



Poster

Session/Topic: Antiviral therapy and diagnosis

N. Title:

P19 ANTIVIRAL TREATMENT AND VIROLOGICAL MONITORING OF OSELTAMIVIR-RESISTANT INFLUENZA VIRUS A(H1N1)PDM09 IN A PATIENT WITH CHRONIC B LYMPHOCYtic LEUKEMIA

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Abstract:

Background: Influenza virus infection remains one of the main Public Health concerns worldwide, due to its morbidity and mortality. After the 2009 pandemics, awareness towards influenza virus diagnosis and monitoring increased. The Microbiology and Virology Unit of the Padova University Hospital acts as the Italian Veneto Region reference laboratory for the diagnosis of influenza and other respiratory diseases and is in charge for monitoring cases of severe influenza virus infection. We report the virological monitoring, by molecular techniques, and the antiviral therapy adopted for the treatment of a patient affected by chronic B lymphocytic leukemia, who experienced a severe pneumonia with long-term shedding of influenza virus A(H1N1)pdm09, characterized by an early development of oseltamivir resistance.

Materials and methods: Real-time RT-PCR (rRT-PCR) was used for the diagnosis and monitoring of viral infection. A specific rRT-PCR protocol was used for the detection of the H275Y mutation within the neuraminidase viral genomic segment.

Results: Data showed that the patient was affected by influenza virus A(H1N1)pdm09. A H275Y mutation arose early during the oseltamivir treatment and the increase of the mutated population was associated to an adverse evolution of clinical signs. Although we observed a long-term viral shedding, a triple combined therapy and the intravenous zanamivir treatment seemed to help clinical improvement of pneumonia. However, the complete viral clearance required more than 60 days after the diagnosis with a long treatment with antivirals.

Conclusions: Our experience suggests that to optimize the outcome of antiviral treatments it might be useful to routinely test the emergence of the most common resistance-associated mutations in immunocompromised patients. Furthermore, treatments based on the combination of two or more antiviral drugs might help in speeding up clinical signs improvement and viral clearance in immunocompromised patients affected by severe influenza. However, further studies are needed to support this conclusion.
