

What Is Your Diagnosis?



Figure 1—Lateromedial (left) and dorsoproximal-palmarodistal oblique (right) views of the distal region of the right forelimb of a 15-year-old horse with a chronic right forelimb lameness.



History

A 15-year-old Quarter Horse stallion was evaluated because of a grade 2/5 right forelimb lameness. Duration of lameness was not known; however, the horse was lame when it was purchased 4 months earlier. Signs of pain were evident when hoof testers were applied to the medial aspect of the toe and across the heels of the right forefoot. Lower limb flexion tests did not exacerbate the lameness. A palmar digital nerve block of the right forelimb alleviated signs of lameness in that limb, but the horse became lame (grade 2/5) on the left forelimb. Radiographs of the right forefoot were obtained (Fig 1).

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

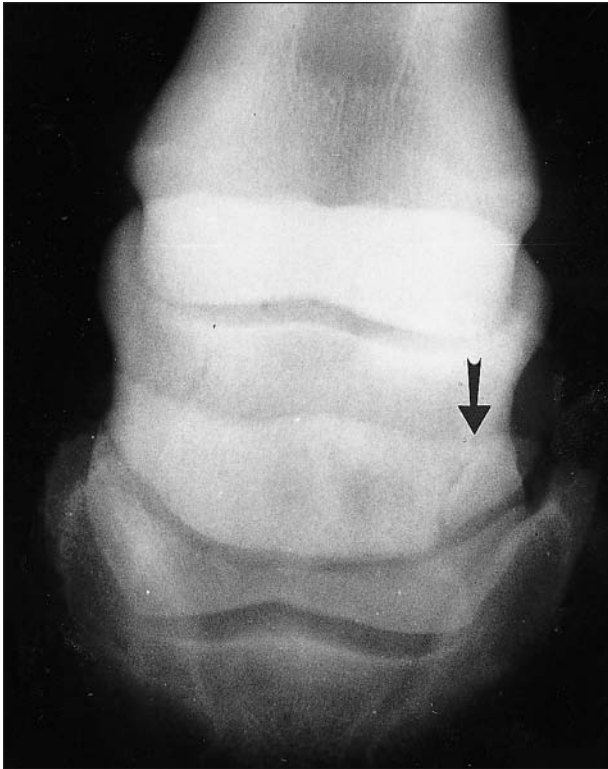


Figure 2—Same dorsoproximal-palmarodistal oblique view as in Figure 1. A complete oblique fracture of the medial extremity of the distal sesamoid bone is evident (arrow).

Diagnosis

Radiographic diagnosis—Fracture of the medial extremity of the distal sesamoid (navicular) bone (Fig 2).

Comments

In the dorsoproximal-palmarodistal oblique view, the distal border of the affected navicular bone appears normal, but remodeling is evident along the proximal border. Two well-circumscribed lucent areas are superimposed on the center of the navicular bone. These areas may be cyst-like formations or erosions of the flexor surface of the navicular bone. Radiographic evidence of navicular disease was not present in the left forefoot.

Fractures of the navicular bone are not common and may be classified as simple (ie, sagittal or oblique), comminuted, or avulsion or chip fractures.¹ Complete fractures of the navicular bones in both forefeet have been associated with radiographic evidence of navicular disease.² Navicular bone fractures of the hind feet usually result from acute trauma,^{2,3} such as kicking a solid object.¹ Radiographically, fractures of the navicular bone generally appear minimally displaced and are

most commonly seen as simple, vertical, or oblique fractures in the sagittal plane.⁴ In a retrospective study,² > 80% of navicular bone fractures were medial or lateral sagittal fractures that involved the abaxial one-third of the bone.

Fractures of the navicular bone can be difficult to differentiate radiographically from multipartite navicular bones that arise from multiple centers of ossification.⁵ Multipartite navicular bones usually are bilaterally symmetrical and may appear as vertically oriented radiolucent lines, especially at the junction of the lateral extremities and body of the bone. Multipartite navicular bones may be detected in horses that are sound or only minimally lame.⁵

Treatment of navicular bone fractures may involve stall rest, corrective shoeing, application of fiberglass casts, or palmar digital neurectomy.^{2,4} Internal fixation using a single lag screw has also been described.⁶ Regardless of treatment, horses with navicular bone fractures or multipartite navicular bones have a guarded to poor prognosis for athletic use.^{1,2,4,5}

The horse described in the present report was intended to be used for light pleasure riding and as a breeding stallion. The horse was treated initially with methylprednisolone acetate injected into the distal interphalangeal joint of both forefeet and placement of egg bar shoes with rocker toes.⁷ This treatment plan was chosen because, although radiographic evidence of navicular disease was not apparent, lack of such evidence does not exclude a diagnosis of lameness as a result of clinical navicular disease.⁸

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