

ROLE OF DIAGNOSTIC IMAGING IN DIAGNOSIS OF CAMEL LAMENESS: CURRENT STATUS AND FUTURE PROSPECTIVES

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ABSTRACT

Camel lameness constitutes a major welfare problem and has a negative economic impact. Lameness in dromedaries has a different pattern than in cattle and horses, therefore its diagnosis is a big challenge for veterinarians. Radiography and ultrasonography (US) are well-established in dromedaries, whereas computed tomography (CT) and magnetic resonance imaging (MRI) are becoming increasingly common. CT and MRI accurately describe the bones and soft tissues, eliminate structural superimposition in the dromedary camel's limbs and allow for the assessment of minute ligamentous and tendentious structures that are inaccessible by US. However, US and MRI are useful for assessing the articular cartilage that is not evident on normal CT images. Ultrasonography is a useful tool for assessing soft tissues, articular cartilage and bone shapes. However, CT and MRI may be used when US data are unclear or to assess inaccessible regions of the camel's limbs. MRI and CT are becoming more widely recognised as very accurate imaging techniques in camel practice. Nevertheless, restricted accessibility, the necessity for animal general anaesthesia and expensive expenses reduce the usefulness of these techniques in camels. As a result, all previous research on the use of CT and MRI in dromedary camels was done on cadavers. Future clinical trials are strongly recommended to document the usefulness of these techniques in diagnosis of camel lameness. Furthermore, the availability of adequate or customised CT and MRI machines for use in camel practice is essential. An atlas of normal CT and MRI scans of all regions of the musculoskeletal system in camels is desperately needed to cover the diagnostic imaging gap in camel practice. This narrative review describes the current status and future prospective of using diagnostic imaging techniques in diagnosis of camel lameness.

Key words: Camel, computed tomography, lameness, magnetic resonance imaging, radiography, ultrasonography