

Histopathology in horses with chronic palmar foot pain and age-matched controls. Part 2: The deep digital flexor tendon.

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Abstract

REASONS FOR PERFORMING STUDY: Causes of palmar foot pain and the aetiopathogenesis of navicular disease remain poorly understood, despite the high incidence of foot-related lameness.

HYPOTHESES: Abnormalities of the deep digital flexor tendon (DDFT) may contribute to palmar foot pain; ageing degenerative changes may be seen in horses free from lameness; and horses with lameness are likely to have a greater severity of abnormalities than age-matched horses with no history of foot pain.

METHODS: Feet were selected from horses with a history of uni- or bilateral forelimb lameness of at least 2 months' duration. Histology of the DDFT from the level of the proximal interphalangeal joint to its insertion were examined and the severity of lesions for each site graded. Associations between lesions of the navicular bone, collateral sesamoidean ligaments (CSL), distal sesamoidean impar ligament, navicular bursa, distal interphalangeal (DIP) joint synovium and collateral ligaments of the DIP joint and DDFT were assessed. **RESULTS:** There was no relationship between age and grade of histological abnormality of the DDFT. There were significant histological differences between groups for lesions of the dorsal layers of the DDFT, but not for lesions of the palmar aspect. There were significant associations between histological grades for the superficial dorsal layer of the DDFT and flexor aspect of the navicular bone; and between the deep dorsal layer of the DDFT and the proximal border and medulla of the navicular bone. The navicular bursa grade was correlated with grades for the superficial dorsal, deep dorsal and deep palmar layers of the DDFT. The histological grades for the CSL and the superficial dorsal layer of the DDFT were also associated. **CONCLUSIONS:** Pathological abnormalities in lame horses often involved the DDFT in addition to the navicular bone. Vascular and matrix changes may precede changes in the fibrocartilage of the navicular bone. **POTENTIAL RELEVANCE:** Identification of factors leading to vascular changes within the interstitium of the DDFT and changes in matrix composition, may help in future management of palmar foot pain.

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