Osteoid osteoma

Osteoblastoma is a rare, benign, locally recurrent tumor with a predilection for the spine that may rarely undergo sarcomatous change (to osteosarcoma, [1] only a handful of known cases of this). More vascular than Osteoid osteoma [2].

Key concepts

● Osteoid osteoma and osteoblastoma are benign bone tumors

● histologically identical, differentiation depends on size ≤ 1 cm = osteoid osteoma > 1 cm = osteoblastoma

● can occur in the spine and may cause neurologic symptoms (esp. osteoblastoma)

● high cure rate with complete excision

Classification

see Intracranial osteoma.

see Spinal osteoid osteoma.

Characteristically cause night pain and pain relieved by aspirin.

Clinical features

Tenderness confined to the vicinity of the lesion occurs in ≈ 60%. 28% of patients with BOB presented with myelopathy. OO presented with a neurologic deficit of only 22%.

Evaluation

Bone scans are a very sensitive means for detecting these lesions. Once localized, CT or MRI may better define the lesion in that region.

Caution regarding needle biopsy: if the lesion turns out to be osteosarcoma, the contaminated needle tract can result in a worse prognosis.

Differential diagnosis

Lesions with similar symptoms and increased uptake on radionuclide bone scan:

1. benign osteoblastoma

2. osteoid osteoma: more pronounced sclerosis of adjacent bone than BOB

3. osteogenic sarcoma: rare in spine

4. aneurysmal bone cyst: typically trabeculae in central, lucent region

5. unilateral pedicle/laminar necrosis

Osteoid osteoma

A radiolucent area with or without surrounding density, often isolated to pedicle or facet. May not show up on tomograms.

Osteoblastoma

Most are expansile, destructive lesions, with 17% having moderate sclerosis. 31% have areas of ↑ density, 20% surrounded by a calcified shell.

Often a contralateral spondylolysis [3].

Treatment

In order to obtain a cure, these lesions must be completely excised. The role of radiation therapy is poorly defined in these lesions, but is probably ineffective [4].

The cortical bone may be hardened and thickened, with a granulomatous mass in the underlying cavity.

[1], [3], [4]
Amacher AL, Eltomey A. Spinal Osteoblastoma in Children and Adolescents. Childs Nerv Syst. 1985; 1:29–32
[2]
Lichtenstein L, Sawyer WR. Benign Osteoblastoma. J Bone Joint Surg. 1964; 46A:755–765