Giant cell tumor

Giant cell tumor of the bone (GCTOB) is a relatively uncommon tumor of the bone.

See Sacral giant cell tumor.

Pathology

It is characterized by the presence of multinucleated giant cells (osteoclast-like cells). Malignancy in giant cell tumor is uncommon and occurs in approximately 2% of all cases. However, if malignant degeneration does occur it is likely to metastasize to the lungs. Giant cell tumors are normally benign, with unpredictable behavior.

It is a heterogeneous tumor composed of three different cell populations. The giant-cell tumour stromal cells (GCTSC) constitute the neoplastic cells, which are from an osteoblastic origin and are classified based on expression of osteoblast cell markers such as alkaline phosphatase and ostocalsin. In contrast, the mononuclear histiocytic cells (MNHC) and multinucleated giant cell (MNGC) fractions are secondarily recruited and comprise the non-neoplastic cell population. They are derived from an osteoclast-monocyte lineage determined primarily by expression of CD68, a marker for monocytic precursor cells.

In most patients, the tumors are slow to develop, but may recur locally in as many as 50% of cases.