

Central Giant Cell Granuloma: Case Report

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ABSTRACT

Introduction: Central giant cell granuloma is a non neoplastic lesion exhibiting a spectrum of clinical behavior which ranges from nonaggressive to aggressive type. Lesion mostly occurs in anterior mandible with age of occurrence being second decade of life.

Case report: We report a case of CGCG involving the maxillary anterior region in a male patient with emphasis on clinicoradiological, histopathological and surgical aspect of the lesion. The salient feature of the case is its aggressive nature and occurrence of the lesion in the anterior maxilla which is a rare finding as the lesion usually occurs in the mandible anterior to first molar.

Conclusion: Surgery is the most accepted and conventional type of treatment for CGCG varying from simple curettage to en bloc resection of the lesions. In the present case curettage with enucleation was done.

Keywords: Tumor, Giant cells, Corticosteroids, Surgery

INTRODUCTION

Central giant cell granuloma was first described in 1953 by Jaffe. It is a rare, benign and proliferative non neoplastic process. The term central giant cell lesion has been given, as the microscopic features don't present a true granulomatous process.¹

CASE REPORT

A 20 years old male patient presented with a chief complaint of painless swelling in the upper left back tooth region of the jaw since 5 months. There was no history of trauma. There was no similar swelling present in any parts of the body. The swelling was reported to be insidious in onset and had progressed slowly from a small lesion to the present size.

Intraoral inspectory findings revealed a solitary oval swelling, with well demarcated, smooth and regular borders, measuring 2x1cm in diameter, with normal colour as that of adjacent mucosa, was present in buccal aspect of left posterior maxilla extending from distal aspect of 23 towards mid portion of 26 obliterating the buccal vestibule. Also a nodular growth was present on surface of swelling. Palpatory findings of the lesion showed that it was firm in consistency, nonfluctuant and nontender. Grade I mobility was present i.r.t. 25 and 26 (Figure 1).

Intraoral periapical radiograph revealed a unilocular mixed radiolucent- radiopaque lesion with regular well defined border was present i.r.t 25 and 26 causing displacement i.r.t 25 and 26. This mixed lesion had a granular/hazy appearance. The lesion was showing buccal cortical expansion i.r.t 23 to 26. (Figure 2) Routine blood and urine examination were normal. Aspiration was also negative. Based upon the clinical and radiographic features provisional diagnosis of Central ossifying fibroma was made.

Histopathology of the biopsied specimen was done which

revealed 5-6 tissue bits, showing dense fibrocellular connective tissue stroma, with numerous scattered multinucleated giant cells, with nuclei ranging from 4 to 6 in number. Lesional tissue showed dilated and proliferating blood vessels and areas of hemorrhage and few chronic inflammatory cells chiefly lymphocytes. Bony trabeculae with osteoblastic rimming and osteocytes within were noted. One area showed myxoid degeneration with lipid laden macrophages. On the basis of histopathological evaluation, final diagnosis of central giant cell granuloma was made (Figure 3).

Case was posted under Local Anesthesia. Lesion was exposed labially through intraoral approach. Enucleation with curettage was done, removing small amount of bone surrounding the lesion peripherally. (Figure 4) Primary closure of surgical site was done after extraction of 23, 24, 25 and 26. No signs of recurrence were present after six months follow up.

Discussion

CGCG is an intra osseous lesion which occurs predominantly in younger adults under 30 years of age.² Mandible is affected more frequently than maxilla mostly in anterior region. Sometimes the lesion crosses the midline. Females are affected more frequently than males. Aggressive lesions are rapidly growing, painful and produce cortical perforation with root resorption. Microscopically, it is composed of uniform fibroblasts in a stroma with various amount of collagen. Hemosiderin laden macrophages and extravasted RBC's are evident. Multinucleated giant cells are seen throughout the stroma, in patches or evenly distributed. Foci of osteoid may be present around the peripheral margin of the lesion.³ Histological differential diagnosis include hyperparathyroidism, aneurysmal bone cyst, cherubism and giant cell tumor. Hyperparathyroidism can be differentiated on the basis of biochemical tests. Aneurysmal bone cyst is differentiated on the basis of presence of sinusoidal blood spaces within tumor mass. Cherubism is differentiated on the clinical diagnosis. Giant cell tumor resembles CGCG but has more nuclei and have a homogenous pattern, but rarely occurs in jaws.⁴

The most widely accepted method of surgical treatment of CGCG is curettage of the tumour mass followed by the

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How to cite this article: Nilesh Pardhe, Pradkhshana Vijay, Ishank Singhal, Harvey Thomas. Central giant cell granuloma: case report. International Journal of Contemporary Medical Research 2016;3(10):3089-3090.



Figure-1: intraoral examination revealing solitary swelling over the left buccal vestibule in the region of posterior maxilla

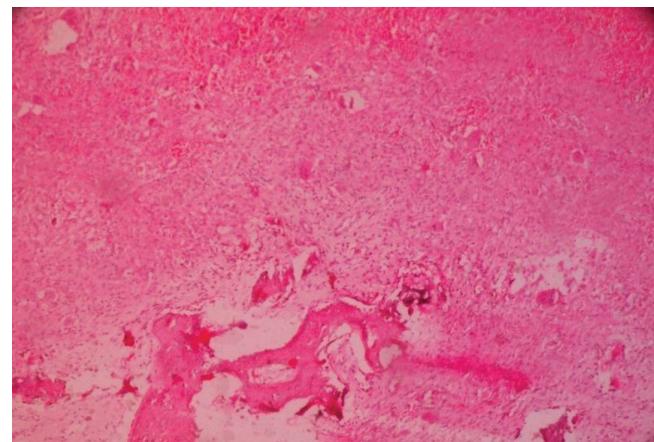


Figure-2: intraoral periapical radiograph shows mixed radiolucent radiopaque area extending from distal aspect of 23 to distal aspect of 26 causing buccal cortical expansion



Figure-3: photomicrograph showing fibrocellular stroma with numerous giant cells containing 6-10 nuclei. Proliferating and extravasated blood vessels are also noted. Normal bony tissue with osteoblastic rimming and osteocytes within is seen



Figure-4 surgical exposure of the lesion buccally through intraoperative approach

removal of the peripheral bony margins which results in a low recurrence rate and good prognosis.⁵ Intralesional injection of corticosteroids is a non surgical method of management of CGCG.⁶ The exogenous calcitonin has been useful in the treatment of aggressive lesions. It can be administered in two modes i.e. 100 IV calcitonin subcutaneously daily and 200 IV nasal sprays daily. Function of giant cells is inhibited by calcitonin. Surgery is the traditional and most accepted type of treatment for CGCG ranging from curettage to en bloc resection of the lesions.⁷

CONCLUSION

CGCG is a rare disease of jaw with a locally aggressive behavior. Hence, correct diagnosis is established by correlating clinicoradiographic and histological features. Proper biochemical investigations must be done to rule out hyperparathyroidism. Surgery is the conventional and most accepted treatment but can be combined with local injection of steroids and calcitonin in order to avoid recurrence.

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Source of Support: Nil; **Conflict of Interest:** None

Submitted: 18-09-2016; **Published online:** 30-10-2016