CASE REPORT

Giant Cell Granuloma of the Maxilla: A Case Report

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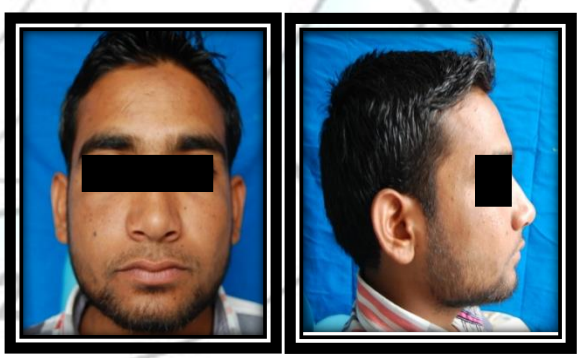
Abstract

Central giant cell granuloma (CGCG) is a non-neoplastic lesion which exhibits a Spectrum of clinical behavior ranging from nonaggressive to aggressive variants. This paper presents a case of CGCG involving the maxilla. The striking feature of present case is its aggressive nature and presence of the lesion in the posterior part of maxilla which is considered to be a rare finding as the lesion commonly occurs in the mandible anterior to first molar. The swelling was clinically and histologically diagnosed as Central Giant Cell Granuloma.

Keywords: Giant cell granuloma, neoplastic lesion, maxilla

Introduction

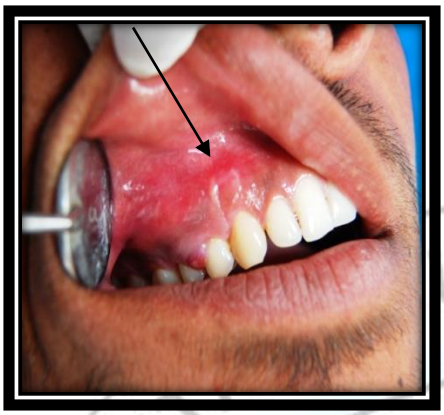
The World Health Organisation (2005) define a central giant cell granuloma as a benign intraosseous lesion consisting of fibrous tissue containing foci of haemorrhage and haemosiderin deposits, aggregations of giant cells and reactive bone formation.[1]Central giant cell granuloma was first described by Jaffe[2] in 1953.It is an uncommon, benign and proliferative non neoplastic process. The term central giant cell lesion has been proposed, as the microscopic features are not those of a true granulomatous process[2]. Giant Cell Granuloma is a rare bony lesion in the Head and Neck region. It is a non-odontogenic tumor never seen in any other bone of the skeleton. It most commonly affects mandible followed by the maxilla. Their aetiology remains unclear but they appear to have a slight predilection for females.[3] although benign, it can locally destructive. Two types are recognized: peripheral and central.[4] The central lesion is less common than the peripheral type, it can be associated with perforation of the cortical plate(s) and will then present like a peripheral lesion. Central giant cell granulomas are reactive, hyperplasic lesions and may also show developmental anomalies closely related to the aneurysmal bone cyst or true benign neoplasms. CGCG usually is an asymptomatic lesion, which may become evident during routine radiographic examination or as a result of painless expansion of the affected jaw. They can perforate neighboring structures, displace teeth and cause local tissue destruction. Thus, they are now believed not to be strictly reparative in nature and are probably more a neoplastic lesion; therefore the correct term for these is Giant Cell Tumour.[5]



