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What Is Your Diagnosis?

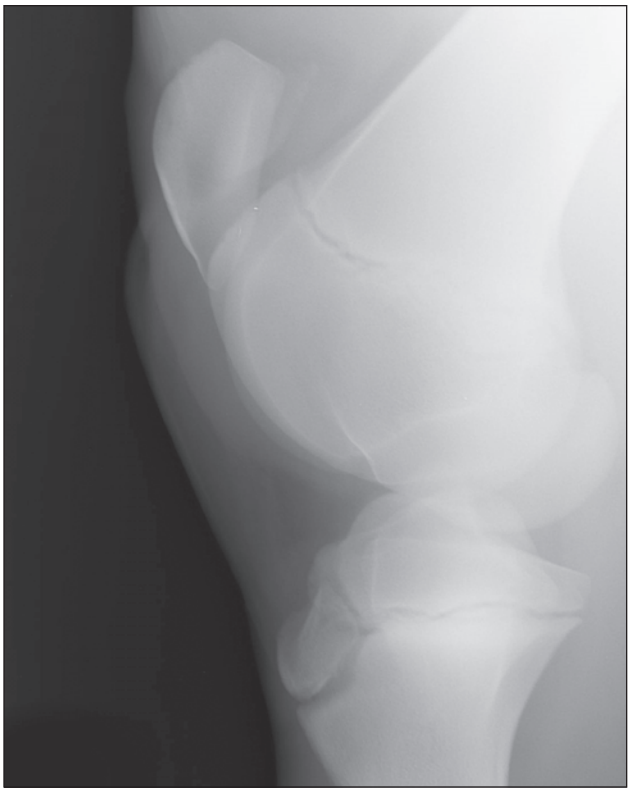

Figure1—Lateromedial radiographic view of the left stifle joint of a 4-month-old foal evaluated for lameness of 1 hour's duration in the left hind limb.

History

A 4-month-old Thoroughbred foal was evaluated for non–weight-bearing lameness of 1 hour's duration in the left hind limb. The foal had been turned out with its dam into a small paddock with mares and foals of the same age. The foal did not have a history of orthopedic abnormalities. On physical examination, the foal had a rectal temperature of 39.1°C (102.5°F), and moderate effusion was detected in the left stifle joint. Signs of pain were elicited during digital palpation of the joint, and the joint was warm to the touch. The foal was anesthetized for arthrocentesis, which yielded a fluid sample containing RBCs; the stifle joint was lavaged, and radiographs were obtained (**Figure 1**).

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

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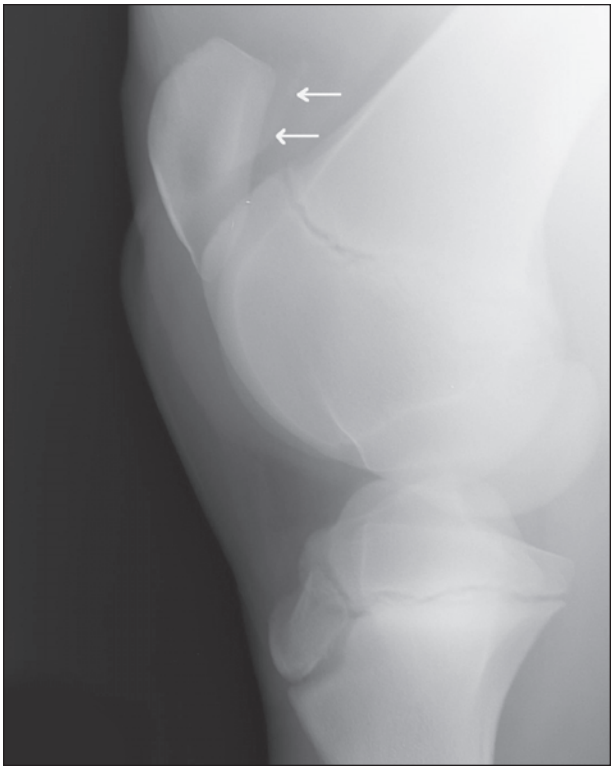

Figure 2—Same radiographic view as in Figure 1 (enlarged). Notice an opacity (1 × 3 cm) with distinct margins is evident along the caudoproximal aspect of the patella (arrows).

