



## HUGE PERIPHERAL GIANT CELL TUMOR OF PALATE

### Oral Pathology

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### ABSTRACT

#### SUMMARY

Giant cell tumor or granuloma (CGC) is a rare benign tumor that can affect facial region. CGC occurs mainly in long bones. CGC of jaw is described mainly in the mandible. CGC of hard palate is very rare. We described a case of CGC palate in a 32 years male, measuring 5X5 centimeter in diameter which was excised under local anesthesia and no recurrence was seen after follow up of 10 year.

### KEYWORDS

Central Obesity, Metabolic Syndrome,

#### BACKGROUND

Giant Cell Granulomas (GCG) is rare benign tumor. Giant Cell Tumor (GCT) occurs mainly in long bones. In jaw it occurs mainly in mandible.[1]. GCG of the hard palate is rare [2]. GCT and GCG of the jaws are usually considered as the development of a single pathologic process that may be influenced by patient's age, location and other unknown factors [1,3]. In the craniofacial bone GCG may be either central or peripheral. Peripheral giant cell granulomas are more common, than central ones and they are arising from periosteum or connective tissue as part of the alveolar ridge and gingival mucosa [4]. Origin of GCGs are endosteal and from within the cortex of the bone [2]. Mandible is more common site than maxilla for both lesions. "Giant cell reparative granuloma" term was given by Jaffe in 1953 to differentiate what he believed represented a local tissue reaction to trauma or hemorrhage from an actual neoplastic process [5]. Currently word reparative is removed because of its locally destructive, invasive, and enlarging nature of the growths. Most of the described cases are without prior trauma [2]. Alveolar process of the anterior mandible and maxilla are the sites for the occurrence of GCG. Posterior maxilla and hard palate are the rare sites [2]. We hereby present a case of GCG of the hard palate.

#### CASE PRESENTATION

A 32 year old male reported to the Department of Oral & Maxillofacial Surgery, King George's Medical University Lucknow with complaint of painless soft tissue mass over his palate since 15 years which was slowly growing and causing difficulty in mastication and speech. On clinical examination, there was a pinkish-red coloured mass over the midline of hard palate, measuring approximately 5x5 cm. On the outer surface of lesion multiple fissures were observed however no ulceration or necrosis was seen (Figure. 1&2)



Figure-1 Photograph showing intra- oral growth at palate.



Figure-2 Intra-oral view showing lesion is pedunculated.

On palpation the lesion was firm, non tender and free from underlying palatal mucosa except from a point where it was attached to palate. No regional lymph nodes were palpable. There was no source of chronic irritation like prosthesis or sharp tooth present. Previous history revealed that patient met with an accident two years back and his left upper central incisor tooth was fractured and was extracted. Otherwise medical or dental history was not significant.

#### INVESTIGATIONS

Incisional biopsy -was done under local anaesthesia. Microscopic examination shows fibrous connective tissue stroma, small oval and spindle mononuclear cells admixed with uneven clusters of multinucleated giant cells. At some places blood vessels and haemorrhage was also seen. OPG-Radiological examination did not show any underlying erosion or destruction of the bone (Figure 3).

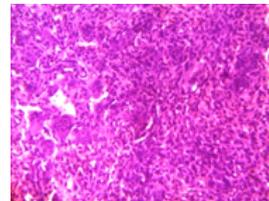


Figure- 3 Microphotograph of stratified squamous epithelium showing epithelial hyperplasia and hyperkeratosis.

#### Differential diagnosis-

includes papilloma, verrucous carcinoma, peripheral giant cell tumor and granuloma of palate. Papilloma has a cauliflower appearance made up of multiple finger like projections consist of stratified squamous epithelium. Verrucous carcinoma has a characteristic exophytic

growth. Peripheral giant cell tumors are sessile and bright red in colour due to increased vascularity. Granuloma frequently bleeds on slight trauma or injury.

### TREATMENT

The patient was operated under local anaesthesia. Local anaesthetic solution with adrenaline was infiltrated around the pedicle where it was attached to palate. After achieving adequate anaesthesia lesion was excised in toto (Figure 4).



Figure-4 Excised specimen.

### OUTCOME

The post operative healing was normal and uneventful. Patient is under regular follow-up and no recurrence was seen after follow-up of 10 years (Figure 5).



Figure-5 Post-Operative photograph

### DISCUSSION

GCG was first described by Jaffe in 1953 as a giant-cell reparative granuloma of the jaw bones and also told about association between previous trauma and GCG occurrence [1]. But this was not true and not be confirmed in all the cases described later in the literature [2]. Stavropoulos et al. [3] reported a 15% rate of GCG after trauma in case series of 20 cases. After that the term 'reparative' was removed. Epidemiological findings of GCG in the general population were published in 2004 [4]. Female predominance was there and an incidence of 1.1 per 100 was found that was not as large as was earlier presumed (F/M=2:1). Young population is on risk with peak incidence for males and females occurring respectively between 10-14 and 15-19 years of age. There is lack of any pathognomonic sign radiologically. GCG include a wide range of soft tissue lesions from small unilocular to large multilocular with or without displacement of teeth, root resorption and cortical erosion [5]. A systematic review of 232 well-established cases with histopathological confirmation of GCG revealed, ill-defined borders (66%), multilocular (54%), teeth displacement (43%), cortical expansion (51%) and cortical erosion (38%) [3]. Cherubism, Noonan syndrome and neurofibromatosis type I are genetic syndromes that can be associated with GCG [6]. Multinucleated giant cells varying in size and their number of nuclei dispersed throughout a vascular stroma of epithelioid or spindle-shaped mononuclear cells are the histopathologic feature of GCG [7]. Fast growth and recurrence are the features of aggressive GCG. Maxillary location, young age, pain, paresthesia, tooth root and cortical erosion are the characteristic features [8] and are considered as prognostic factors in terms of local invasion and recurrence after proper treatment. Gold standard treatment of GCG is surgery with variable reported recurrence rates of 5.6-11.5% [9]. Intra-lesional corticosteroids therapy, calcitonin therapy [10] and interferon alpha therapy are considered as conservative therapy for GCG. But there are insufficient evidences in support of their use with or without the surgical resection [11]. We report a case of 32-year old female with a rare location of GCG in the palate. In case of tumour of the hard palate clinician should think different possible origins like salivary glands,

bone, nerves, and muscles [12]. If histopathological examination shows numerous giant cells then we should differentiate aneurysmal bone cyst, giant cell tumor, giant cell granuloma, cherubism, type II neurofibromatosis and brown tumor of hyperparathyroidism [13]. In our case, we excluded aneurysmal cyst bone because of absence of cystic spaces and amorphous calcification with chondroid aura despite the presence of prominent red blood cells extravasation. We made the final diagnosis of giant cell granuloma of the hard palate after exclusion of cherubism, type II neurofibromatosis and brown tumor of hyperparathyroidism. The hard palate is a rare location for GCG among all facial sites. Only 8 cases were in the previous reported literatures only eight cases are there. Age of occurrence ranges from 12 to 65 years with a mean of 29 years and young age predominance. CT (computed tomography) scanning of all cases showed bone erosion in six cases and bone expansion in others. After surgery in all cases and adjuvant treatment consisting of intralesional steroids in one recurrence was noted in three with a rate of 37.5%. This recurrence rate of GCG was higher than the reported recurrence rates of other locations following surgery (5.6-11.5%) [9]. Finally we concluded, the hard palate is a rare location of the GCG and makes a diagnostic challenge for clinicians. Radical surgery is the gold standard for treating GCG with no evidence related to adjuvant treatment or other treatment modalities.

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