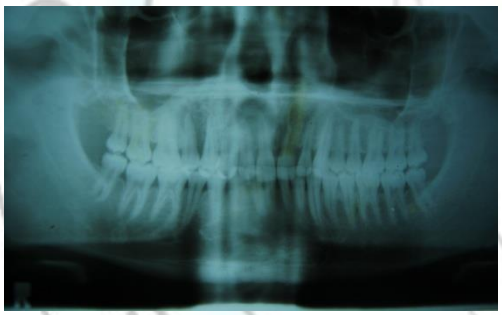
Case Report

The case report is of a 21year old male, reported to dept of oral and maxillofacial surgery MA. Rangoonwala Dental College, pune with a chief complaint of painless swelling in right back region of jaw since 3 months. The history revealed that the swelling started as small one (size of a peanut) and progressively increased to the present size over a period of 7 days. It was associated with intermittent pain. There was no history of trauma, neurological deficit, fever, loss of appetite, loss of weight. There was also no similar swelling present in any parts of the body. Patient was systemically healthy. Intra orally

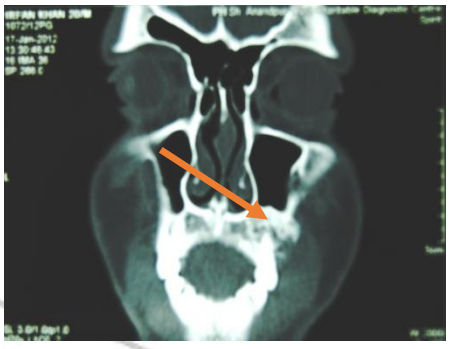
localized swelling was present on the right maxilla near the alveolar region.



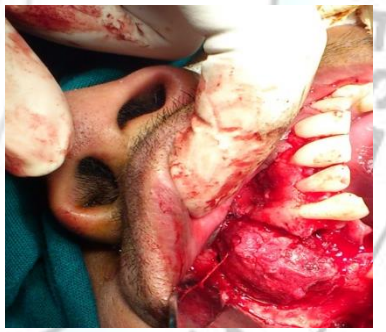
A solitary, hard, well circumscribed swelling was seen in right buccal vestibule measuring around 3 × 4 cm. The swelling was non tender on palpation and was hard in consistency. The mucosa over the swelling was normal, temperature was normal. Panoramic radiographs showed a 3 x 3.5-cm well-circumscribed mixed radiolucent-radiopaque lesion of the maxillary posterior region and displacement of upper premolars. Aspiration was positive with blood. Routine haemogram and urine examination were normal.



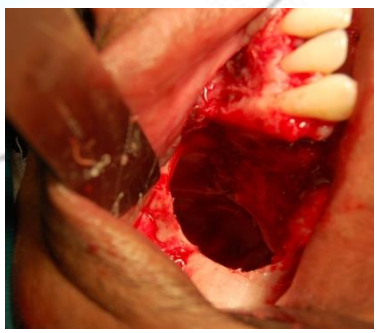
The serum chemistry of calcium, phosphorous, parathyroid hormone was normal, there by excluding the possibility of hyperthyroidism. An incisional biopsy was performed under local anesthesia and specimen revealed a lesion composed primarily of fibrous tissue with dilated vascular spaces in between focally collections of osteoclast like giant cells were seen. Results of the biopsy were consistent with a diagnosis of CGCG.



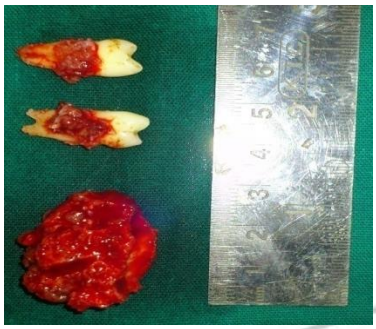
C.T. scan which was taken to mark the extend of the lesion revealed a large unilocular radiolucent lesion with well-defined margins with the interspersed septae within the lesion on the right side. Then patient was started on intralesional corticosteroids therapy following the protocol given by Terry and Jakoway.[6] The intralesinal injection protocol was given twice weekly basis, for a period of 16 weeks, but realized After 10 weeks it was difficult to perforate the cortical bone for injections. Panoramic radiographs after intralesional corticosteroids revealed no satisfactory changes. As the lesion did not show satisfactory reduction in size, the decision for surgical excision was planned. All sterilization and asepsis measures were undertaken prior to rising of the mucoperiosteal flap and placement to vertical osteotomy cuts.
Entire tumoral mass was removed along with portions of invaded bone and corresponding teeth.



