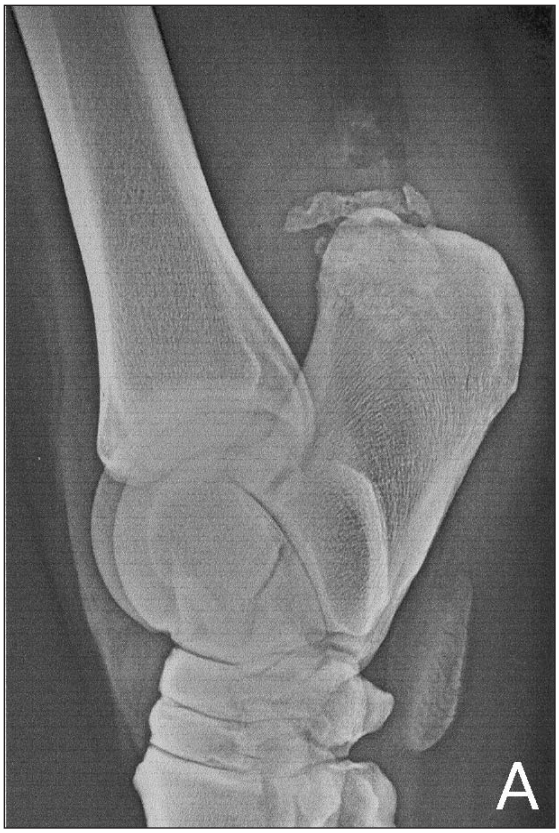
What Is Your Diagnosis?



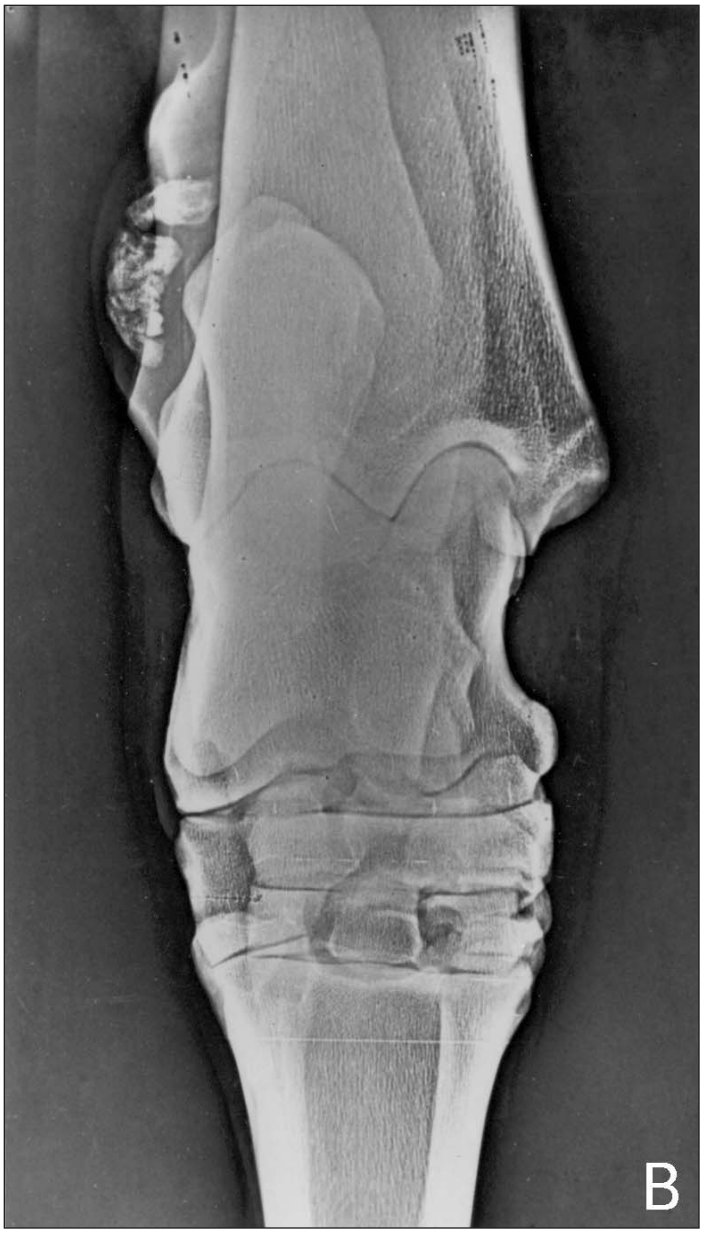


Figure 1—Lateromedial (A) and dorsoplantar (B) xeroradiographic views of the left tarsus of a 12-year-old Holsteiner mare examined because of an enlarging mass on the plantarolateral aspect of the tarsus.

