ISSN: 2581-5989
PubMed - National Library of Medicine - ID: 101738774

International Journal of Dental Science and Innovative Research (IJDSIR)

IJDSIR : Dental Publication Service

Available Online at: www.ijdsir.com

Volume – 4, Issue – 5, October - 2021, Page No. : 343 - 346

Giant Cell Tumor of mandible: A case report

[1]Panat Sushmita Sunil, Oral & maxillofacial surgeon, Department of Dentistry, IGIMS, Patna, India.

[2]Shashi Singh Pawar, Assistant Professor, Department of Surgical Oncology, IGIMS, Patna, India.

[3]Priyankar Singh, Assistant Professor, Department of Cranio-Maxillo-facial Surgery, IGIMS, Patna, India.

[4]Jawed Iqbal, Dental Officer, Department of Dentistry, IGIMS, Patna, India.

[5]Swati Singh, Senior Resident, Department of Dentistry, IGIMS, Patna, India.

[6]Arbind Kumar Sharma, Head of Department, Department of Dentistry, IGIMS, Patna, India.

Corresponding Author: Priyanka Singh, Assistant Professor, Department of Cranio-Maxillo-facial Surgery, IGIMS, Patna, India.

Citation of this Article: Panat Sushmita Sunil, Shashi Singh Pawar, Priyanka Singh, Jawed Iqbal, Swati Singh, Arbind Kumar Sharma,"Giant Cell Tumor of mandible : A case report", IJDSIR- October - 2021, Vol. – 4, Issue - 5, P. No. 343 – 346.

Type of Publication: Case Report

Conflicts of Interest: Nil

Abstract

Giant cell tumor is a benign neoplastic condition common in faciomaxillary region. Patient generally presents with swelling which is painless and slowly progressive in nature. Clinico-radiological evaluation is needed for proper diagnosis. Surgery is treatment of choice. It is difficult in recognizing and differentiating the characteristic histology, which at times may mimic several other bone tumors and endocrine disorders that ranges from locally aggressive giant cell granulomas to hyperparathyroidism to malignant tumors. Giant cell tumors are normally benign with unpredictable behaviour. Malignancy in giant cell tumor is uncommon and occurs in about 2% of all cases Patient presented with lower jaw mass. After clinico-radiological evaluation, patient was diagnosed as GCT and was treated surgically.

Keywords: Mandible, Giant Cell Tumor, Mandibulectomy

Introduction

Giant Cell Tumor (GCT) comprises of 5% of all osseous neoplasms. Most of the lesions occur in the temporal, ethmoid and sphenoid bone [1]. It is a distinctive neoplasm characterized by abundance of multinucleated giant cells scattered throughout the stroma of mononuclear cells. In this article we have discussed about a case of giant cell tumor of left mandible of a 24 years old male patient.

Case report

A 24 years old male patient presented with lower jaw mass in the dental out patient department at Indira Gandhi Institute of Medical Sciences, Patna. Patient had history of swelling of the left lower jaw for 1 year. It was gradual

in onset and slowly progressive. There was no history of trauma. The mass was painless and no history of paresthesia. There was no significant and relevant family history. No history of previous surgery. On clinical examination of the oral cavity there was no mobile and carious tooth. Mouth opening was 39mm. Vestibular obliteration was present with respect to 38 region. On palpation it was non-tender, non-fluctuant, non-ulcerated and without any associated discharge. It was firm in consistency. On extra oral examination facial asymmetry was present. A solitary oval shaped swelling (fig.1) was present on left lower third side of face measuring about 2.5x3cms anteroposteriorly and 2x3cms super inferiorly extending anteroposteriorly 0.5cm from helix of ear to 4cm away from left commissure of lip and superoinferiorly from 4cms away from left lateral canthus of eye to below the base of mandible. Overlying skin appeared normal and without any associated discharge. On palpation, all the inspectory findings were confirmed. The swelling was smooth, oval, non-indurated, no localised rise in temperature, non-mobile, non-fluctuant, non-compressible and without any associated discharge. Left submandibular lymph node was palpable, two in number, non-tender and mobile.

Orthopantomogram revealed a well-defined unilocular radiolucent lesion extending from distal of 38 to left ramus of mandible region. For further confirmation and evaluation NCCT face was done which revealed an expansile lesion with well demarcated margins arising from alveolar surface to base of mandible of left side extending upto left ramus of mandible (fig. 2). Lingual and buccal plate perforation was seen. There was no obliteration of mandibular canal.

Incisional biopsy was done under local anaesthesia which was suggestive of Giant cell tumor.

Patient was planned for surgery under general anaesthesia. Wide surgical excision of lesion (fig.3) with segmental mandibulectomy was done with extraction of 35, 36, 37. Left submandibular lymph node was removed. Reconstruction was done with 2.5mm titanium recon plate (fig.4). The recon plate was covered with masseter muscle. Layer by layer closure of the wound was done.

Ryle's tube feeding was done for 7days. There was no postoperative complication and the patient was discharged on 8th postoperative day. Patient came for follow-up after two weeks. Extraoral sutures were removed. Patient complained of mild paresthesia with no other major complaints (fig.5).

