American Association of Equine Practitioners
Foundation Case-Control Study of Pasture- and Endocrinopathy-Associated Laminitis

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The American Association of Equine Practitioners (AAEP) Foundation's case-control study of pasture- and endocrinopathy-associated laminitis (PEAL) in horses is ongoing. The objective of this study is to identify risk factors for the development of PEAL that will guide future research studies of the pathogenesis, treatment, and prevention of newly developing (incident) cases of laminitis seen by private practitioners. Results should be available by 2014 and will be presented to members of the AAEP. Authors' address: Texas A&M College of Veterinary Medicine, TAMU 4475, College Station, TX 77843; e-mail: MColeman@cvm.tamu.edu. *Corresponding and presenting author. © 2012 AAEP.

1. Introduction

An estimated 13% of horse operations and 2% of horses are affected with laminitis annually in the United States,¹ and a horse’s lifetime risk of developing laminitis has been estimated to be approximately 15%.² In addition to the clinical and economic impact of the disease, the absence of effective methods of curing or preventing laminitis renders the disease important from a welfare perspective.

Laminitis has been consistently ranked as a top priority for research by members of the American Association of Equine Practitioners (AAEP), and a recent survey of members of the AAEP in 2009 identified laminitis as the highest priority for research funding and investigation.³ In that same study, 71% of survey respondents indicated willingness to participate in data collection for practitioner-based research (AAEP Foundation 2009³). Participants at the 2nd AAEP Laminitis Research Workshop, held in November 2009, identified epidemiologic studies of naturally acquired laminitis as the highest priority for research investigation. As a result, the AAEP Foundation Laminitis Research Advisory Board was established in 2010 to further consider, prioritize, and develop a strategy for epidemiologic investigation of naturally acquired laminitis. In response to the interest and directive of the AAEP membership, the AAEP Foundation secured funding to launch an epidemiologic study to identify risk factors of pasture- and endocrinopathy-associated laminitis (PEAL) in horses. This study was designed to evaluate any new cases of laminitis not caused by lameness in the contralateral limb, sepsis, or grain overload. The AAEP Foundation’s epidemiologic study of PEAL is supported by Prascend® (pergolide mesylate), manufactured by Boehringer

NOTES
The pathogenesis of laminitis remains ill-defined, and the disease may result as a sequela to a variety of primary disorders.\(^4\)\(^5\) In the 1998 National Animal Health Monitoring System (NAHMS) Equine study, pasture-associated laminitis and laminitis of unknown etiology were the leading reported causes of laminitis reported by horse-owners.\(^1\) At their meeting in 2010, there was consensus among members of the AAEP Foundation Laminitis Research Advisory Board that PEAL was the most common form of laminitis encountered in private practice and for primary care\(^6\)\(^7\) and therefore was the focus of the first project launched by the AAEP Foundation.

Most laminitis research to date has been based on experimental induction of the disease.\(^3\) The relevance of experimentally induced laminitis to PEAL or other naturally occurring forms of laminitis is unknown. Thus, there is a need for patient-based research of PEAL (and other forms of laminitis). The rationale for an epidemiological approach was 2-fold. First, the study of spontaneous disease is desirable from a welfare standpoint. Second, the results of epidemiologic investigations are directly relevant to cases of spontaneous disease meeting the same case definitions derived from similar reference populations and may be extrapolated (under constraints) to other similar populations.

This AAEP Foundation–funded study was first announced to the members of the AAEP at the 58th annual convention in San Antonio, Texas, in November 2011. During January 2012, all eligible members of the AAEP were mailed a notification of the study and were encouraged to register to participate. Within a few weeks, more than 450 veterinarians willing to participate had registered, and data collection commenced. Each participating veterinarian was asked to report data pertaining to the following: signalment; diet; housing and health management; and morphometric measurements from one incident case of laminitis and two control horses; participating veterinarians also were asked to collect a sample of blood from each horse. All blood samples will be stored until the end of the study and tests to be performed will be determined at that time. All information relevant to participation was made readily available on the study website at www.vetmed.tamu.edu/laminitis. Data collection was planned for a period of 12 months (i.e., through the end of 2012), but will need to be extended into 2013.

2. Discussion/Conclusions

With data collection ongoing, the results of this study are unavailable; however, it is expected that findings will be directly relevant to cases of pasture- and endocrinopathy-associated laminitis seen by practicing equine veterinarians in North America. The results of the study will help identify risk factors for the development of PEAL that will guide future research studies of the pathogenesis, treatment, and prevention of incident cases of laminitis seen by private practitioners. It is important to emphasize that the expectation of this first study is not to solve the problem of laminitis but rather to establish directions for future laminitis research to prevent or control this devastating disease.

References