What Is Your Diagnosis?

In cooperation with

Figure 1—Lateromedial radiographic view of the right stifle joint of a 17-year-old horse examined for lameness of the right hind limb.

History

A 17-year-old Morgan gelding was evaluated for lameness of the right hind limb of 4 months' duration. A substantial amount of effusion was detected in the right medial femorotibial joint, and lameness of the right hind limb with minimal weight bearing was observed. Initial examination by the referring veterinarian isolated the lameness to the right stifle joint. At that time, 80 mg of methylprednisolone acetate and 20 mg of hyaluronic acid were injected into the femoropatellar and medial femorotibial joints; the lameness improved for approximately 2 months after which it became progressively worse. Radiographs were provided by the referring veterinarian (**Figure 1**).

Determine whether additional imaging studies are required, or make your diagnosis from Figure 1—then turn the page →

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Figure 2—Same radiographic view as in Figure 1. A distinct marginated oval mineral opacity (1 × 1 cm) is evident in the caudomedial aspect of the stifle joint (arrow).

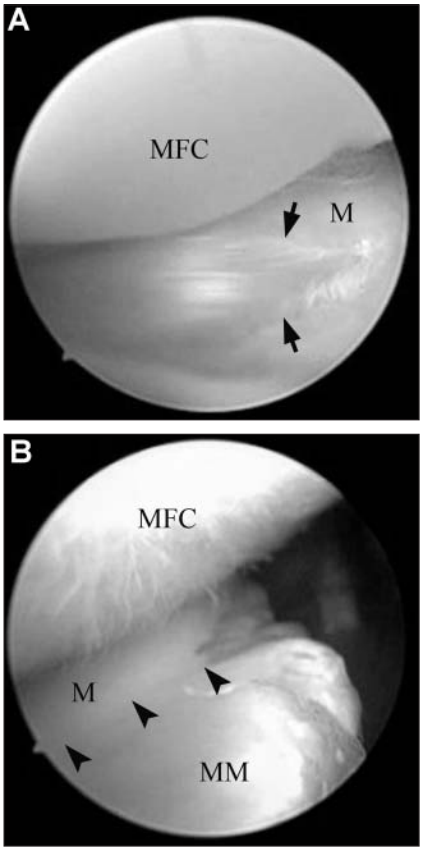

Figure 3—Arthroscopic view of the medial meniscus (M) in the right stifle joint of the horse in Figure 1. Notice a vertical longitudinal tear (A; arrows) and the mineralized caudal horn (B) of the medial meniscus. It is suspected that this tear extended into the middle portion and cranial horn of the meniscus. The border between normal-appearing meniscus and mineralized meniscus (MM) is delineated (arrowheads). MFC = Medial femoral condyle.

Radiographic Findings and Interpretation

An oval mineral opacity measuring 1 × 1 cm with distinct margins is evident in the caudal aspect of the stifle joint, compatible with mineralization of the caudal horn of the medial meniscus, joint capsule or synovium mineralization, or avulsion fracture within the caudal pouch of the medial femorotibial joint (**Figure 2**). Orthogonal radiographic views did not change the diagnostic plan or differential list.

Comments

Arthroscopic examination of the caudal pouch of the medial femorotibial joint was performed as described by Watts and Nixon.[1] Arthroscopy revealed a vertical longitudinal tear of the medial meniscus and mineralization of the caudal meniscal horn (**Figure 3**). It was also suspected that the caudal meniscotibial ligament was disrupted on the basis of caudal displacement of the caudal meniscal horn. The medial femoral condyle cartilage had Outerbridge grade 3 changes.[2] The cranial pouch of the medial femorotibial joint was not examined, and ultrasonography was not performed; however, ultrasonography has proven to be a noninvasive method for accurately assessing pathologic lesions of the meniscus and determining the need for surgical intervention in horses, dogs, and humans.

In horses, meniscal lesions involve the cranial horn more commonly than the caudal horn; however, this may simply reflect the reduced frequency that equine surgeons examine the caudal joint pouch.[3] Medial meniscal lesions occur 3 times as frequently as lateral meniscal lesions.[3] Because limited amounts of meniscus are visible during arthroscopy in horses, the most complete examination is achieved by arthroscopic examination of both cranial and caudal aspects of the femorotibial joints.

Mineralization of the meniscus is a late-stage development and implies chronic meniscal tearing. Surgical intervention should be aimed toward trimming all protruding portions of mineralized meniscus, debriding free or fibrillated portions of the meniscus, and suturing any longitudinal tears that are not disintegrated. Cranial meniscal tears are conducive to outside-in or all-inside repair techniques; however, repair of tears involving the caudal meniscus is technically difficult because of the lack of access and arthroscopic maneuverability. Instrument manipulation in the caudal femorotibial compartment is restricted, particularly because the depth of the damaged meniscus is often 6 to 8 cm from the skin.

Horses sustaining meniscal tears should be given a guarded prognosis (47% overall) for returning to their intended function.[3] In the horse of this report, it was suspected that the meniscal tear also involved the cranial portion of the meniscus. The mineralized meniscus was removed arthroscopically; however, suturing the meniscal tear was not attempted because of poor accessibility. According to the owner, no lameness was observed at a walk 12 months after surgery.

1. Watts AE, Nixon AJ. Comparison of arthroscopic approaches and accessible anatomic structures during arthroscopy of the caudal pouches of the equine femorotibial joints. *Vet Surg* 2006;35:219–226.
2. Outerbridge R. The etiology of chondromalacia of the patella. *J Bone Joint Surg Br* 1961;43:752–757.
3. Walmsley JP, Philips TJ, Townsend HGG. Meniscal tears in horses: an evaluation of clinical signs and arthroscopic treatment of 80 cases. *Equine Vet J* 2003;35:402–406.