Discussion

The age distribution of giant cell tumor is around 20–40 years. The sex distribution is 1.3:1 female: male. Giant cell tumor is a true neoplastic process arising from the undifferentiated mesenchymal cells of the bone marrow [2]. It is generally considered as benign but severe bony destruction may result occasionally depending on the location and clinical presentation of the tumor, making tumor management very challenging.

Patients with head and neck GCT may present with a variety of symptoms depending on the location of primary lesion; symptoms include swelling, pain, epistaxis, neurological deficits, proptosis, visual defects, tinnitus, and hearing loss. In this case, GCT arising from the mandible caused pain and Trismus. Patient reported with painless swelling and facial asymmetry on left side of face.

The differential diagnosis of GCT includes bone cyst, chondroblastoma, dermoid cyst, chondrosarcoma, and giant cell reparative granuloma [3]. In this case, the final diagnosis was made on the basis of biopsy.

The gross appearance exhibits chocolate brown or greyish white foci with yellowish discoloration interspersed with

hemorrhagic or cystic areas with a soft and friable consistency. The characteristic histopathology of GCT is well-appreciated in the histopathology of the case being discussed.

Radiologic examination of giant cell tumor reveals a well-circumscribed lytic lesion surrounded by slight or no sclerosis. The tumors may break through the cortex and invade the soft tissue. A CT scan can provides a detailed assessment of the tumor. It shows the soft tissue mass of the lesion, amount of bony destruction, and spread towards important anatomic structures [4].

The treatment of choice of GCT is surgical excision [2] as done in this case. Regardless of the site of presentation, partial resection or curettage results in a recurrence rate of up to 70%, whereas recurrence after wide resection is about 7% [5]. It ranges from benign lesions such as ossifying fibroma to locally aggressive lesions like GCT, bone cyst, sarcomas and also disorders such as hyperparathyroidism[6,7] .

Numerous tumors have multinucleated giant cells that must be distinguished from GCT. These varied jaw lesions have been observed to be more prevalent in the males than in females with most of the patients presenting in the 2nd to the 3rd decade of life. Majority of these lesions are located in the mandible [8,9]. Mandible has been reported as more common jaw bone affected by this lesion. Central giant cell granuloma appears to be lesion that is unique to the jaws. It was formerly regarded as reparative process and was accordingly called central giant cell reparative.

Conclusion

GCT arising from the mandible is a rare disease whose diagnosis is difficult. Imaging and preoperative biopsy including fine needle aspiration is often not sufficient to make the diagnosis. Therefore, the possibility of GCT should be included in the differential diagnosis of a bony lesion of craniofacial bones until a final diagnosis is made using a permanent pathologic specimen. Wide complete excision is required since incomplete excision results in a high incidence of recurrence.

References

1. Giri GV, Sukumaran G, Ravindran C, Narasimman M. Giant cell tumor of the mandible. Journal of oral and maxillofacial pathology: JOMFP. 2015 Jan;19(1):108
2. Sethi DA, Passey JC, Mrig S, Sareen D, Sharma P. Giant cell tumour (osteoclastoma) of the zygoma: an extremely unusual neoplasm. Acta oto-laryngologica. 2006 Jan 1;126(3):327-9.
3. Silvers AR, Som PM, Brandwein M, Chong JL, Shah D. The role of imaging in the diagnosis of giant cell tumor of the skull base. AJNR Am J Neuroradiol. 1996 Aug;17(7):1392–1395
4. Marioni G, Marchese-Ragona R, Guarda-Nardini L, Stramare R, Tognazza E, Marino F, Staffieri A. Giant cell tumour (central giant cell lesion) of the maxilla. Acta oto-laryngologica. 2006 Jul 1;126(7):779-81.
5. Murphey MD, Nomikos GC, Flemming DJ, Gannon FH, Temple HT, Kransdorf MJ. Imaging of giant cell tumor and giant cell reparative granuloma of bone: radiologic-pathologic correlation. Radiographics. 2001 Sep;21(5):1283-309.
6. Lin YJ, Chen HS, Chen HR, Wang WC, Chen YK, Lin LM. Central giant cell granuloma of the mandible in a 7 year old boy: A case report. Quintessence Int. 2007;38:253
7. Campanacci M, Baldini N, Boriani S, Sudanese A. Giant-cell tumor of bone. J Bone Joint Surg Am. 1987; 69:106–14.
8. Srimm G, Shetty RP: Odontogenic tumors: A study of 250 cases in an Indian teaching hospital. Oral Surg

Oral Med Oral Pathol Oral Radiol Endod. 2008, 105 (6): 214-221.

9. Parkins GE, Armah GA, Tettey Y: Orofacial tumours and tumour-like lesions in Ghana: a 6 year prospective study. Br J Oral Maxillo fac Surg. 2009, 47 (7): 550-4. 10.1016/j.bjoms.2008.11.003.

