Peripheral giant cell granuloma of maxilla: A case report
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Abstract
Peripheral giant cell granuloma (PGCG) frequent oral giant cell lesion seen. It also known has "giant cell epulis." The stimulus presents accurate neoplasm initially, potentially reactive in nature. It develops in the soft-tissue usually. On superficial resorption of the underlying alveolar, one crest cupping noted. The author presents a case report of PGCG of maxilla and surgical method employed for treating it.

Keywords:
Maxilla, Osteoplasty, Peripheral giant cell granuloma

Introduction
Peripheral giant cell granuloma (PGCG) frequent oral giant cell lesion seen. It also known has "giant cell epulis." Soft-tissue nodules present are extraosseous consisting of multinucleated giant cells on the horizon of extravasated red blood cells and mononuclear stromal cells. PGCG is reactive hyperplastic lesions. It derives from the periodontal membrane ensuing local irritation or chronic trauma. Peripheral giant cell lesion might not be true neoplasm, perhaps reactive in nature. The PGCG resembles to the central giant cell granuloma microscopically, and it may represent a soft-tissue counterpart of the central bony lesion. Here, we present a unique case of PGCG present on the maxilla and treatment modality employed to perform surgical removal off lesion.

Case Report
An 18-year-old male patient reported to the department of oral and maxillofacial surgery with chief complaint of the presence of growth in upper right front tooth region for the past 1 year which was associated with intermittent pain. Patient has no relevant medical history. Patient have no known allergy to drugs. Patient gives no history of fever, trauma, seizure, or any similar type of swelling in other part of body. No significant extraoral changes noted.

Intraoral a solitary, diffuse swelling was seen on the right tooth region. The swelling measured about 2 cm ×2.5 cm. Lesion surface was lobulated and noted in relation to 13 and 14 tooth region. The swelling surface was firm in consistency, with no inflammatory changes and intact the overlying mucus membrane noted.

Cone-beam computed tomography reveals the a mixed radiolucent radiopaque lesion seen with respect to 14, 13 region measuring mesiodistally 13 mm, from crestal bone to 15 mm superiorly within the alveolar bone inferiosuperiorly, from palatal bone to buccal posterioanteriorly 11 mm and it shows benign reactive bony lesion in 13,14 region. The differential diagnosis could peripheral ossifying fibroma, PGCG. Hematological investigations were normal. Phase 1 (etiotropic phase) periodontal therapy performed which includes scaling and root planning included. Surgery for excision of the lesion done under local anesthesia. Crevicular incision placed, mucoperiosteal flap raised osteoplasty done. Bone shaving done using chisel and mallet along with Hp 6 bur for better smoothen. Lateral window created and particle removed and send for histopathological examination result noted has ulcerated, hyperplastic stratified squamous epithelium along numerous young fibroblasts with scattered giant cells of different size with moderately collagenous stoma seen on underlying connective tissue. Closure done using 3-0 Vicryl. Satisfactory hemostasis achieved. Check intraoral periapical photograph taken reveals intact structure and no radiolucency noted.
Discussion

PGCG occurs mostly in adults, but in children, a more aggressive clinical behavior is noted.[5] The etiology and nature of PGCG remains quandary. Various theories put forward to describe the character of multinucleated giant cells are reaction to injury to periosteum or it could be

![Image](image1.png)

**Figure 1: Pre-operative profile picture**

![Image](image2.png)

**Figure 2: Intraoral swelling image**

![Image](image3.png)

**Figure 3: Cone-beam computed tomography picture**

![Image](image4.png)

**Figure 4: Intraoperative**

![Image](image5.png)

**Figure 5: Closure image**

![Image](image6.png)

**Figure 6: Post-operative immediate post-operative**
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osteoclasts left from physiological resorption of teeth.[6] Solid evidence that giant cells are osteoclasts because it shown to have receptors for calcitonin and were able to excave bone in vitro.[7] It develops in the soft tissue usually. On superficial resorption of the underlying alveolar, one crest cupping noted. Due to eroding through the cortical plate into the gingival soft tissues, it could be difficult to differentiate the mass is peripheral lesion or a central giant cell granuloma.[8] Incident of the lesion usually associated with periodontal ligament space widening, resorption of root, and enclosing resorption of underlying bone. Surgical resection and suppression of etiological factor with an excision of entire lesion of the use is essential. Recurrence noted if only superficial resection of the lesion performed. Differential factors correlated with PGCG growth are plaque and calculus, ill-fitting dentures, estrogen, and progesterone have an immune suppressive action, dental restorations in poor conditions, impaction food, and complicated dental extractions.[4] Rare case scenario patient might have hyperparathyroidism are prone to peripheral giant cell granuloma. Theses type patient might have mobile teeth, soft tissue calcifications and dental abnormalities, loss of bone density and brown tumor. The author presents a case of PGCG of maxilla and surgical method employed for treating it. We used chisel because buccal bone is thin it can be shaved easily and edges can be cleared with bur. Usually, mandible is more affected than the maxilla.[9] Hence, we present a rare case with surgical treatment method employed to recover it.

Conclusion

PGCG is a common lesion and to be considered in the cases of gingival enlargements.[9] Surgical excision is a treatment of choice because it helps in reduce the frequency of lesion. Surgical method employed to remove the lesion is important to eradicate etiological factor, in spite of it histological examination required for confirmation. Proper diagnosis and treatment plan help in preventing recurrence. Author explains surgical treatment modality employed removal the lesion.

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