

Diagnostic Characteristics of Endoscopic Variables for Lower Airway Inflammation In Young Thoroughbred Racehorses.

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Racetrack veterinarians frequently perform endoscopy to evaluate the upper and lower respiratory tract and make judgements about the presence or absence of airway inflammation. To assess the diagnostic characteristics and accuracy of commonly assessed endoscopic variables (pharyngeal lymphoid hyperplasia [PLH], tracheal discharge grade and tracheal discharge character) for diagnosis of lower airway inflammation, 176 two to three year old thoroughbred racehorses were consecutively examined during a cohort study investigating lower airway inflammation. Upper and lower airway endoscopy was performed after which a tracheal aspirate (TA) sample (the reference standard) was collected via a guarded catheter using a standard endoscopic technique. Horses with TA samples in which there were > 20% neutrophils but ≤ 5% eosinophils were classified as having lower airway neutrophilic inflammation. In general, these endoscopic 'tests' had reasonable sensitivity (74-79%) but lower specificity (36-38%), although specificity increased at the expense of sensitivity when different variable categories were used as the positive criterion. The post-test probability of detecting airway inflammation given a positive result for these tests was low (47-49%), although when negative results for each test were used in series, racehorses were 3.4 times less likely to have neutrophilic airway inflammation, with a post-test probability of 18%. Therefore, these 'diagnostic tests' may be useful for veterinarians to cautiously rule out neutrophilic airway inflammation, although airway inflammation may be missed in approximately one in five horses. All-negative tests probably give veterinarian's greater ability to conclude that neutrophilic airway inflammation is highly unlikely to be present and therapy is unwarranted.