Legend Figure

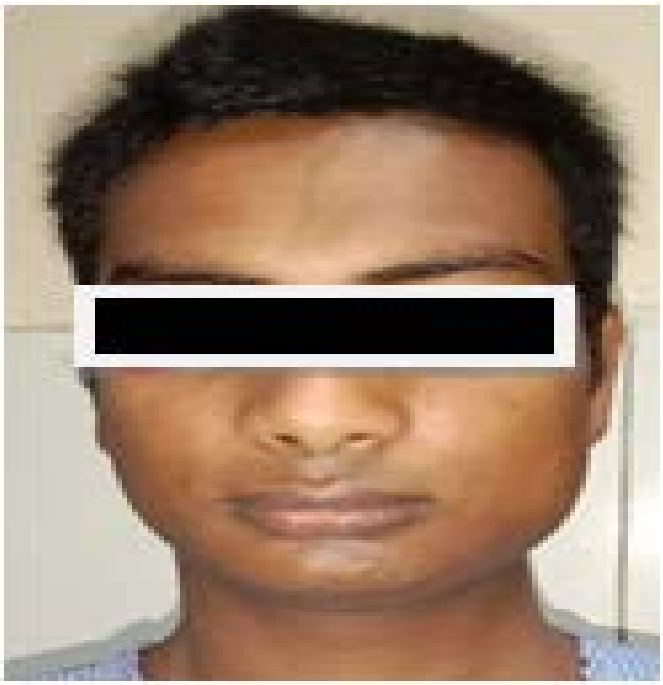

Fig. 1: Preoperative photo showing swelling on left side of face

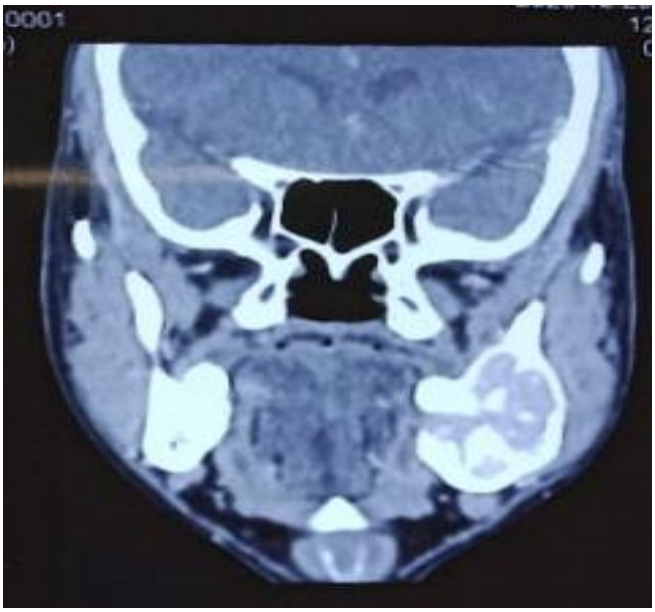

Fig. 2: NCCT face showing expansile lesion.

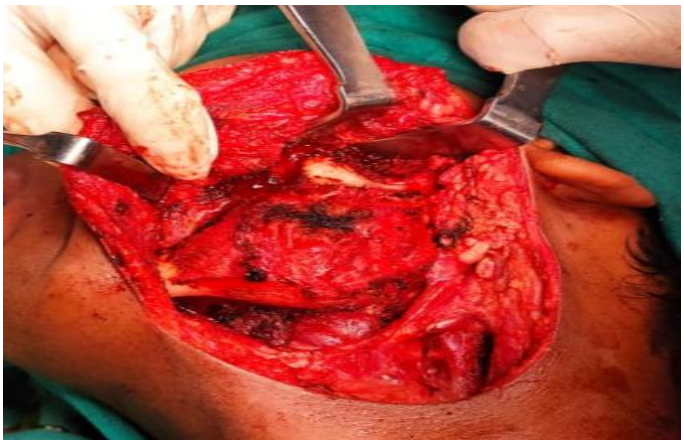

Fig. 3: Shows tumor mass measuring about 3.2cmsX2.2cms

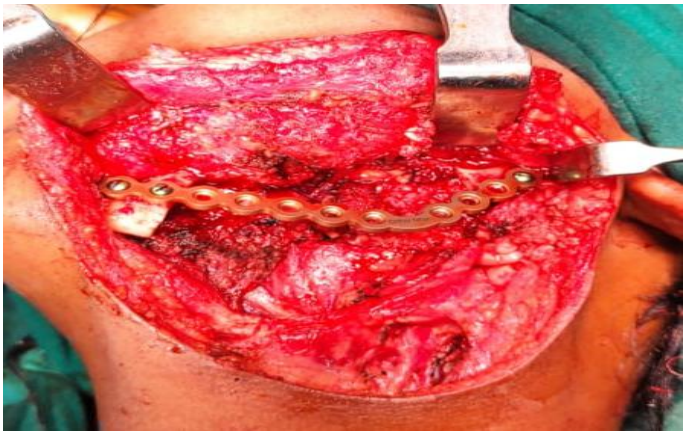

Fig. 4: Reconstruction with recon plate

Fig. 5: Postoperative profile photo