

Global Veterinary Summit

August 31- September 02, 2015 Orlando-FL, USA

Comparative study of histological changes in the Deep Branch of the Lateral Palmar Nerve (DBLPaN) in horses with induced Proximal Suspensory Desmitis (PSD)

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Introduction: The aim of this study was to determine if the DBLPaN has lesions that suggest compression neuropathy as a source of pain in horses that have PSD. Histologic features of the DBLPaN of the lame thoracic limb of horses with collagen-induced PSD were compared with those controls.

Objective: To compare histological features in the DBLPaN of horses with induced PSD of a thoracic limb with histological features of this nerve in the contra lateral control limb.

Methods: Adult mixed breed horses (n=8) with no evidence of PSD. Desmitis was induced in a thoracic limb by ultrasound-guided injection of collagenase. Eight weeks later a 2 cm portion of the DBLPaN was removed from each thoracic limb.

Results: DBLPaNs of horses with collagen-induced desmitis had evidence of degenerative nerve compression such as proliferation of endoneurial myxomatous matrix, Renault bodies and myelin degeneration.

Discussion: Persistence of thoracic limb lameness in horses with PSD may be caused by compression of the DBLPaN which innervates the proximal aspect of the suspensory ligament and may be the cause of pain causing lameness rather than pain originating within the proximal aspect of the suspensory ligament.

Conclusions: Chronic lameness in horses affected with PSD can be caused by compression neuropathy. The protocol was approved by the FMVZ-UNAM Institutional Animal Care and Use Committee.

Biography

Gabriela Lopez-Navarro is in the final process to obtain the PhD at the National University of Mexico. She had been working as an Associate Professor at the Equine Medicine and Surgery Department of the Faculty of Veterinary Medicine for 11 years. Her Research interests are focused in equine lameness; diagnosis and treatments and diagnostic imaging ultrasound in musculoskeletal problems as a result of many years of involvement in the clinical practice of equine sports medicine and surgery.

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