Case Report

Giant cell tumor of zygoma: A case study of rare neoplasm

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Abstract

We have come across with a rare case of giant cell tumor of zygoma in a 27 year old male patient. The tumor was involving glenoid fossa, erosion of zygomatic bone. Tumor was resected completely followed by radiotherapy. Due to limited literature, it provoked us to do a case study.

Key Word: Giant cell tumor, Zygoma.

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INTRODUCTION

Giant cell tumor (GCT) of the bone occurs in one in a million people and accounts for approximately 3%-7% of primary bone tumors with most common sites at the epiphysis of long bones[1,4]. Giant cell tumor has been classified as an aggressive benign lesion with malignant potential by the World Health Organization (WHO)[5]. GCTs arising in the head and neck region constitute approximately 2% of all GCTs, with the majority occurring in the sphenoid, ethmoid, or temporal bones[6,7]. The other reported sites for this tumor in the head and neck include: parieto-occipital bones[8,9], maxilla[10] and zygomatic bone[11,12]. Giant cell tumor of zygoma is extremely rare with only 3 cases reported in the medical literature in the past as per our knowledge.

Table 1: Summary of patients with giant cell tumor of the zygomatic bone

S.N	Source	Age/sex	Primary site	Presenting symptoms	Treatment modality
1	Hafeez et al. (1964) [11]	32/male	Zygomatic bone	Preauricular swelling	Curettage followed byradiotherapy
2	Muszynski et al. [12] (1995)	12/male	Temporal and zygomatic bones	Facial nerve paralysis andfacial swelling	Surgery followed byradiotherapy
3	Sethi et al. [13] (2005)	36/female	Zygomatic bone	Infraorbital swelling	Surgery
4	Tapan et al.(this study) [2018]	27/male	Zygomatic bone	Preauricular swelling	Surgery followed by radiotherapy

CASE REPORT

A 27 year old male patient came to Dhiraj hospital Pipariya, presented with left preauricular swelling and facial pain for 2 years. It was gradual in onset and progressive in nature. Physical examination revealed a 8×5 cm, hard, non-tender, oval and diffused swelling on the left preauricular area with no lymphadenopathy. Computed tomography with contrast imaging revealed a multilocular expansile osteolytic lesion of size approximately 3.6 x 3.7 cm (in axial section) involving left zygomatic, petrous and squamous part of temporal bone. Patient was posted for tumour excision under

general anesthesia. Modified blairs incision extending to temoral region was taken. The tumor was extending medially to zygoma, inferior to glenoid fossa and condyl, superiorly to dural plate and laterally till temporal bone. Tumor was resected in toto with healthy margins including total parotidectomy, baring facial nerve. The specimen was sent for histopathology which showed numerous osteoclast-like giant cells uniformly distributed throughout tumor. Many giant cells are larger than normal osteoclasts with numerous (>50) nuclei. Spindle and round / oval mononuclear cells were also present (Fig 5). Patient was sent for radiotherapy.

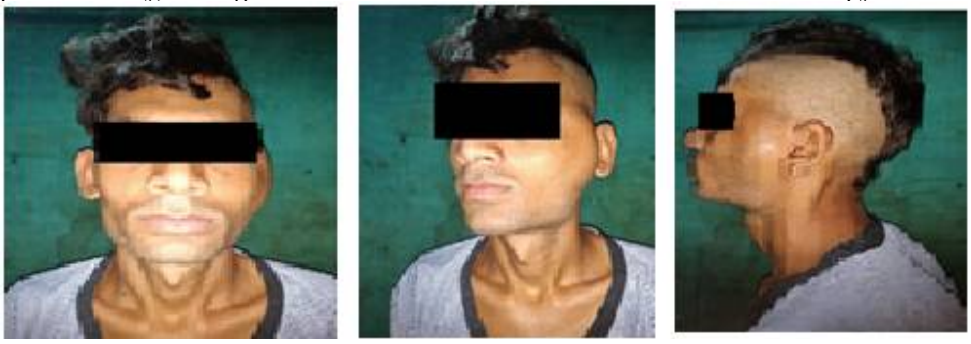

Figure 1: Pre opereative picture

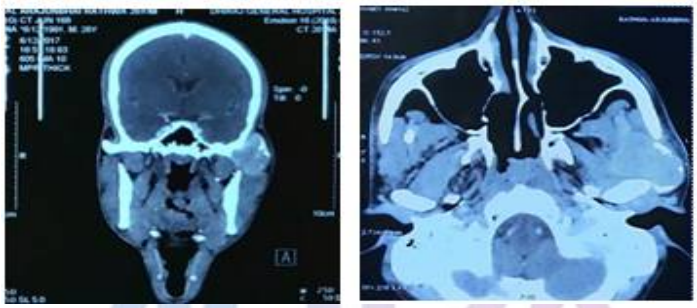

Figure 2: CT scan showing coronal and axial cut with contrast

Figure 3: operative picture

Figure 4: Specimen

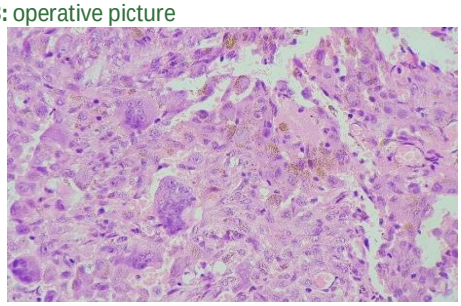

Figure 5: Histopathology

DISCUSSION

GCTs are benign but locally aggressive neoplasms characterized by the presence of osteoclast-like giant cells admixed with epithelioid and spindle-shaped mononuclear cells. GCTs are also referred to as osteoclastomas because of the resemblance of the giant cells to osteoclasts. GCT typically occurs in the metaphysis and epiphysis of long bones. GCTs of the head and neck are uncommon[6,14,15.] Giant cell tumors

exhibit a peak age incidence between 20 and 30 years with a female preponderance[16]. The definitive treatment of GCTs requires surgical excision, with the extent of surgery dependent on the size and extent of the tumor. Up to 60% of GCTs recur if treated by simple curettage alone, whereas recurrence after wide resection is about 7%[17,18]. Cryosurgery also has been used as an alternative treatment modality and Radiotherapy is usually reserved for lesions that are not amenable to surgical resection and cryotherapy. Although the older literature indicates that GCTs were radioresistant and prone to malignant transformation following radiotherapy, more current findings using supervoltage radiation indicate that GCTs are radioresponsive and not subject to increased incidence of sarcomatoustransformation following radiation[19,20,21].

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