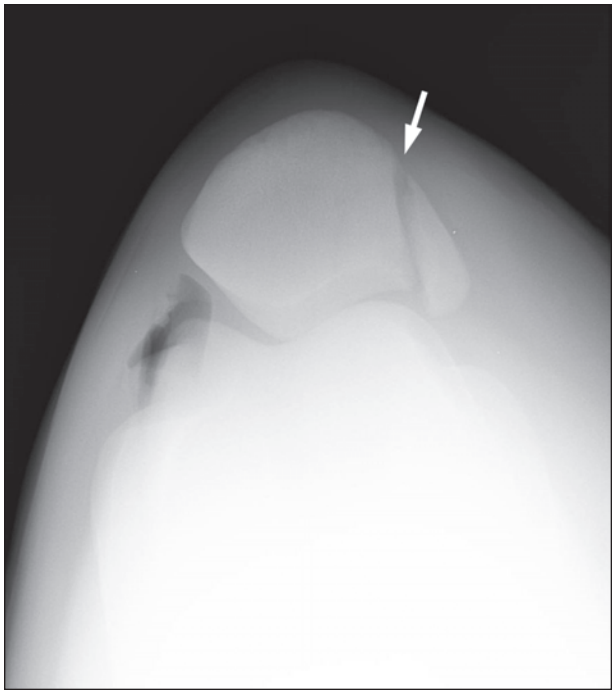

Figure 3—Cranioproximal-craniodistal radiographic view of the left stifle joint of the foal in Figure 1. Notice a sagittal fracture (arrow) of the patella that is displaced caudomedially. The gas opacity on the lateral aspect of the stifle joint is associated with lavage of the femoropatellar joint.

Radiographic Findings and Interpretation

An opacity measuring 1 × 3 cm with distinct margins can be seen along the caudoproximal aspect of the patella, suggesting bone displacement originating from the patella (**Figure 2**). Decreased bone opacity can be seen in the body of the patella, which is compatible with a fracture bed.

Comments

Because a fractured patella was suspected, a cranioproximal-craniodistal (CrP-CrD) radiographic view of the patella was obtained, and a medial sagittal patella fracture was confirmed (**Figure 3**). A gas opacity seen radiographically on the lateral aspect of the stifle joint was associated with lavage of the femoropatellar joint.

In horses, patella fractures are infrequent and result from direct trauma, usually associated with being kicked or from hitting a stationary barrier when jumping.[1–4] Other causes include extreme or intense contraction of the quadriceps muscle, leading to avulsion of the medial patellar angle.[1,3] When direct trauma occurs, the most common fracture configuration is a medial sagittal fracture of the patella.[1] The cause of the fracture in the foal of this report was not known; however, the age of the foal and fracture configuration make trauma the most likely cause.

Nondisplaced fractures can be managed conservatively; however, fracture displacement may occur, requiring surgical intervention.[1,2] Conservative management of medial sagittal patella fractures has a guarded prognosis attributable to the articular involvement and development of osteoarthritis. Surgical options include partial patellectomy or internal fixation depending on fracture configuration and fragment size.[3] Partial patellectomy performed via arthroscopy or arthrotomy can result in a favorable outcome.[1,4] Fracture fragments of as much as a third of the medial portion of the patella have been removed via arthrotomies.[4] Horses undergoing partial patellectomy should be closely evaluated clinically and radiographically to detect concurrent pathologic lesions of soft tissue or bone, which may adversely influence the outcome.[1] Internal fixation should be performed when removal of large fragments will result in joint dysfunction or osteoarthritis. Lag placement of cortical and cancellous bone screws and the use of cerclage tension-band wires have been used for successful repair of patella fractures in horses.[3]

Early surgical intervention in medial sagittal patella fractures decreases the likelihood of osteoarthritis. Development of stifle joint osteoarthritis results in a poor prognosis for return to athletic function; therefore, arthroscopic removal of the medial patellar fragment was performed in the foal of this report. Seven months after injury, lameness was not detected.

1. Dyson S, Wright I, Kold S, et al. Clinical and radiographic features, treatment and outcome in 15 horses with fracture of the medial aspect of the patella. *Equine Vet J* 1992;24:264–268.

2. Colbern GT, Moore JN. Surgical management of proximal articular fracture of the patella in a horse. *J Am Vet Med Assoc* 1984; 185:543–545.

3. Hunt RJ, Baxter GM, Zamos DT. Tension-band wiring and lag screw fixation of a transverse, comminuted fracture of a patella in a horse. *J Am Vet Med Assoc* 1992;200:819–820.

4. Marble GP, Sullins KE. Arthroscopic removal of patellar fracture fragments in horses: five cases (1989–1998). *J Am Vet Med Assoc* 2000;216:1799–1801.