

Clinical Notes

Giant cell tumor of the rib

Mohammed L. Al-Otaibi, MD, FRCSC,
Fawzi F. Al-Jassir, MD, FRCSC, Marc H. Isler, MD, FRCSC.

Giant cell tumor (GCT) accounts for approximately 15% of symptomatic benign bone tumors. These locally aggressive lesions may, in less than 5% of cases, be associated with lung metastases.¹ They occur more often in females than in males, and usually affect patients in the third and fourth decades of life. Approximately 75% are found in the epiphyses of long bones, most commonly the distal femur and proximal tibia. These 2 sites account for more than 50% of all cases. Other locations include the distal radius, proximal humerus, vertebrae, and sacrum. The rib is the least common site.² We report a rare case of painless GCT of the rib.

A 46-year-old Caucasian female presented with a one-year history of painless swelling in the left side of the anterior chest wall. There was no history of trauma, and no constitutional symptoms. Physical examination revealed a firm, non-tender, non-pulsatile 8 x 5 cm mass in the mid-axillary line of the left chest wall with overlying normal skin. Plain radiographs showed an expansile lytic lesion with areas of sclerosis in the anterior aspect of left 9th rib. A CT scan without contrast showed a large expansile mass with enhancing margins and internal septae with evidence of calcification involving the anterior aspect of the left ninth rib. At this point, the differential diagnosis included fibrous dysplasia, aneurysmal bone cyst, Ewing's sarcoma, lymphoma, and chondrosarcoma.³ She underwent core needle biopsy, which revealed GCT. Surgery was planned. With the patient positioned in lateral decubitus and under general anesthesia, en bloc resection of the 9th rib was performed with a wide margin (**Figure 1**). A chest tube was inserted at the time of closure and removed on the 2nd postoperative day. The surgical specimen measured 9.5 cm x 6.5 cm x 3 cm. On histological examination, there were large numbers of multinucleate giant cells separated by mononuclear stromal cells, consistent with the diagnosis of GCT. She made an uneventful recovery, and was discharged home on the 3rd post operative day. She remains free of disease.

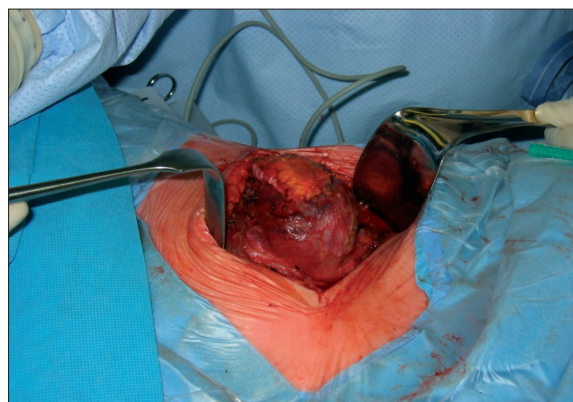


Figure 1 - Perioperative view showing en bloc resection of the 9th rib performed with a wide margin.

Giant cell tumor of bone occurs infrequently, arising primarily in the ends of long bones. The chest wall represents a rare site for such pathology; however, GCT should be kept in mind when evaluating a rib lesion.⁴ The principles of oncology should be followed and include proper axial imagery as well as needle or incisional biopsy, carefully placed and executed so as not to interfere with definitive treatment. Since the rib is considered an 'expendable' bone, and marginal or wide resection presents significantly less risk of recurrence than intralesional excision (curettage), such treatment seems preferable and is associated with few complications in this site.⁵

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From the Department of Orthopedics, McGill University, Montréal, Canada. Address correspondence and reprint requests to: Dr. Mohammed L. Al-Otaibi, 204 Darwin, Verdun, Montreal, Quebec H3E 1C5, Canada. Tel. +514 7614117. Fax. +514 7614117. E-mail: mohd_alotaibi@hotmail.com

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