



Central giant cell granuloma of the maxilla: a case report

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Abstract

Introduction: Central giant-cell is a benign lesion that predominantly involves the bone of the mandible and maxilla with a wide variation of its behavior. Surgery usually is the first choice in treatment of central giant cell granuloma.

Case Report: In this case report we present a 29 years-old female with well define swelling on left maxilla. Diagnosis through incisional biopsy showed a central giant cell granuloma. Surgery with curettage was our treatment option with a follow up(2 years), No recurrence was reported.

Discussion: Information on the maxillary central giant cell granuloma in published studies is insufficient. So here we present our case as unusual case presentation. Differential diagnosis of this case included osteosarcoma (parosteal type) since the tumor clinical presentation in periosteous tissue adjacent to the bone cortex and showed rapid growth. We chose the conventional surgical treatment by simple surgical curettage by mid-face degloving approach to avoid any facial scarring.

Keywords: Maxillary Central Giant Cell Granuloma; CGCG; Facial Degloving Approach

1. Introduction

Central giant cell granuloma (CGCG) as described by Jaffe in 1953, is an idiopathic non-neoplastic proliferatives intraosseous lesion consisting of cellular fibrous tissue that contains multiple foci of haemorrhage, aggregations of multinucleated giant cells and occasionally trabeculae of woven bone (manish et al. 2013). Jaffe originally coined the term giant cell reparative granuloma to describe a lesion, he believed that it represented a response to intraosseous hemorrhage from jaw trauma. Other researchers prefer the term giant cell granuloma to describe this lesion noting the inconsistent history of trauma and lack of significant elements of reparative tissue (C. Padmavathi et al. 2012). It still remains unclear whether this lesion occurs anywhere else in the body. A very similar lesion does occur in the hands and feet, but its exact relationship is unknown. Although other lesions containing giant cells do occur in other bones of the body, they are much less frequent and are generally felt to be variants of other tumors, most often a low-grade osteosarcoma (M Pogrel 2012, p.112). Giant cell granuloma accounted for 7% of the maxillary tumors (Rubio-Correa et al. 2012). Few cases of central GCG arise within the skull base (Plontke S K et al. 2002). There are several cases of GCG arising in the temporal bone (Yu J L et al. 2010). It is more common in children and young adults, with a slight predominance in females (Comert et al. 2006). As etiological factors have been related several factors, especially local irritants (such as extractions or poorly fitting dentures) and hormonal (Goldman et al. 2005). Histopathological features of central giant cell granulomas are characterized by the presence of numerous multinucleated giant cells and mononuclear stromal cells in a fibrous connective tissue (Telfahet al. 2005). Central giant cell granulomas (CGCGs) occur within jaw bones and appear as radiolucent defects, which may be unilocular or multilocular (Aghbali et al. 2013). The majority of these lesions are noted in young adults

with a predilection for females. There is considerable variation in the clinical behavior. Most of CGCGs (non-aggressive type) are asymptomatic and may be encountered in routine radiographic examinations. Another form of CGCG (aggressive type) is characterized by pain, cortical perforation, root resorption and tendency to recur after treatment (Amirchaghmaghi et al 2010). The treatment of GCG involves surgical removal, varying from curettage to en block resection (Batatineh et al .2002). Nonsurgical treatment methods, such as intralesional corticosteroid injections and systemic calcitonin or interferon- α , are increasingly being used (Nogueira et al. 2010). Landesberg et al. reported three cases of CGCLs treated with bisphosphonates (da Silva et al. 2012). This paper describes an unusual case of parosteal central giant cell granuloma of maxilla in 29 years-old female patient.

2. Case report

A 29 years-old female with no relevant medical history referred to our department for a left side swelling of the maxilla with seven-month duration. The swelling was painless with the gradual increase in size, clinical examination revealed a swelling (4*2.5 cm) in size extended from the infra-orbital area to the lateral crura of the nose in vertical orientation and from the medial side of the nose to the infraorbital foramen in the horizontal orientation, firm in consistency, no fluctuation, fixed to the underlying and overlying tissue, overlying skin with normal color, well define border, local tenderness, no paraesthesia of left infra orbital nerve, no epiphora, (fig. 1).

MRI T1 and T2 in sagittal, axial and coronal views showed well define hyper tense mass in MRI T2 on the lateral nasal wall pushing it and cause obstruction of the left nostril without deviation in the septum and no perforation in palatal bone inferiorly, (fig. 2).



Fig. 1: Swelling at Lateral Left Side of the Nose, Size 4*2.5 Cm.

