

Case Report**Peripheral Giant Cell Granuloma: A Case Report**

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**Abstract:** Peripheral Giant Cell Granuloma is also called "Giant cell epulis". It is the most common oral giant cell lesion. It is a benign inflammatory hyperplastic type of lesion of unknown etiology occurring in buccal mucosa, gingiva or alveolar ridge. This lesion probably does not represent a true neoplasm but rather may be reactive in nature and believed to be stimulated by local irritation or trauma but the cause is not certainly known. Histology suggests hyperplastic parakeratinized to keratinized epithelium with underlying fibrous to fibrocellular connective tissue stroma. This article reports a case of peripheral giant cell granuloma arising on the right buccal mucosa at lower back tooth region in a 35-year-old female patient.

**Keywords:** Exophytic growth; Giant Cell Granuloma; Nodule; Pedunculated.

**INTRODUCTION**

Peripheral giant-cell granuloma (PGCG) is an oral pathologic condition that appears in the mouth as an overgrowth of tissue due to irritation or trauma. Peripheral giant cell granuloma is also known as Giant cell epulis. Peripheral giant cell lesion (PGCL) or Giant cell hyperplasia, is the most common giant cell lesion in the oral cavity.<sup>1,2</sup> It does not constitute a true neoplasm, but rather a reactive lesion caused by local irritation or trauma. Moreover, its etiology is still contentious. The lesion was previously called as peripheral giant cell reparative granuloma. However, its reparative effect has not been proved yet, hence osteoclast activity seems doubtful.<sup>3,4,5</sup>

Clinically, peripheral giant cell lesion appears as a soft extraosseous reddish purple or purplish blue lump with smooth shiny or papillomatous surface. It is a well-defined lesion with exophytic growth. Additionally, it may be pedunculated, sessile or it may not present areas of ulceration.<sup>5,6,7</sup> It may develop at any age, predominantly in the first to sixth decade of life, especially from 31 to 41 years of age. Approximately 60% of cases occur in women. As to location, the lesion may arise in both the anterior and posterior regions of the gingiva or alveolar ridge. It is the most common oral giant cell lesion appearing as a soft tissue extraosseous purplish-red nodule consisting of multinucleated giant cells in a background of mononuclear stromal cells and extravasated red blood cells.

A non-neoplastic lesion by nature, the Giant cell granuloma is distinctive in its histologic

makeup. It originates from the interdental tissues (periosteum or periodontal membrane). Lesions can arise anywhere on the gingival, alveolar or buccal mucosa. Etiological factor is unknown but most of the time may be local irritation from trauma, viral, hormonal causes were the main etiologic factor. Other factors may be inappropriate fillings, removable and fixed partial dentures and fracture in tooth structure also causing irritation to buccal mucosa.<sup>5</sup> There is a gender difference with 60% of the disease occurring in females. The prevalence of peripheral giant-cell granulomas is highest around 50 - 60 years of age.

**CASE REPORT**

A 35-year-old female patient reported to the Department of Oral and Maxillofacial Surgery with the chief complaint of swelling and pain in the right lower back tooth region for past 7 month. History revealed that the swelling started as a small one and it gradually increased over a period of 7 month. It was associated with intermittent pain. Patient gives a history of traumatic cheek biting. Patient was under medication but the swelling did not subsided. There was no history of neurological deficit, fever, loss of appetite, loss of weight. The patient was systemically healthy. On extraoral examination, a mild swelling measuring with diffuse borders was seen on right cheek (Fig 1). On palpation, the swelling was firm to hard in consistency with moderate tenderness. On intraoral examination, a single swelling was observed on the right lower posterior buccal mucosa. The swelling measured about 1.5 × 1cm. The surface of

the swelling was rough in nature and present in relation to 46 & 45 (Fig 2). The swelling was firm in consistency and whitish pink in color, and the overlying mucus membrane was intact.



**Figure 1:** Extraoral view of the patient.



**Figure 2:** Preoperative intraoral presentation of lesion.

The patient was scheduled for surgical excision under local anaesthesia. The lesion was planned to excised in one piece. Since the lesion was smaller, a 3-0 silk thread was inserted through the lesion to ease of handling during excision. Surgical incision was performed down to connective tissue upto muscle with 0.5 cm peripheral margins and removed in one piece as shown in Figure 3.

Haemostasis was achieved with electrocautery. The entire specimen submitted for histopathologic examination. The margins of incised mucosa was undermined and primary closure was done with 3-0 silk suture shown in Figure 4. Sutures were removed after 1 week. Post operative healing after 20 days shown in Figure 5. There was no evidence of recurrence till 5 months of follow-up. Histopathologic examination of biopsied specimen under H & E stained tissue section exhibited hyperplastic hyperpara to orthokeratinized epithelium with underlying fibrous to fibrocellular connective tissue

stroma. Epithelium was highly inflamed at one end showing pseudoepitheliomatous hyperplasia with entrapped granulation tissue within the epithelium. Connective tissue was fibrocellular in nature with dense inflammatory cell component prodrominently being lymphocytes along with dense collagen fibers and blood capillaries proliferated and dilated engorged with RBC's and arranged in lobular pattern.



**Figure 3:** Intra operative view.



**Figure 4:** Immediate postoperative view (where defect closure done with four interrupted suture).



**Figure 5:** Postoperative view after 20 days.

## DISCUSSION

Peripheral giant cell granuloma is a benign hyperplastic lesion caused by local trauma or chronic trauma. It originates from the periodontal ligament or Mucoperiosteum. Although the PGCG develops within soft tissue, "cupping" superficial resorption of the underlying alveolar bony crest is sometimes seen radiographically. The etiology and nature of Peripheral giant cell granuloma (giant cell epulides) still remains

undecided. While Peripheral giant cell granuloma occurs mostly in adults, some cases have been described in children where a more aggressive clinical behavior has been observed. Clinically, Peripheral giant cell granuloma features separate it from the fibrous and vascular epulides. The lesion presents as a firm, soft, bright pedunculated or sessile nodule with various sizes that range from small papules to enlarged masses. Though they are generally less than 20 mm in diameter with the color ranging from dark red to purple or blue commonly with ulcerated surface.<sup>8,9</sup> Pain is not a common characteristic, and lesion growth in most cases is induced by repeated trauma.

The peripheral giant cell granuloma is best treated by complete surgical excision, with care taken to excise it at its base with elimination of the entire base of the lesion in addition to the eradication of the underlying source of irritant factors. If incomplete bone resection is done the growth may recur. Recurrence of Peripheral giant cell granuloma is not common and ranges as little as 5–11% .

**CONCLUSION:** A definite diagnosis of Peripheral giant cell granuloma on the basis of clinical, radiographical, and histopathological examination allows us to do conservative management with minimal risk to the adjacent structures. Regardless of the surgical technique employed, it is important to eliminate the etiological factors and to examine the tissues histopathologically for confirmation to correct diagnosis and proper treatment planning.

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**How to cite this article:** Singh N, Dey S, Debnath T, Mehta KA. Peripheral Giant Cell Granuloma: A Case Report . Rama Univ J Dent Sci 2017 June;4(2):42-44.

**Sources of support:** Nil

**Conflict of Interest:** None declared