Case-Control Study of Risk Factors for Equine Nasopharyngeal Cicatrix Syndrome

Tracy E. Norman, VMD, Diplomate ACVIM*; M. Keith Chaffin, MS, DVM, Diplomate ACVIM; Wesley T. Bisset, DVM, PhD; and James A. Thompson, DVM, DVSc, Diplomate ACT

Risk factors for equine nasopharyngeal cicatrix syndrome in Texas include pasture housing, increasing age, and warm environmental conditions. Authors' addresses: Department of Large Animal Clinical Science, Mail Stop 4475 TAMU, College Station, TX 77843 (Norman, Chaffin, Bisset); and American College of Veterinary Preventative Medicine (Epidemiology), Department of Large Animal Clinical Science, Mail Stop 4475 TAMU, College Station, TX 77843 (Thompson); e-mail: tnorm@cvm.tamu.edu. *Corresponding and presenting author. © 2012 AAEP.

1. Introduction
Nasopharyngeal cicatrix syndrome (NCS) is an inflammatory upper airway condition in horses that leads to the accumulation of disfiguring scar tissue in the pharynx, larynx, and proximal trachea of horses. Although NCS is highly prevalent in select geographical areas of the United States, its etiology is poorly understood.

2. Materials and Methods
Records of horses undergoing upper airway endoscopy over a 5-year period were reviewed. Cases were included if reviewed images were consistent with NCS. Controls were included if reviewed images showed no evidence of NCS. Comparisons were made evaluating signalment, season of presentation, and husbandry. A logistic regression model using Bayesian inference was used to make the analysis.

3. Results
Of the 1,131 records of horses undergoing upper airway endoscopy, 121 were identified as cases. Controls were selected from remaining records. Breed and sex were similar between groups. Advanced age, housing exclusively at pasture, and presentation during the summer months were risk factors for NCS.

4. Discussion
Identifying the risk factors for a condition is often the first step to discovering its etiology. The risk factors identified in this study support chronic cycles of the process leading to NCS. The information gleaned from this study will provide the framework for future investigations into NCS.