Title: High frequency ultrasonographic appearance of the cranial cruciate ligament and menisci in 10 radiographically normal canine stifles.

Affiliations: Elke Van der Vekens, Evelien de Bakker, Evelien Bogaerts, Bart J.G. Broeckx, Kaatje Kromhout, Jimmy Saunders

Salisburylaan 133
Merelbeke
9820
Department of medical imaging of domestic animals and orthopaedics of small animals; Faculty of Veterinary Medicine; Ghent University; Belgium

Heidestraat 19
Department of Nutrition, genetics and ethology

The purpose of this ex vivo study was (1) to describe the ultrasonographic appearance of the canine cranial cruciate ligament (CrCrL) and menisci using a high frequency linear transducer, and (2) to determine the length of the CrCrL seen on ultrasonography. Ultrasound examinations were performed on 10 radiographically normal cadaveric stifles of adult dogs weighing more than 15 kg, followed by macroscopic and histologic evaluations. The CrCrL had a parallel hyperechoic fibrillar pattern at the insertion on the tibia and a hypoechoic structure more proximally in all stifles. This hyperechoic pattern was visible over 35% (median) of the total length of the ligament, with 50% (median) of the total length CrCrL that could be outlined. All medial menisci and 8 out of 10 of the lateral meniscishowed hypoechoic lines within their bodies oriented obliquely to the direction of the ultrasound beam. Fifteen of the 20 cranial meniscotibial ligaments were detected, showing a hyperechoic fibrillar pattern. Normal macro- and microscopic appearance was observed in all menisci, with the radial bundles of collagen fibers at the level of and with similar orientation as the intrameniscal hypoechoic lines on ultrasound. Improved visualization of the meniscus, the cranial meniscotibial ligament and the CrCrL can facilitate presurgical diagnosis of meniscal tears and partial CrCrL rupture.