

Osteoblastoma

Definition

Otherwise known as a giant osteoid osteoma, this lesion is characterised by the formation of woven bone or osteoid, and it is larger than 1.5 centimeters in diameter (arbitrarily decided by McLeod).

Epidemiology

3% of benign bone tumours.

Peak prevalence between 20 and 30, rare after 40.

M>F 3:1.

Site

Most commonly located in the spine, particularly posterior elements.

Affects cervical and lumbar regions more commonly than thoracic regions.

Histology

Gross: Haemorrhagic, granular, friable and calcified tissue

Micro: Characterised by woven bone and osteoid, with an intervening hypervascular stroma

There is no production of lamellar bone

Osteoblastic rimming is characteristic. There are large plump osteoblasts and the lesion can be difficult to distinguish from a low grade osteosarcoma.

No cartilaginous material is produced.

Less regular tissue pattern than in osteoid osteoma.

Changes characteristic of aneurysmal bone cyst can be present in some osteoblastomas

Clinical

Pain is main feature

Usually present for a long time

"Less easily characterised" than the pain of osteoid osteoma

If located in the spine there may be associated neurological lesions, scoliosis

Natural history is progressive enlargement

Rarely can act aggressively and cause local destruction and invasion of adjacent soft tissues.

These lesions don't metastasise. .

Radiology

Medullary position

Fusiform expansion

Thin rim of periosteal new bone

Centre may be lucent or blastic

Can arise in either the metaphysis or diaphysis

Well circumscribed

MRI: T1 low signal, T2 high signal traversed by lines of low signal (bone).

Differential diagnosis

Osteoid osteoma

Giant cell tumour

Aneurysmal bone cyst

Osteosarcoma

Treatment

En bloc resection for expendable bones

Marginal or intralesional excision with curettage

If the spine is involved and neural structures are nearby then cryosurgery, radiation or chemotherapy may be required.

Recurrence rate is around 20%.