

What Is Your Diagnosis?

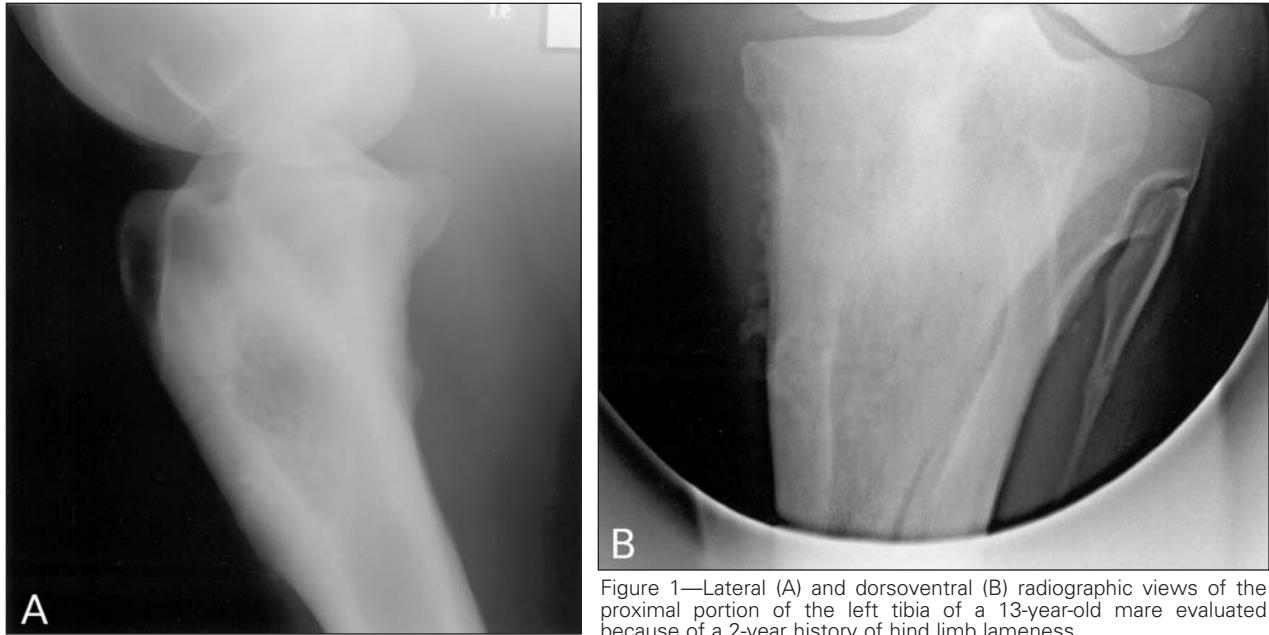


Figure 1—Lateral (A) and dorsoventral (B) radiographic views of the proximal portion of the left tibia of a 13-year-old mare evaluated because of a 2-year history of hind limb lameness.

History

A 13-year-old mixed-breed mare was evaluated because of a 2-year history of hind limb lameness. On examination, the horse was graded as 3/5 lame on the left hind limb. Palpation of a swollen area on the proximomedial portion of the tibia elicited a strong response, presumably from pain. Radiographs of the left stifle joint were obtained (Fig 1).

