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206 Serological investigation of equine respiratory outbreaks at a racetrack in Ontario, Canada (2011-2015)

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Figure 1. M. equirhinis colonies isolated from tracheal wash samples.

Equine respiratory viral disease is considered one of the most detrimental problems in the equine population. Common respiratory viruses such as equine influenza virus, equine herpes viruses and equine rhinitis viruses are associated with respiratory outbreaks worldwide. Therefore, this serological survey investigated etiological agents associated with respiratory disease during outbreaks at a major racetrack in Ontario, Canada. Acute and convalescent serum samples were collected in 2011 (n=25), 2012 (n=22), 2014 (n=16) and 2015 (n=33) from racing horses showing clinical signs consistent with fever, nasal discharge and loss of appetite, in the course of a respiratory outbreak. Sera were paired when possible and tested for antibodies to equine influenza virus (EIV), equine herpesvirus 1 and 4 (EHV1 and EHV4), equine rhinitis A virus (ERAV) and equine rhinitis B (ERBV). Overall both EIV and ERAV were identified as the most prevalent and the cause of the four respiratory outbreaks. Interestingly, specific antibody titres raised to ERAV in the 2014 outbreak were unprecedented. In conclusion, it is not uncommon to identify EIV as a cause of respiratory outbreaks in North America but the high prevalence of ERAV alone or in combination with EIV is not a common feature of viral respiratory outbreaks worldwide. From the present findings, it would be prudent in any respiratory outbreak not only to consider EIV and EHV1/EHV4 but equally ERAV.

214 Investigation of the presence of Mycoplasma species as the etiologic agents of inflammatory airway diseases in thoroughbred racehorses in Istanbul province

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Mycoplasma equirhinis and Mycoplasma felis are thought to be two of the etiologic agents of inflammatory airway disease (IAD) which is the second most encountered disorder causing poor performance after musculoskeletal injuries in thoroughbred race horses (Cardwell et al., 2013; Chanter, 2002; Hodgson et al., 2002; Mair, 1996; Newton et al., 2003; Smith, 2011; Wood, 1996; Wool, 1997; Wool et al. 2005). The aims of this study was (i) to investigate the presence of M. equirhinis, M. felis and also Mycoplasma spp. in thoroughbred racehorses in Istanbul province / Turkey for the first time. (ii) to evaluate the association between IAD clinical symptoms and the presence of these agents statistically. In the present study tracheal wash samples were
samples, 1, 2, 3, 6, 7, 8, 9, 10, 11, 12: negative samples). bp, 500 ref. band, P: positive control, N: negative control, 4, 5: positive sample). Negative control, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11: Positive samples, 12: Negative isolates. (M: Marker 100-1000 bp, 500 ref. band, P: Positive control, N: Negative control, 1, 2, 3, 6, 7, 8, 9, 10, 11: Positive samples, 12: Negative sample). collected from 111 thoroughbred English (73.88 %) and Arabian (26.12 %) horses which were showing the clinical signs such as coughing, high body temperature (38.6 °C <), submandibular lymphadenopathy, tracheal mucus accumulation (classified as none, few, intermediate, high), nasal discharge (Hodgson 2002, Christley et al 2001). The clinical signs, age, gender and race informations were recorded while collecting the samples. The tracheal wash samples were examined with culture (Christley et al 2001). The clinical signs, age, gender and race informations were recorded while collecting the samples. The tracheal wash samples were examined with culture (Christley et al 2001) and molecular (PCR) methods (Kuppeveld et al 1992, Chalker et al 2004, Robinson et al 2001) as previously described. Statistical analysis of the relationship of the clinical symptoms and the presence of the mycoplasmas were done by Chi square (X²) test (Akdamar et al. 1999). As a result of the culture, Mycoplasma spp. were isolated from 18 (16.2%) of the 111 samples (Figure 1) and all of these isolates were identified as Mycoplasma spp. (Figure 2) and M. equirhinis (Figure 4) by PCR respectively. M. felis was not isolated from any of the tracheal wash samples. In PCR analysis Mycoplasma spp. were found positive in 66 (59.5 %) samples while M. equirhinis and M. felis were found positive in 7 (6.3 %) and 2 (1.8 %) samples (Figure 3) respectively. As a result of the whole (both PCR and culture) laboratory analysis Mycoplasma spp. was found 59.5 % while M. equirhinis was found 18 % and M. felis was found 1.8 % in tracheal wash samples. According to the statistical evaluations, the presence of Mycoplasma spp., M. equirhinis and M. felis in tracheal wash samples could not be associated with any clinical symptoms of IAD in thoroughbred English and Arabian racehorses.

References


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