Public Abstract

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Graduation Term:WS 2007

Department:Veterinary Medicine and Surgery

Degree:MS

Title:Detection of *Leptospira interrogans* in fixed equine eyes affected with end-stage equine recurrent uveitis

Equine recurrent uveitis (ERU) is the most frequent cause of blindness in horses worldwide. *Leptospira* has been implicated as an etiologic agent in some cases of ERU and has been detected in fresh ocular tissues of affected horses. The objective of this study was to determine the presence of *Leptospira* antigen and DNA in fixed equine ocular tissues affected with end-stage ERU. Sections of eyes from 30 horses were obtained. Controls included (1) ten normal equine eyes and (2) ten equine eyes with a non-recurrent form of uveitis. The experimental group consisted of 10 eyes diagnosed with ERU based on clinical signs and histologic lesions. Sections were subjected to immunohistochemical staining with an array of rabbit anti-*Leptospira* polyclonal antibodies. DNA extractions were performed using a commercial kit designed for fixed tissue. Real-time PCR analysis was completed on extracted DNA. The target sequence for PCR was designed from alignments of available *Leptospira* 16S rDNA partial sequences obtained from GenBank. Two out of 10 test samples were positive for *Leptospira* antigen by immunohistochemical assay. Zero of 20 controls were positive for *Leptospira* antigen. All test samples and controls were negative for *Leptospira* DNA by real-time PCR analysis. *Leptospira* was detected at a lower frequency than that previously reported for fresh ERU affected aqueous humor and vitreous samples. *Leptospira* is not frequently detectable in fixed ocular tissues of ERU affected horses using traditional immunohistochemical and real-time PCR techniques.