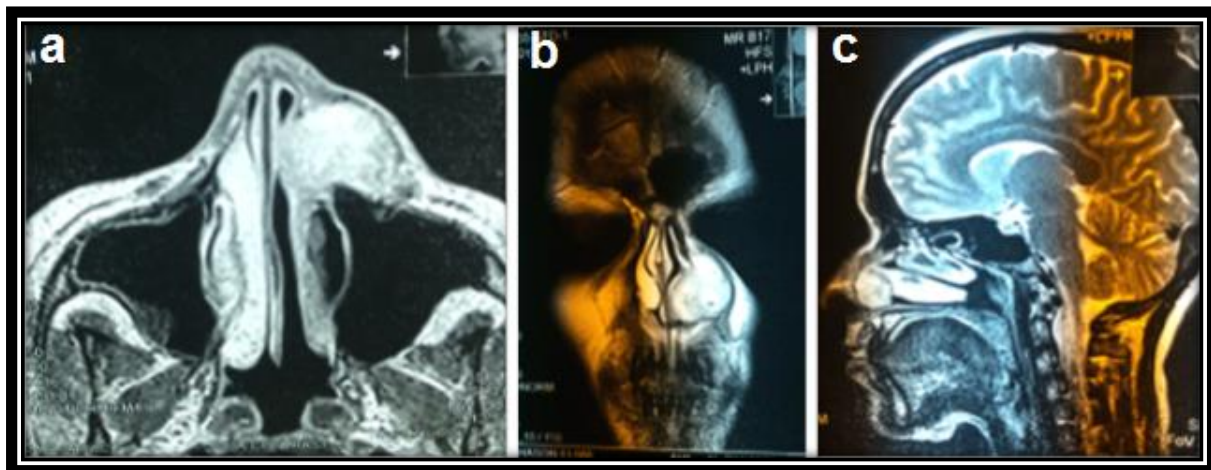


Fig. 2: A & B & C MRI in Sagittal, Axial and Coronal Views: Well Define Hypertense Mass on the Lateral Nasal Wall Pushing It and Cause Obstruction of the Left Nostril without Deviation in the Septum and No Perforation in Palatal Bone Inferiorly.

Fine needle aspiration cytology is done preoperatively, but it was non-conclusive when it came with (show benign like epithelial cell). So, under local anesthesia and through intra oral approach, incisional biopsy from the gray friable tissue (mass) was taken, and the specimen was submitted to the Oral and Maxillofacial pathology department. The histopathological examination showed Central Giant Cell Granuloma. Patient sent for further lab investigation include S. ca, S. ph, and PTH in order to exclude the possibility of brown tumour of hyperparathyroidism, and the result came negative. The aesthetics was a major concern with the patient. So, in order to avoid any facial scarring, an intra-oral approach with facial degloving arranged in our treatment plan. This midface degloving approach choosed to gain a complete access to the entire lesion, (fig. 3).

Nasal incisions (bilateral inter cartilaginous with transfixion incisions) used to dissect and release the whole nasal framework, then an intraoral vestibular incision from the first molar on one side to the other side with periosteal stripping done.

After midface degloving and mass exposing, curettage done for the entire tumor and the entire bony margins checked for any remnants, closure of the lateral nasal mucosa with resorbable suture and then closure of the other incisions with non-resorbable suture. Anterior nasal pack maintained for 24 hours. Patient had no recurrence of the lesion during a 2-year follow-up period, (fig.4).

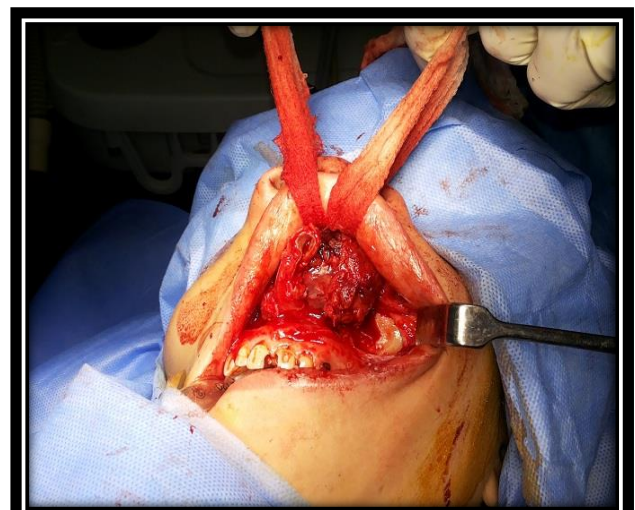


Fig. 3: Midface degloving to Access the Lesion Followed by Curettage and Complete Removal of the Lesion.



Fig. 4: Postoperative Result.

3. Discussion

Central giant cell granuloma of the mandible is a well described clinical entity. However, information on the maxillary lesion in published study is scarce: there have been no large series reported to specifically document the clinical and radiographic features, management, and results following surgery for this lesion (Rawashdeh et al. 2006). Conventional treatment for central giant cell granuloma (CGCG) involves surgery. The procedures recommended in the literature vary according to the lesion. In recurrent or aggressive lesions, en bloc resection, including healthy bone, is a treatment option. For the remaining lesions, the treatment indicated is simple curettage. Curettage accompanied by peripheral osteotomy or cryotherapy with liquid nitrogen. Treatment by surgical curettage is widely recommended (Nogueira et al. 2010). This case shows unusual presentation of parosteal central giant cell granuloma of the maxilla as well define painless mass on the lateral wall of maxilla cause obstruction in a left nostril without cause deviation of a nasal septum. We chose the conventional surgical treatment by simple surgical curettage. The unusual presentation of this case makes the decision of approach is not easy. Traditional open approaches usually result in facial scars, and asymmetric muscles unbalance. The converse mid faced egloving technique allows proper visualization and surgical removal of deeply seeded pathologies in the maxilla and peripheral tissues (Mujica et al. 2011). Our approach was conservative and successfully allows complete exposure and removal of the tumour. Patient had no recurrence of the lesion during a 2-year follow-up period.

4. Conclusion

Central giant cell granuloma of maxilla had not largely reported by letritures. Our case represent uncommon parosteal central giant cell granuloma of maxilla. Conventional treatment for central giant cell granuloma (CGCG) involves surgery. We recommended use esthetic approach (midface degloving) which was conservative and successfully allows complete exposure and curettage removal of the tumour.

5. Conflict of interest

None.

Acknowledgement

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