

STANDING LOW FIELD MAGNETIC RESONANCE IMAGING (MRI) OF THE FOOT IN 205 HORSES (2007-2009) AND ANALYSIS OF OUTCOME ACHIEVED

J Dixon, R Weller, N Bolas and T Mair

Introduction

In the last decade MRI has opened a new diagnostic chapter in lameness diagnosis, with over 20,000 completed low-field standing MRI scans since 2003. However, little is still understood about the consistency of findings from MRI within a population, and long-term outcome.

This study evaluated use of standing MRI for equine lameness in a referral population, and reported on its impact upon long-term outcome. Hypotheses; (1) Specific lesions detected at MRI significantly correlate with a poor outcome, in particular deep digital flexor tendinopathies; (2) Maximal athletic performance reached post-MRI will be significantly worse than prior to lameness.

Methods

Retrospective evaluation of cases (n=205) subjected to MRI for lameness (2007-2009) was undertaken with information collected including: history, signalment, lameness duration and grade and prior diagnostics. MRI lesions were categorised by structure and severity. Long-term follow-up assessment was made and outcome assessed with respect to the imaging diagnoses, athletic performance and lameness duration.

Results

Successful outcome (sound with a full return to work) was attained in 32.7% of cases. Common MRI findings included DDFT, navicular bone and collateral ligament of the distal interphalangeal joint lesions. Outcome was significantly worse for cases where concurrent DDFT and navicular bone lesions occurred. Lameness duration was not observed to be a factor influencing recovery. Athletic performance post-MRI and recovery was found to be significantly worse than prior to lameness.

Conclusions

Soft-tissue lesions in the equine distal limb continue to be associated with unsuccessful outcomes. Combined DDFT and navicular bone lesions are associated with a poor prognosis. An enhanced understanding of lesions may allow more targeted treatment and improve outcome. A greater understanding of inter-lesion relationship can therefore be developed. Use of MRI to detect early / sub-clinical disease may allow effective preventive strategies to be adopted.