

Case of Surgical Excision of Pggc in Posterior Maxilla with Collagen Membrane Reconstruction

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Abstract

Peripheral giant cell granuloma is one of the reactive hyperplastic lesions of the oral cavity, which originates from the periosteum or periodontal membrane following local irritation or chronic trauma. This article reports about the management of peripheral giant cell granuloma in 57 year old male with surgical excision.

Keywords: periosteum, Posterior Maxilla, Membrane Reconstruction.

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INTRODUCTION

Giant cell granulomas, which are previously included in the group of giant cell tumor of bone, are described by Jaffe for the first time in 1953. Jaffe considered that these lesions develop due to the proliferative reaction of bone after trauma [1].

Giant cell granulomas are divided into two subgroups, depending on their location as follows; central or peripheral. Central lesions develop inside the bone and peripheral lesions originate from gingiva or edentulous alveolar mucosa in the oral cavity. Central form is rarely seen compare to peripheral form [2]. Central and peripheral lesions are histologically indistinguishable from each other [3]. Histopathologically, there are multiple hemorrhagic fragments in soft tissue and proliferation of fibroblasts and multinucleated giant cells in a dense stroma. Randomly located hemorrhagic and cell-rich regions form the characteristic granulomatous appearance [4].

The other terms that are used for peripheral giant cell granulomas (PGCG) are peripheral giant cell tumor, giant cell epulis, osteoclastoma and giant cell hyperplasia of oral mucosa. These lesions develop from periosteum or periodontal ligament, they may be stalked or sessile and their colors range from dark red to bluish red. They tend to bleed easily [5].

Clinically, PGCG manifests as a firm, soft, bright nodule or as a sessile or pedunculated mass and with occasionally ulcerated surface. The color, ranges from dark red to purple or blue [6]. It is located in the interdental papilla, edentulous alveolar margin or at the marginal gingival level [6-9] and cup-shaped radiolucency occurs [4]. The lesion can develop at any age. It is, however, more common in the fifth and sixth decades of life with a slight female predilection They vary in size, though are rarely reported to exceed 2 cm in diameter [10]. However, there have been reports of masses in excess of 5 cm, where factors such as deficient oral hygiene or xerostomia appear to play an important role in lesion growth [6]. Incipient lesions may bleed and induce minor changes in gingival contour but large ones adversely affect normal oral function [6]. Pain is not a common characteristic, unless they interfere with occlusion, in which case they may ulcerate and become infected [4]. In some cases the underlying bone, suffers erosion [7]. Particularly in this case maxillary alveolus was involved with erosion just posterior to right canine.

Case Report

A 56 year-old male reported for the treatment of big nodule at his palate. There was no pain, infection at the palate and lymphadenopathy. His primary

concern was the characteristic/type of his lesion, and he complained about the localized swelling at his palate and difficulties in chewing and swallowing due to trauma.

Oral examination revealed pedunculated lesion localized at his right maxilla associated #13 extending posteriorly and the surface of the lesion was hyperkeratotic and the lesion was measured 32 x 28 mm at the largest diameter (Fig-1).

Under naso-endo-tracheo intubation patients painting and draping was done with aseptic condition. The lesion was excised completely, #13 was extracted, debridement and curettage of the soft tissues were performed and the operation site was coagulated by electrocautery. Bony defect reconstruction and coverage was done using collagen membrane (Fig 2 & 3). Obtained tissue specimens were sent to histopathological examination. The lesion was diagnosed as peripheral giant cell granuloma. The wound healing was uneventful and follow up was done for months (Fig-4). There was no evidence of recurrence.



Fig-1: PGCG involving distal to canine, alveolus and secondary palate

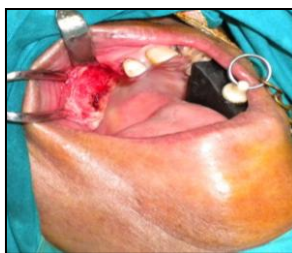


Fig-2: Surgical excision of PGCG along with canine extraction



Fig-3: Closure of excised maxillary alveolus done with collagen membrane.



Fig-4: 3rd month follow up. Excellent post operative healing

DISCUSSION

Giant cell granulomas are benign hyperplastic reactive lesions associated with local irritation or trauma to the site. Giant cell granulomas are not classified in true neoplasms [8]. Even now their etiology is not clear despite that many authors believe it occurs due to repair process after local trauma to the tissue like incompatible dental restorations, tooth extraction, mismatched dentures, plaque, calculus and food impaction are among the local factors that may play a role in the formation of a peripheral giant cell granuloma [9]. Incidence of Giant cell granuloma is higher in mandible than maxilla [4, 9, 10]; apart from maxilla and mandible its occurrence was reported in cranial bones including ethmoid [11], sphenoid [12], temporal bones [13] and the small bones of hands and feet [14].

Peripheral giant cell granuloma, is a lesion only one of its kind which appears in the oral cavity, specifically in gingiva. It is discernible from pyogenic granuloma and peripheral ossifying fibroma only on the basis of its unique histomorphology, [16, 17]. Peripheral odontogenic fibroma is characterized by a fibrous or fibromyxomatous stroma containing varying numbers of islands and strands of odontogenic epithelium that is clearly distinguishable from PGCG histopathology [18].

Treatment of peripheral giant cell granuloma (PGCG) is mostly surgical excision, with care taken to excise it from the base in addition to the eradication of the underlying source of irritant factors [19]. If incomplete bone resection is performed, the chances of recurrence will be high [4, 5, 20].

Multiple recurrences with eventual loss of the adjacent teeth are a potential complication [20] on other hand recurrence of PGCG is very common and ranges as little as 5–11% [21, 22]. Early diagnosis based on clinical and radiological findings, confirmed by pathological analysis especially in children, allows for conservative management with less risk of destruction for the adjacent teeth and tissues.

CONCLUSION

In conclusion, Giant cell reparative granulomas are benign reactive lesions; but because of their clinical appearance, patients usually worry about the characteristic of the lesion. Therefore, patients should be informed in detail. Although giant cell granulomas tend to recur, adequate excision of the lesion prevents the recurrence. The early and precise diagnosis of PGCG, allows conservative management with a less risk for teeth and adjacent bone.

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