

MAGNETIC RESONANCE IMAGING OF THE DROMEDARY CAMEL STIFLE

Z.A. Al Mohamad

Department of Clinical Sciences, College of Veterinary Medicine, King Faisal University,
PO Box 400, Al-Ahsa 31982, Kingdom Saudi Arabia

ABSTRACT

The objective of the present investigation was to develop a high-field magnetic resonance imaging (MRI) protocol for assessment of the dromedary camel stifle region and to describe normal MRI appearance of the stifle by comparing MRI images with their corresponding anatomic slices. Twelve cadaveric hind limbs were obtained from 6 clinically sound adult dromedary camels without hind limb lameness. Cadaveric stifles were scanned by 1.5 Tesla MRI system using T1-weighted, T2-weighted, proton density gradient echo and short Tau inversion recovery sequences in 3 planes. After imaging, stifles were frozen at -18°C for 2 weeks, then sectioned in sagittal, dorsal or transverse planes. Optimal MRI images from different sequences and planes were evaluated and correlated to their corresponding gross anatomic slices. Descriptive findings of the articular cartilage, subchondral bone, cruciate ligaments, menisci, menisco-tibial and menisco-femoral ligaments, long digital extensor tendon, and patellar ligament were reported. The high-field MRI protocol described in this study provided high spatial and contrast resolution of the osseous and soft tissue structures of the dromedary camel stifle joint. Data obtained in this study could be used as normal reference standards for evaluation of the dromedary camel stifle in clinical situations.

Key words: Dromedary camel, imaging, MRI, stifle