

Case report of equine influenza in Italy, in 2014.

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In the last decade, outbreaks of equine influenza (EI) in the European horse population were due to the circulation of the H3N8 virus, American lineage and, more recently, clade 2 of the sublineage Florida. Although EI in Italy is endemic, diagnostic requests for this infection during respiratory syndromes are rare. The last isolations of EI virus in Italy were in 2005, with the Rome and Bari strains presenting a high identity to strain A/eq/SouthAfrica/4/2003 (successively included in the sublineage Florida clade 1). In January 2014, in a racetrack in Rome, an investigation was conducted by the National Reference centre for equine diseases, following the onset of respiratory distress in one of the stables. The episode was principally characterised by fever and dry cough involving eleven flu vaccinated foals that had arrived at the end of 2013. From the preliminary tests conducted on the nasal swabs of these animals, using a panel of Real Time (RT) PCR's for the detection of equine respiratory viruses, only that for the detection of the protein M gene of the influenza virus type A resulted positive. To genetically characterize the viral strain, the PCR positive swabs (4/11) were inoculated in chicken embryos. RNA was extracted from the allantoic liquid, collected after three sub-passages of the isolates, and subsequently used for the reverse transcription RT-PCR performed with a pair of primers specific for the HA1 region of the segment IV of the viral genome. The first amplicon of 1080bp was used in the second round PCR, amplifying a sub-region of 220bp. On sequencing, this fragment presented a homology of 99.5% with the strain "North Rhine Westphalia" (GenBank acc.num. KJ538149), isolated, at around the same time in Germany, and the strain "Yokohama" (GenBank acc.num. AB761396.1), previously isolated in Japan, in 2012, both pertaining to clade 2 of the sublineage Florida. The present case study confirms what was reported in 2013, by the Panel of experts of the OIE, for the surveillance of EI and vaccine composition, relative to the exclusive circulation in Europe, in 2012, of clade 2, sublineage Florida. In this situation, because the affected animals were young, it was not possible to establish if the vaccine protection could have been compromised due to the limited number of vaccinations received or, the incomplete efficacy of the ones used. Starting from 2004, of the vaccines commercially available, only the composition of some has been updated with the recommended strains, A/eq/SouthAfrica/2003 ed A/eq/Ohio/2003, both belonging to clade 1 but not with the most recent circulating strains for which protection is apparently incomplete. Surveillance for EI is highly recommended especially to verify the appropriateness of the vaccine composition.