What Is Your Diagnosis?

Figure 1—Lateral radiographic view of the caudal cervical portion of the vertebral column of a 13-year-old horse evaluated for ataxia of both hind limbs of 3 weeks' duration.

History

A 13-year-old Quarter Horse gelding was examined for ataxia of both hind limbs of 3 weeks' duration. Neurologic examination revealed ataxia of both forelimbs (grade, 2/5) and both hind limbs (grade, 3/5).[1] Flexion and palpation of the cervical portion of the vertebral column elicited mild signs of pain. Radiographs of the cervical portion of the vertebral column were obtained (**Figure 1**).

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

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Figure 2—Same radiographic view as in Figure 1. Notice multiple linear, irregularly marginated and mineralized opacities within the soft tissues dorsal to the fifth cervical vertebra.

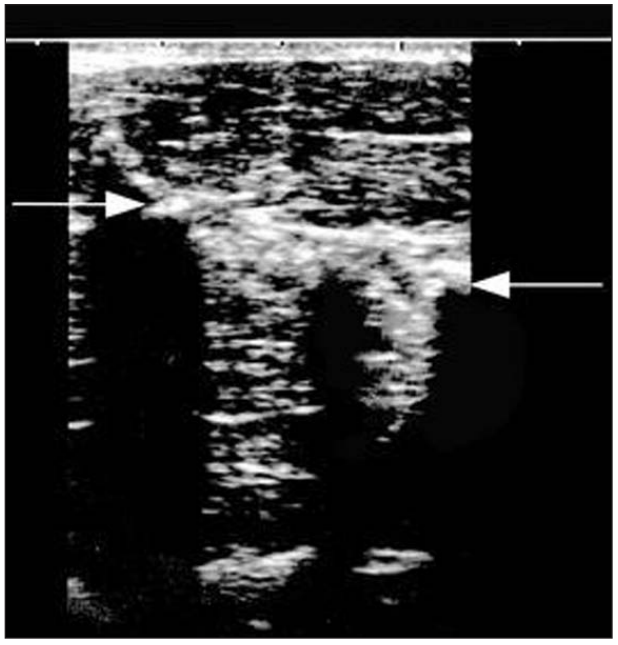

Figure 3—Longitudinal ultrasonographic view of the left side of the cervical region of the horse in Figure 1. Notice mineralized hyperechoic areas within the splenius cervicis muscle and acoustic shadowing distally (arrows).

Diagnosis

Radiographic diagnosis—Multiple linear, irregularly marginated mineralized opacities within the soft tissues dorsal to the fifth cervical vertebra are evident (**Figure 2**). Abnormalities of the cervical vertebrae were not detected.

Comments

Ultrasonography of the muscles of the cervical region was performed. Several mineralized areas were detected in the splenius cervicis muscle on the left side of the cervical region (**Figure 3**). Myositis ossificans was diagnosed on the basis of the radiographic and ultrasonographic appearance of the lesions and their superficial location within the muscle.

Myositis ossificans is a benign condition of heterotopic nonneoplastic bone formation.[2] In humans, posttraumatic myositis ossificans is the most common form of myositis ossificans and results from the ossification of a muscle hematoma.[2-4] The owner of the horse of this report was unaware of any previous trauma to the horse's neck. Differential diagnoses for myositis ossificans in the cervical musculature of a horse include mineralized neoplasms[2-4] and mineralized nodules caused by adult *Onchocerca cervicalis*. In this horse, *O cervicalis* infection was considered unlikely because the adult parasites are usually detected within the funicular part of the nuchal ligament and not in the cervical musculature.[5] Myositis ossificans may not be evident radiographically until 3 to 4 weeks after the initial injury, at which time a peripheral, patchy, or flocculent ossification may be seen.[2-4] Eventually, the lesions may appear as a dense, ossified mass.[2] Ultrasonography can detect myositis ossificans before lesions are detected radiographically.[2] Ultrasonographic findings of peripheral, rimlike mineralization or sheetlike lamellar calcification are suggestive of myositis ossificans.[2] Acoustic shadowing is not evident until later stages of healing.[3]

Myositis ossificans was considered incidental to neurologic disease in this horse. The owner declined further diagnostic testing to determine the cause of neurologic disease and chose to treat the horse for equine protozoal myeloencephalitis on the basis of results of neurologic examination and the absence of obvious radiographic evidence of cervical vertebral malformation. In humans, myositis ossificans is usually self-limiting and spontaneous resolution can occur.[2] Surgical intervention may be necessary if the origin or insertion of a muscle or tendon is involved, muscle function is impaired, or the mass is unusually large or painful.[2]

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