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

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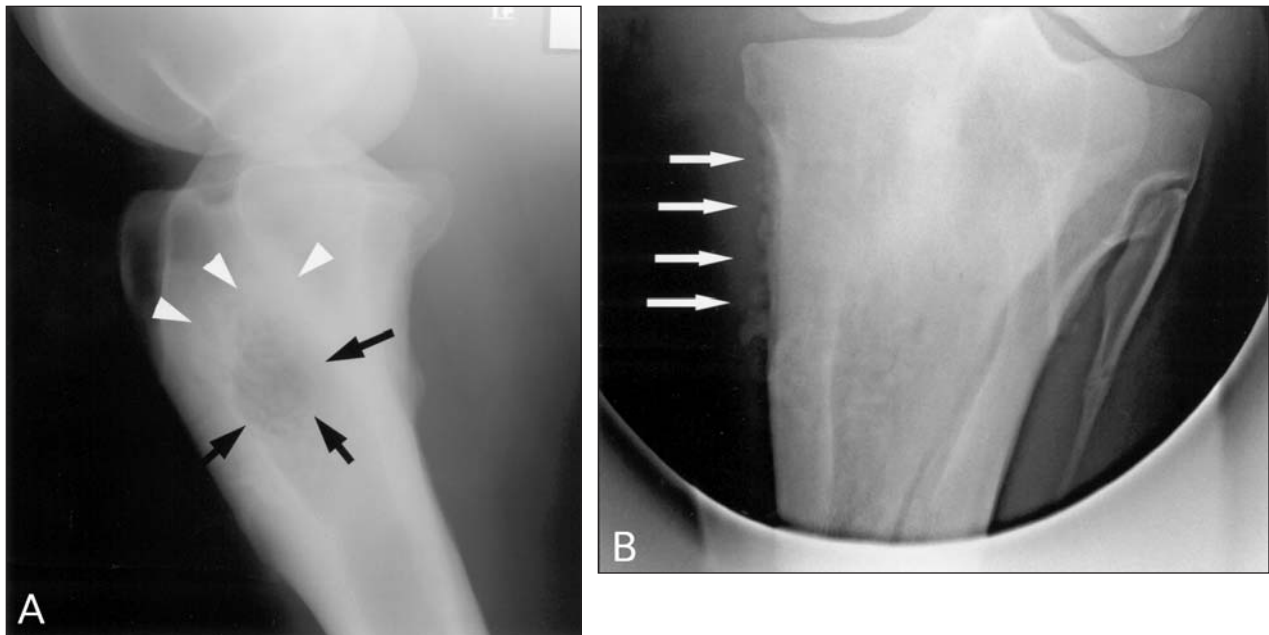


Figure 2—Same radiographic views as in Figure 1. A radiolucent area measuring 3.5 × 4 cm is visible in the medullary cavity of the proximal portion of the tibia (black arrows). Bone sclerosis surrounding the proximal margin of the lucency is also evident (white arrowheads), as well as a periosteal reaction along the proximomedial portion of the tibia (white arrows).

Diagnosis

Radiographic diagnosis—Mixed lytic-proliferative lesion in the left tibia (Fig 2).

Comments

A radiolucent area measuring 3.5 × 4 cm in the medullary cavity of the proximal portion of the tibia was evident, with bone sclerosis surrounding the proximal margin of the lucency. Additionally, there was a periosteal reaction along the proximomedial portion of the tibia. These radiographic findings were consistent with chronic bone abscess, primary bone tumor, or metastatic bone tumor. Biopsy was recommended.

The horse was admitted to the hospital 1 month later for biopsy of the lesion. A trephine was then used to enter the medullary cavity of the tibia. The lesion contained a large amount of purulent debris. Chronic bone abscess was diagnosed. Cytologic evaluation and results of bacteriologic culture of the exudate revealed nonseptic degenerative neutrophils, with no evidence of neoplastic cells. The cavity was thoroughly lavaged and packed with gauze soaked in a solution containing 1 g of cefazolin. A stent was sutured over the top of the incision after partial closure with skin staples. The horse was treated with penicillin G procaine (22,000 U/kg [10,000 U/lb], IM, q 12 h), gentamicin (6.6 mg/kg [3 mg/lb], IV, q 24 h), and phenylbutazone (2.2 mg/kg [1 mg/lb], PO, q 12 h). The skin wound healed without complications. On follow-up examination 2 months later, the lameness had improved to 1/5. Four months later, the horse was sound and being ridden.

Bone abscesses are a form of chronic osteomyelitis.¹ The term Brodie's abscess has been used to clinically describe a chronic, inactive collection of pus surrounded by dense fibrous tissue and sclerotic bone.¹

However, radiographic criteria for diagnosis include numerous factors.² Osteomyelitis is usually associated with open traumatic wounds or surgical implants. Occasionally, external trauma or fracture without a break in the skin can lead to a bone abscess; the traumatized region is colonized by bacteria from a contiguous infected focus via the hematogenous route. The resulting inflammatory response produces prostaglandins that induce bone lysis, thrombosis with bone ischemia, and eventually an intramedullary bone abscess.³

Clinical signs of osteomyelitis or bone abscess include lameness, draining tract, or signs of pain on palpation of the affected area.¹ Diagnosis of bone abscess can be aided by use of radiography, computed tomography, or nuclear scintigraphy.^{1,4-6} In this case, the referring veterinarian was unable to obtain diagnostic radiographs with a portable unit. Radiographs were obtained with our large stationary unit and the lesion was identified.

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