

ACCURACY OF A SERUM IgE TEST FOR THE DIAGNOSIS OF RAO IN HORSES

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Aim of the study:

The aim of this study was to assess whether a serum specific IgE test against different equine inhalant allergens could be useful to diagnose recurrent airway obstruction (RAO).

Methods and materials:

For this study 43 adult horses admitted at the equine hospital for respiratory evaluation were used, together with 15 additional control horses. Based on clinical history, physical examination, endoscopy, thoracic ultrasonography and radiography, transtracheal aspirate cytology and cultures, hematology or cytology of bronchoalveolar lavages, RAO was diagnosed in 14 of the 43 horses. The remaining 29 horses had a diagnosis of a non-allergic upper (11) and lower airway inflammatory problem (18). On the other hand, the control horses had a normal clinical history, physical examination, hematology, and cytology of bronchoalveolar lavage (<5% neutrophils). Additionally, blood samples from 8 RAO-affected horses and from 8 healthy horses from the Animal Health Trust were included. Serum samples of all horses (n= 74) were blindly submitted to perform an IgE test (Equine ELISA, Alergovet SL) against different respiratory allergens (grain mill dust, grasses, molds, mites, weeds and tree allergens). A horse was considered positive when IgE levels to any of the allergens tested were above the normal range.

Results:

Twenty of the 22 RAO-diagnosed horses showed a positive result to the serum IgE test to at least one of the allergens tested. In contrast, only 3 healthy horses and 8 horses affected with a non-allergic airway inflammatory problem showed a positive reaction. Therefore, sensitivity and negative predictive value of the test were very high (90.9, and 95.3%, respectively). Additionally, most of the RAO horses (70%) showed positive results to grasses, and 50% were positive to grain mill dust, while only few of them showed positive results to molds (15%), trees (15%) and mites (10%).

Conclusion:

In conclusion, this serum IgE test has very high sensitivity and negative predictive value to confirm or rule out RAO in horses.