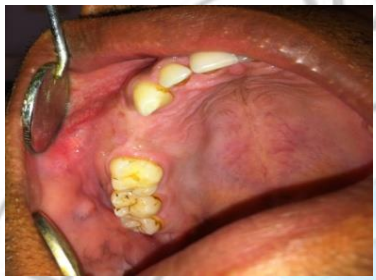
Osteotomy cut



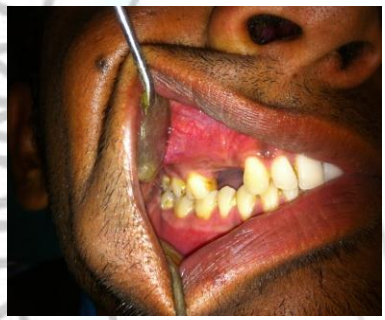
Excision of the lesion



Specimen and extraction of tooth



Six months post opp



A careful and thorough curettage of the residual bone cavity was performed. Primary closure was achieved. Post-operative histopathological diagnosis confirmed a lesion composed of numerous anastomosing only trabeculae between which were islands of fibrous tissue with giant cells and osteoid formation. The appearance was that of a giant cell lesion. The patient recovered well post operatively and was discharged the following day. He remains under close observation.

Discussion

Central Giant Cell Granuloma is a rare disease.[7] can occur at any age but presents most frequently in the 2nd and 3rd decades and involves the mandible more than the maxilla. It is twice as frequent in females.[8,9] Although lesion is expansive and invasive, it does not usually involve perinueral sheets, for this reason parasthesia is usually not observed in these patients.[10] Shafer [11] described the lesion as a reactive response of bone to repeated unidentified trauma. It has also been suggested that it could be a reaction to some form of hemodynamic disturbance in bone marrow perhaps associated with trauma and haemorrhage and Some cases are symptomless and are first detected on routine radio graphical examinations.[8] the radiographic features of CGCG have not been clearly defined, the lesion may appear as unilocular or multilocular radiolucency with well-defined or ill-defined margins with varying degrees of expansion of the cortical plates.[12] Surgical curettage remains the most common treatment modality in CGCG. However Alternative treatment for Central giant cell granuloma have been discussed in literature: Radiation was considered as one f the treatment modality but this may promote malignancy, so is no longer recommended.[13]

Intralesional injection of corticosteroids has been proposed as a non-surgical method of management of CGCG.[14] Which aims in giving equal parts of Triamcinalone acetonide (10mg/ml) and local anaesthetic (Lignocaine in our treatment) Approximately 2ml of solution was injected into the lesion by multiple penetrations, a protocol by Terry and Jakoway.[6] The use of exogenous calcitonin may have some merit in the treatment of aggressive lesions[15] but this line of approach comes with its short comings as Systemic calcitonin injections or infusions and/or nasal sprays can be required for long periods (up to 21 months) to achieve healing and can be associated with unpleasant side effects. There is also the potential for treatment resistance.[16] Good results have been reported with the use of Methyl prednisolone acetate treatment but increase in lesion size with this has been a point of debate.[17]

Very little practice has been made to the use of Interferon-alpha as intralesional bone formation is reported. But because of its side effects it should only be used if other treatment options fail and as an adjuvant to surgical enucleation, not alone.[18] Surgery is the traditional and accepted form of treatment for CGCG which ranges from curettage to enbloc resection of the lesions.

Conclusion

CGCG though a rare disease of head and neck sometimes shows an aggressive behaviour and hence correct diagnosis is established by correlating clinical and histological features. Surgery is the traditional and accepted treatment. Our treatment of Intralesional corticosteroids with surgical excision of lesion showed good treatment outcome.

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