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Compared anatomy and imaging

(MRI, radiography and angiography) of the dromedary's acropode [*Camelus dromedarius*, Linnaeus, 1758]

Anatomie et imagerie (IRM, radiographie et angiographie) comparées de l'acropode du Dromadaire (*Camelus dromedarius*, Linné, 1758)

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Introduction:

The distal extremities of the left thoracic and pelvic limbs of an adult male dromedary (17 years old) were studied; they were brought from a laboring animal (circus- France) that was found dead and was autopsied 3 days later.

METHODS:

The limbs were frozen for 15 days before an MRI scan was performed of the acropodes (Metacarpo /resp. metatarso-phalangal and interphalangal joints), facial and a profile radiography together with an angiography of the region after injection of arteries (median, resp. tibial caudal) with iodine, a parasagittal cut after refreezing enabled the anatomic structures to be shown.

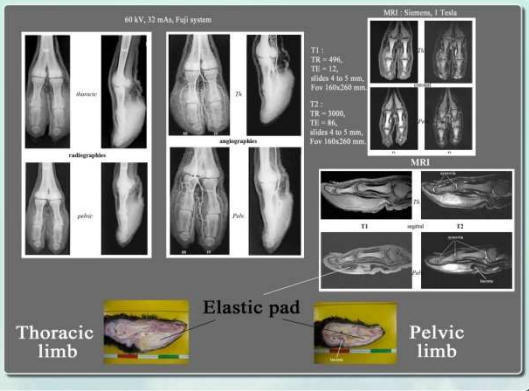
RESULTS:

In the MRI, the bone structures and the soft surrounding tissues emerge clearly and we could show the presence of a strong fibroelastic (palmar, resp. plantar) pad that represents a spongy structure, with (as noticed in the pelvic limb) the presence of lacunas which were confirmed upon cutting.

The phalanges radiography allowed to confirm the absence of the distal sesamoid bone.

The angiography reveals a system of bilateral arterial irrigation that is perfectly superimposable between the 2 limbs. In the two cases, the digital arteries (palmars, resp plantars) proper (axial or abaxial of fingers III and IV) give several branches that irradiate towards the pads from the arterial arcade.

The cut enabled the visualization of the anatomic structures at the fingers and particularly the pads that enclose the 2 hooves, making the dromedary's foot very flexible and protected from the hot soil. The palmar sole is wider than the plantar one (115% more).



The study of the dromedary's acropode allows us to highlight an original anatomic structure that does not only correspond to an adaptation to walk in a moving medium (the sand) but also a very hot one, with a particularly developed vascularization that ensures the "cooling "of the extremities.

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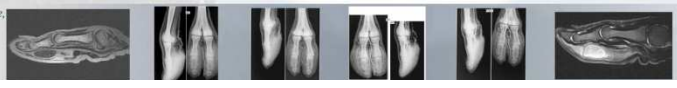

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