VETERINARY MEDICINE TODAY

What Is Your Diagnosis?

Figure 1—Lateral radiographic view of the left tarsus of a heifer with an acute non–weight-bearing lameness.

History

A 22-month-old Angus heifer was referred to The Ohio State University Veterinary Medical Teaching Hospital for a non–weight-bearing lameness of 36 hours' duration. The onset of lameness was sudden, and the left hind limb was fixed in flexion. The area of the left tarsus was swollen. The heifer had been treated with aspirin (72 mg/kg of body weight, PO) the day before admission and again the day of admission. Only a lateral radiographic view of the left tarsus was obtained (Fig 1), because the positioning of the flexed joint precluded obtainment of a dorsoplantar view.

Make your diagnosis from Figure 1—then turn the page ➧

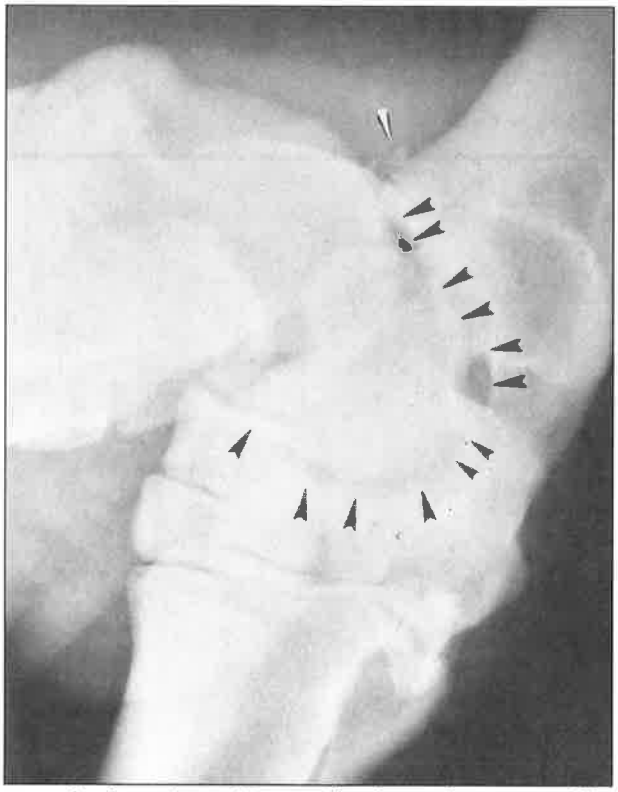

Figure 2—Same view as Figure 1. The abnormal orientation of the talus and calcaneus, and the widened talocalcaneal joint space (black arrowheads) are secondary to talocalcaneal luxation. Severe soft-tissue swelling and multiple small bone chips (white arrowhead) also are evident.

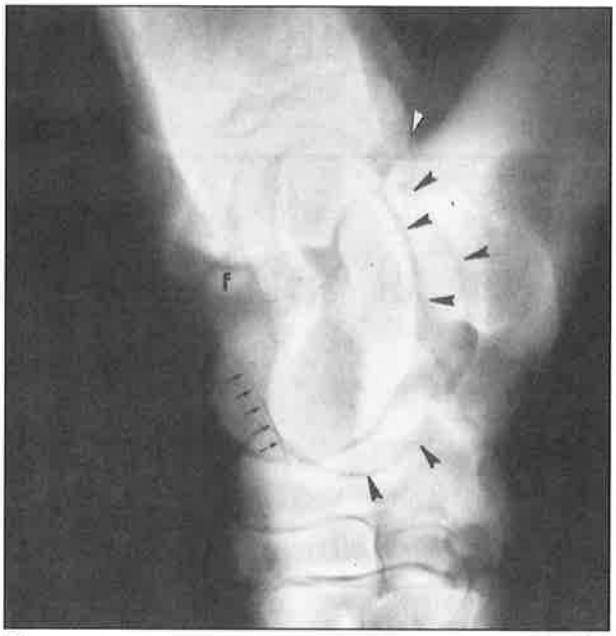

Figure 3—Lateral radiographic view of the left tarsus obtained after reduction. The limb is now able to be extended, and the talocalcaneal joint space is of more normal size (black arrowheads). A small oval bone chip (f) from the sagittal ridge of the tibia and a nondisplaced fracture of the lateral trochlea of the talus (black arrows) were not evident on prereduction films. There was no apparent change in the small bone chips associated with the calcaneus (white arrowhead).

Diagnosis

Radiographic diagnosis—The talocalcaneal joint is luxated, and multiple small chips are evident cranial to the calcaneus (Fig 2).

Comments

The heifer was restrained on a foot trimming table and tranquilized. Surgical anesthesia was induced, and after administration of spinal analgesia, the luxation spontaneously reduced. Postreduction lateral radiography (Fig 3) of the same joint revealed a nondisplaced fracture of the intermediate ridge of the tibia. An immobilizing fiberglass cast was applied from the end of the foot to the level of the proximal portion of the tibia.

The cast remained on the limb for 6 weeks, during which time it was replaced once. At 6- and 9-week follow-up examinations, the heifer was ambulatory, and was able to rise unassisted, although with some difficulty. During ambulation, the hind limb was able to support the heifer, and only minor gait abnormality was noticed. It was estimated to take an additional 6 months for complete healing of the supportive soft-tissue structures.

Luxation of the talocalcaneal joint has been described in small animals,[1] and usually is the result of some traumatic event. Medial or lateral collateral ligaments are ruptured, often with malleolar fractures as sequelae.[2-4] Although fractures of the tarsus in cattle that result in the inability of the animal to extend the tarsus have been reported,[5] luxation of this joint in the manner described has not, to our knowledge, been previously reported.

In the heifer of this report, the degree of distraction evident in Figure 1 was believed to be possible only if the medial and lateral collateral ligaments ruptured or avulsed. Although unobserved, it is likely that some severe force must have been applied to this limb to disrupt the considerable supporting structures of this area, resulting in small fractures near the calcaneus in addition to the fractured talus. We believe the luxation was maintained by surrounding muscle tensions, and that spontaneous resolution of the luxation occurred once anesthesia induced profound relaxation of muscle tone.

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