

What's Your Radiographic Diagnosis?

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History

A 3 year old, spayed female, labrador presented for evaluation of a left foreleg lameness. The lameness had existed for one week and had been acute in onset.

The physical examination revealed a normal animal except for the left foreleg lameness. A minimally painful swelling was palpated in the mid-ulnar region. A radiographic evaluation was done (Figure 1).

Radiographic findings

An expansile lesion is present in the mid-diaphysis of the ulna. The direction of expansion is uniform. Centrally the lesion is radiolucent and its boundary consists of a thin and sometimes interrupted shell of bone. The surface of the new bone is smooth but slightly undulant. There are what appear to be bony septae within the central lucent region. There is an intermediate transition from affected to normal bone. At the ends of the lesion there is a short region of solid periosteal new bone. The radius is unaffected. The soft tissues are mildly swollen.

Radiographic Diagnosis

Unifocal, moderately aggressive, predominantly osteolytic lesion of the ulnar diaphysis. Differential diagnoses included active bone cyst, such as aneurysmal bone cyst, benign bone tumor, and less likely malignant bone tumor. A biopsy was recommended.

Biopsy findings

Due to the location of the lesion an en-bloc resection of the ulnar diaphysis was done. The microscopic features were typical of an aneurysmal bone cyst. Surgical clearance was considered to be complete.

Discussion

Aneurysmal bone cysts are benign lesions composed of blood filled spaces of variable size which are separated by fibrous and osseous tissue.¹ This dog differs from those reported in the literature by its diaphyseal location. The area of the metaphysis has been most consistently involved in all species.¹ This type of cyst has been reported in the horse¹, dog¹ and cat^{2,3}. Treatment in animals has consisted of surgical curettage or limb amputation. Prognosis is generally good although profuse hemorrhage can be a complication with curettage.

References

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2. Walker, M, et.al. Aneurysmal Bone Cyst in a Cat. *JAVMA* 1975; 167(10): 933-934.
3. Newton, C and Biery, D, Skeletal Diseases. In: Ettinger, SJ, ed. *Textbook of Veterinary Internal Medicine*. 3rd ed. Philadelphia: WB Saunders, 1989; 2394.

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Figure 1. Radius and ulna of a 3 year old, spayed female, labrador with an acute onset of lameness of one week.