History

A 12-year-old Holsteiner mare was referred for evaluation of an enlarging mass on the plantarolateral aspect of the left tarsus. There was no known history of trauma or previous injections. The only considerable abnormality noticed on physical examination was a palpable 3 × 3 × 3-cm mass on the plantarolateral aspect of the left tarsus. Lameness evaluation revealed the mare to have a grade I/V lameness in the left hind limb at the trot. The mare reacted slightly to flexion tests of the left hind limb. Xeroradiographs of the left tarsus were obtained (**Fig 1**).

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

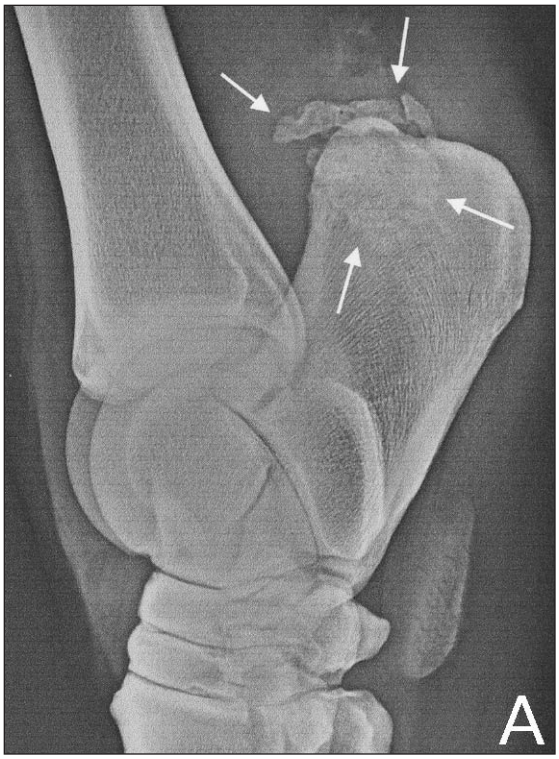


Figure 2—Same xeroradiographic views as in Figure 1. An osseous mass is evident superimposed over the tuber calcaneus (arrows); this mass is within the soft tissues lateral to the tuber calcaneus and does not appear to be attached to the calcaneus.

Diagnosis

Xeroradiographic diagnosis—An osseous mass associated with the lateral aspect of the tuber calcaneus, with some degree of soft-tissue swelling (**Fig 2**).

Comments

The bony mass did not appear to be attached to the tuber calcaneus and appeared to contain trabecular bone. There was no associated defect of the calcaneus to suggest an origin of the mass. Differential diagnoses included osteoma, calcinosis circumscripta, ossified hematoma, and dystrophic mineralization. Osteoma was considered most likely because of the presence of trabecular bone. Xeroradiography was selected because it enhanced the bony detail.

Ultrasonography was performed to determine whether tendons or bony structures were involved with the mass. The lateral aspect of the left tarsus had a hyperechoic echo casting a strong acoustic shadow consistent with calcification of a mass on the lateral aspect of the calcaneus. The origin of the mass could not be determined, as ultrasound could not penetrate through this mineralized tissue. This mass was situated lateral to the superficial digital flexor tendon and gastrocnemius tendon and did not appear to involve any soft tissue structures.

Because the mass was progressively increasing in size to the point that soundness was affected, excision of the mass was performed. The mass was well circumscribed and did not appear to be infiltrating any of the surrounding tissues. The mass was firmly attached on its deep surface to the tarsal flexor sheath. It was dissected out en bloc. Histologic examination of the mass revealed trabecular bone circumscribed by dense connective tissue. The bone was composed of broad trabeculae of mineralized osteoid and trabecular spaces filled with adipose tissue. Osteoblasts and small numbers of osteoclasts were seen at the periphery of the nodule. These histopathologic findings were consistent with a diagnosis of osteoma.

Osteomas are smoothly contoured, benign bony growths protruding from the surfaces of bone, typically formed by intramembranous ossification.[1] They are composed of accumulations of well-differentiated cancellous or compact bone with intervening normal fibrous and vascular tissue. These tumors have been reported in all domestic species but are most commonly observed in cattle and horses, usually in the bones of the skull.[1]

Removal of the tumor with wide surgical margins remains the mainstay of therapy among domestic animals. Recurrence is common with incomplete removal.[1] Months following removal, the horse was reported to be sound on the operated limb.

1. Pool RR. Tumours of bone and cartilage. In: Moulton JE, ed. *Tumours in domestic animals*. 2nd ed. Berkeley, Calif: University of California Press, 1990;89–107.

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