

# RECURRENT GIANT CELL TUMOR OF RIGHT TIBIA: A CASE REPORT WITH CRANIOFACIAL MANIFESTATION

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## ABSTRACT

A 28 years old male from Daud Zai Peshawar came to Oral and Maxillofacial Surgery department of Khyber College of Dentistry Peshawar with chief complaint of severe pain associated with progressive swelling of right maxilla for past 15 days. Past history revealed similar swelling of left maxilla and right tibia, histopathologically confirmed to be giant cell tumor and was excised two years back. Base line investigations were found to be normal which included PTH assay, serum alkaline phosphatase, and serum calcium. Excisional biopsy of right maxilla was taken under general anesthesia and sent for histopathology. It was confirmed to be giant cell lesion of right maxilla.

**Key words:** Giant cell tumor, Tibia, Maxilla

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## INTRODUCTION

The number of documented true giant cell tumors (osteoclastoma) arising in any of the craniofacial bones is small but they do exist. Several cases of giant cell tumors involving jaw bones, skull, and petrous temporal and sphenoid bones are reported<sup>1,2</sup>. Giant cell tumors of the bones are usually located in the long bones<sup>3-5</sup>. Approximately, 50% are situated in the distal femur and proximal tibia. Other less frequent locations include the distal radius, proximal femur and humerus<sup>6</sup>. It occurs in the second to fourth decades of life, slightly more often in females than males<sup>7</sup>.

## CASE REPORT

A 25 year old male from Daud Zai Peshawar attended orthopedic department of Lady Reading Hospital Peshawar for painful swelling of proximal right tibia in year 2007. Bone scan was done and there was increased uptake of tracer in proximal right tibia. He was admitted and excisional biopsy was taken. It was diagnosed to be Giant Cell Tumor (GCT) of proximal tibia. He was admitted again for left facial swelling in year 2008 and biopsy was taken again. It was confirmed to be GCT of left maxillary bone. Ultrasound of abdomen and pelvis was found to be normal. Biochemistry of serum calcium,

phosphorous, and alkaline phosphatase was found to be normal. Serum PTH was also found to be normal. After 2 years he reported with painful progressive swelling of right maxilla for past 15 days. He was referred to Oral and Maxillofacial department of Khyber College of Dentistry Peshawar for further management. The chief complaint of patient was severe pain associated with right facial swelling, which became aggravated upon taking chewable diet. There was associated intermittent fever with the swelling. On extra-oral examination there was swelling on right side of maxilla. It was bony hard, tender and non-compressible on palpation. Intraoral examination reveals swelling in right buccal sulcus. Left upper canine and premolars were extracted. The eyes were not displaced. There was no epistaxis from right nares. There was no sensory or motor deficit. Past surgical history showed that patient was already treated with excision of giant cell tumor of proximal tibia and left maxilla. Routine baseline investigations were normal. X-ray Paranasal sinus (PNS) view revealed haziness of maxillary sinus and right maxilla. He was managed by the excision of tumor from the right side of maxilla under general anesthesia. It was sent for biopsy again. The histopathology confirmed the diagnosis of giant cell tumor. The patient was scheduled for follow up every month.

## DISCUSSION

Giant cell tumour (GCT) of bone, or osteoclastoma, is classically described as a locally invasive tumor that occurs close to the joint of a mature bone. The majority of cases described occurred between second to fourth decades<sup>8</sup>. In this case report patient is 25 years old and skeletal growth was complete.

The usual symptoms of a GCT are painful swelling, warmth or erythema<sup>9</sup>. The chief complaint of this case was also painful swelling of right side of face. It is generally considered to be a benign tumor. As in most studies<sup>8,9</sup>, the most common sites were proximal tibia and distal femur, followed by distal radius. In this case, the patient also had GCT of right proximal tibia.

The incidence of bone GCT also varies depending on the reporting centre. Fernandes et al<sup>10</sup> found that 28 (21%) out of 135 biopsies performed for bone tumors were GCT. Histological analysis of biopsy tissue is necessary for diagnosis, as radiological images are not conclusive<sup>11</sup>.

This case report is also biopsy diagnosed GCT of proximal tibia and facial bones. Giant cell tumors are distinctive neoplasms because they are characterized by a profusion of multinucleated giant cells scattered throughout a stroma of mononuclear cells. The stromal cells are the neoplastic element, not the giant cells. Since the giant cells have some similarity to osteoclasts, these neoplasms have been inappropriately called 'Osteoclastoma'. The neoplastic element or the mononuclear cells are originated from mesenchymal cells and they are the progenitors of the giant cells<sup>11,12</sup>. The mononuclear phagocyte system (MPS) consists of cells in different systems of the body, as in the blood vascular system it is called monocyte and macrophages in tissues of different parts of the body<sup>13</sup>. The biopsy report of patient also commented upon the replacement of normal bone by proliferating benign looking mononuclear stromal cells and osteoclastic multinucleated giant cells with hemorrhages.

In the management of the disease, wide excision of the enlarged tissue along with reconstructive surgery is considered as well as lifelong follow-up<sup>14,15</sup>. In our patient, there was excision of tumor from proximal tibia which has not needed any reconstruction so far. The tumor was also excised from right and left maxilla.

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