



# POSNA

## The Core Curriculum

### **Aneurysmal bone cyst**

#### **Objectives**

1. Describe the symptoms associated with aneurysmal bone cyst
2. Describe the radiographic and imaging features of aneurysmal bone cyst, including staging by the Musculoskeletal Tumor Society
3. Discuss the etiology of aneurysmal bone cyst
4. Define and discuss "secondary aneurysmal bone cyst"
5. Discuss the natural history of aneurysmal bone cyst
6. Discuss the treatment of aneurysmal bone cyst

#### **Discussion points**

1. Why is pathologic fractures less common with aneurysmal bone cyst than unicameral bone cyst?
2. Is aneurysmal bone cyst a true primary lesion of bone?

#### **Discussion**

Aneurysmal bone cyst is a confusing lesion. It most often appears in teenagers. Most of the lesions involve long bones, but the spine is affected in up to 30% of lesions. The pelvis is the most commonly affected long bone. Although the lesion has been reported in the spine of a father and daughter, there is no identifiable hereditary component. The cyst is more aggressive than unicameral bone cyst, usually with a less distinct border that can penetrate the cortex. The periosteum is usually intact, and often produces a thin shell of bone. So-called secondary aneurysmal bone cysts are actually a cystic part of a giant cell tumor, chondroblastoma, osteoblastoma, or osteosarcoma. The differential diagnosis includes these entities. This is obviously a tricky situation, so a careful work-up by a qualified surgeon, working with a competent radiologist and pathologist, is essential. Since the lesion tends to be painful, pathologic fracture as a presenting symptom is less common than with unicameral bone cyst. CT findings can be of help in differentiating the 2 entities, the layering of fluid in aneurysmal cysts tends to be in 2 layers. Ultrasound has also been recommended. The natural history of aneurysmal bone cyst is continued progression rather than spontaneous healing as seen with a unicameral cyst. Recurrence is common following curettage. In an effort to reduce recurrence, a number of surgical methods have been employed, including curettage with a high speed burr, cryotherapy with liquid nitrogen, or phenol, also reported is saucerization of the lesion with autologous bone marrow. No modality is presently accepted as superior.

Lesions of the spine can be challenging, to preserve function and stability, while still eradicating the lesion. Aneurysmal bone cyst in young children appears to be especially aggressive.

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