

Dr Mary Toner, MB FRCPath
Department of Histopathology, St James and Dublin Dental Hospitals and Trinity College,
Dublin.

Slide seminar case: 17 year old girl with 6.5cm mandibular tumour with grossly identified separate tumour nodules at the periphery; radiology showed expansion of the angle of the mandible with a well circumscribed lesion with a calcified matrix, suggested diagnosis Pindborg tumour

Diagnosis: osteoblastoma, epithelioid multifocal type

Osteoblastoma is a benign bone tumour with the potential for aggressive growth, that can give rise to a wide spectrum of radiographic and histologic features, some of which may suggest malignancy. Epithelioid osteoblastomas may or may not be associated with an aggressive clinical course but distinction from osteosarcoma may prove challenging due to the cellularity and cytologic features. In the jaws, the differential may include cementoblastoma and for the epithelioid type, Pindborg tumour. Osteoblastomas may also be multifocal (having more than one nidus within a single bone, or multicentric (involving more than one adjacent bone). Multifocality in osteoblastomas has been reported as in up to 14% of cases, and there is an association with the epithelioid type.

Distinction from osteoblastoma-like osteosarcoma on biopsy is made on the basis of finding destructive permeation of surrounding bone in osteosarcoma, and while multifocal osteoblastoma may have a pseudo-invasive appearance, the separate foci have a sharp host-tumour demarcation. Clusters and sheets of epithelioid osteoblasts may however be seen in this tumour, a feature that is often quoted as helpful in making the distinction from osteosarcoma.

Although these are rare lesions, the jaws are by far the most common site for epithelioid multifocal osteoblastoma (54% in recent series).

Hum Pathol. 1994 Feb;25(2):117-34.

Osteoblastoma: clinicopathologic study of 306 cases.

Lucas DR, Unni KK, McLeod RA, O'Connor MI, Sim FH.

Am J Surg Pathol. 2007 Aug;31(8):1265-8.

Epithelioid multinodular osteoblastoma: a clinicopathologic analysis of 26 cases.

Zon Filippi R, Swee RG, Krishnan Unni K.

Aggressive osteoblastoma of the mandible closely simulating calcifying epithelial odontogenic tumor. Report of two cases with unusual histopathologic findings.

Pathol Res Pract. 2001;197(8):569-76.

Vigneswaran N, Fernandes R, Rodu B, Baughman RA, Siegal GP.

Primary osteosarcoma of the head and neck on pediatric patients. A clinicopathologic study of 22 cases with a review of the literature.

Cancer 2001;91:598-65

Gadwai SR, Gannon FH, Fanburg-Smith JC, Becoskie EM, Thompson L.

Epiphyseal osteoblastoma-like osteosarcoma

Skeletal Radiol 2004; 33:46-50.

Bonar SF, McCarthy S, Stalley P, Schatz J, Soper J, Scolyer R, Barrett I.

