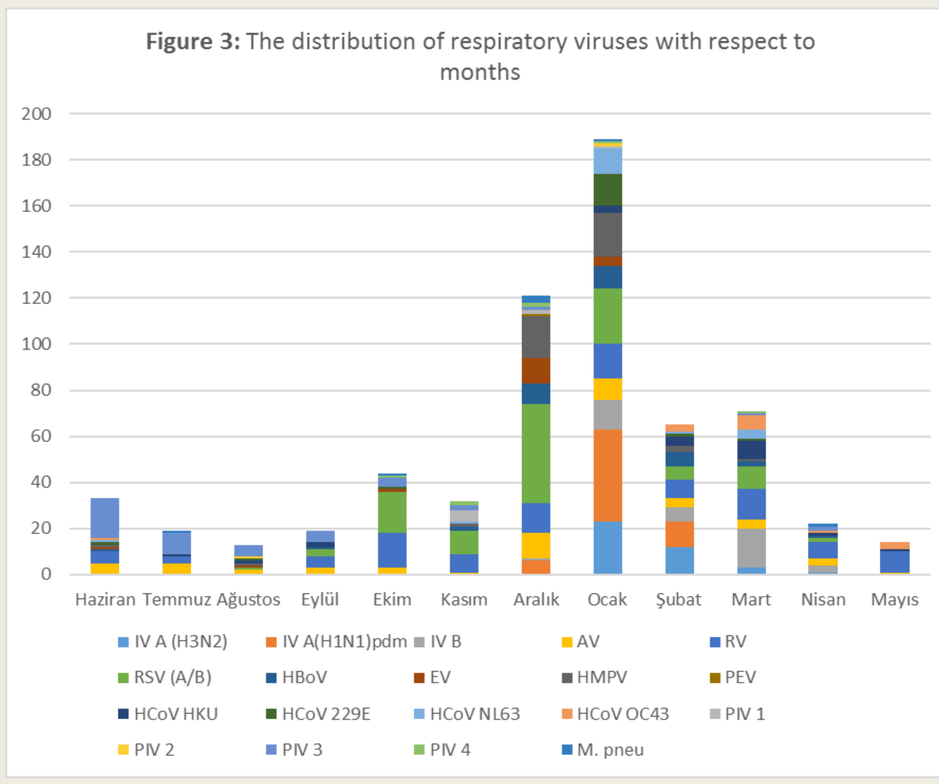
It was determined that of the 642 viruses, which were detected to be positive for any respiratory viruses, 331 (51.6%) were aged 0-4 years, 143 (22.3%) were between 5-14 years, 95 (14.8%) were between 15-44 years, 39 (6.1%) were 45-64 years and 34 (5.3%) were over 65 years old. Distribution of the detected respiratory viruses with respect to age groups is given in Figure 2.

The number of the detected viruses between the 1st June of 2015 and the 31st May of 2016 with respect to months were 33, 19, 13, 19, 44, 32, 121, 189, 65, 71, 22 and 14, respectively. The distribution of each respiratory viruses with respect to months is given in Figure 3.

METHODS

Influenza viruses (IV), parainfluenza virus (PIV), adenovirus (AV), rhinovirus (RV), respiratory syncytial virus (RSV), human bocavirus (HBoV), Enterovirus (EV), human metapneumovirus (HMPV), Paraechovirus (PEV), human coronavirus (HCoV), parainfluenza virus (PIV) and Mycoplasma pneumoniae (M. pneumoniae) in nasal swabs, which were sent to our laboratory between the 1st June 2015 – the 31st May 2016 with preliminary diagnosis of viral respiratory tract infection, were investigated using FTD Respiratory pathogens 21 (fast-track DIAGNOSTICS, Luxembourg) kit.



CONCLUSIONS

In conclusion, according to our laboratory results a rate of 34.9% respiratory virus was detected in acute respiratory infections in 2015-2016 season. It was obtained that RSV, RV, IV A (H1N1) pdm09 were the most frequently detected pathogens, respectively. Viral respiratory tract infections were the most frequently seen during December, January and February in this period. Respiratory tract viruses affected at the most 0-4 age group.