What Is Your Diagnosis?

History

A 16-year-old castrated male domestic shorthair cat was evaluated for progressive right hind limb lameness of 3 years’ duration. On physical examination, the cat had a grade 1 to 2 (out of 4) lameness of the right hind limb. Palpation revealed decreased adduction of the limb and a firm 5- to 6-cm-diameter immovable mass emanating from the ventral aspect of the pubis, interfering with adduction of the limb. Findings on rectal examination and thoracic radiography were unremarkable. Radiographs of the pelvis were obtained (Figure 1).

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

Figure 1—Lateral (A) and ventrodorsal (B) radiographic views of the pelvis of a 16-year-old castrated male domestic shorthair cat with lameness of 3 years’ duration.
Radiographic Findings and Interpretation

An irregularly marginated, mineralized mass appears to originate from the right pubis and project ventrally. Spondylosis is present at the lumbosacral junction. The mass appears to be interfering with the right hip joint (Figure 2). On the basis of the radiographic findings, differential diagnoses for the mass include benign or malignant neoplasia and osteomyelitis.

Comments

The presence of a mineralized radiopaque mass is consistent with a lesion of bone or cartilaginous origin. The radiographic appearance (proliferative), large size of the mass, and location of the mass are most consistent with a solitary osteochondroma. However, other less likely considerations include osteoma, osteosarcoma, chondrosarcoma, chondroma, chondrosarcoma, and osteomyelitis of bacterial, fungal, viral, or parasitic origin. In cats, FeLV and feline fibrosarcoma virus–feline oncorna virus have been linked with osteochondromatosis.1,2 Viral origins have not been shown to be causal in cats with solitary osteochondromas.2

The mass was excised. Postoperatively, the cat did well in the hospital and was discharged. The mass had a peripheral cap of fibrous and cartilaginous tissue. Spicules of bone had developed from endochondral-like ossification of cartilage columns, predominantly of collagenous extracellular matrix in the medullary region. The histopathologic diagnosis was a solitary osteochondroma.1–4

Osteochondromatosis is also known as multiple osteochondromas, multiple hereditary exostoses, multiple cartilaginous exostoses, multiple osteochondromatosis, diaphyseal aclasis, and hereditary chondrodysplasia.1,4

Radiographically, osteochondromatosis has been noted to have several variations, including solitary spinal masses, sessile bulges from bones with clear and smooth to amorphous margins, and linear masses parallel to long bones with no osseous attachment.1,3 In dogs, radiologic forms also include symmetric, semiannular, and annular osteochondromas and have been associated with limb shortening and angular deformities.4

Most patients are examined because of lameness or neurologic signs.1,4 In humans, dogs, and horses, osteochondromatosis usually originates at the physis and masses cease to grow at the time of physeal closure. In cats, the lesion can occur at multiple or single sites in the body at any age. Another specific difference in cats, compared with other species, is that the lesions progress and continue to grow.2 No breed predispositions or hereditary patterns have been reported in cats, although osteochondromatosis may be an autosomal dominant inherited trait in humans, dogs, and horses.1,4,5 The prognosis may be good to guarded depending on progression of disease or its location. Malignant transformation to osteosarcoma and viral etiologies have been reported.1,4 However, the cat of this report did well after surgery.

Computed tomography or magnetic resonance imaging can be useful to delineate margins, characterize the lesion, plan surgery, and assist in prognosis. Excision with wide margins is the treatment of choice.1,2,4


Figure 2—Same radiographic images as in Figure 1. Notice the irregular mineralized mass evident at the junction of the right pubis, acetabulum, and caudal aspect of the ilium (arrows). Also, notice the spondylosis of the vertebrae at the lumbosacral junction (small arrows).