

## PERIPHERAL GIANT CELL GRANULOMA

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### ARTICLE INFO

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**Key words:** Peripheral Giant Cell Granuloma/Giant cell epulis,

### ABSTRACT

Peripheral Giant Cell Granuloma (PGCG) also called "Giant cell epulis" is the most common oral giant cell lesion. It is a benign inflammatory hyperplastic type of lesion of unknown etiology occurring in gingiva or alveolar ridge. This lesion probably does not represent a true neoplasm but rather may be a reactive in nature, believed to be stimulated by local irritation or trauma but the cause is not certainly known. This article reports a case of peripheral giant cell granuloma in a 8 year old boy. The lesion was completely excised to the periosteum level and there is no residual or recurrent, swelling or bony defect apparent in the area of biopsy after a follow-up period of 6 months. Excisional biopsy was performed under local anaesthesia and tissue was examined histopathologically. The lesion was diagnosed as PGCG after thorough clinical, radiologic and histopathologic examination.

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### INTRODUCTION

Peripheral giant cell granuloma (PGCG) is an infrequent exophytic lesion of the oral cavity, also known as giant cell epulis, osteoclastoma, giant cell reparative granuloma, or giant cell hyperplasia(1,2,3). This lesion is probably not present a true neoplasm but rather may be a reactive in nature. PGCG is reactive lesion occurring on the gingiva and alveolar ridge usually as a result of local irritating factors such as tooth extraction, poor dental restorations, food impaction, ill fitting dentures, plaque, and calculus(4). The initiating stimulus has been believed to be due to local irritation or trauma but the cause is not certainly known. It has been termed a peripheral giant cell "reparative" granuloma, but whether it is in fact reparative has not been established and their osteoclastic activity nature appears doubtful. Their membrane receptors for calcitonin demonstrated by immunohistochemistry and their osteoclastic activity when cultured in vitro are evidence that they are osteoclasts (4-9,) whereas other authors have suggested that the lesion is formed by cells of the mononuclear phagocyte system. The PGCG bears a close microscopic resemblance to the central giant cell granuloma, and some pathologists believe that it may represent a soft tissue counter part of the central bony lesion. Histological features of PGCG reveal a non capsulated mass of tissue containing a large number of young connective tissue cells and multinucleated giant cells. Hemorrhage, hemosiderine, Inflammatory cells, and newly formed bone or calcified material may also be seen throughout the cellular connective tissue.

#### Case Report

A 8 year old male patient came to the department of Pediatric dentistry with the chief complain of gingival enlargement and pain while chewing. His intraoral examination revealed a raised, round, sessile, smooth-edged mass 2 cm in diameter located on the right mandibular gingival region (Figs 1). The patient was

systemically healthy and was not taking any medication. Radiological examination revealed no evidence of bony involvement. An excisional biopsy of the lesion was performed (Figure 2). Biopsy specimen was embedded in 10% formalin and sent to department of pathology.. The microscopic features of the lesion were consistent with PGCG. A large number of stromal fibroblastic cells and multinucleated giant cells were seen (Figs 3 and 4). Postoperative healing was uneventful. No recurrence of the lesion was found six months after surgery.

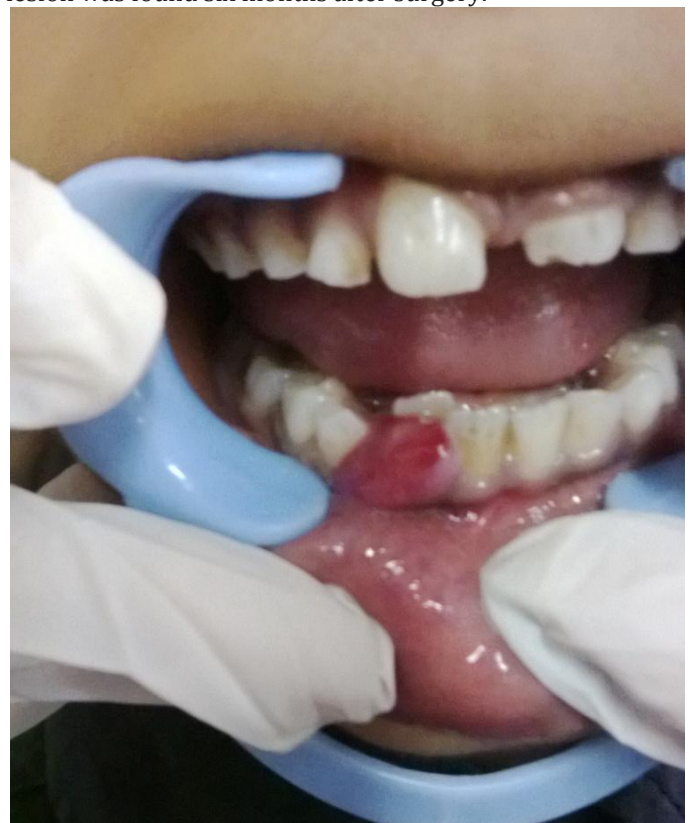
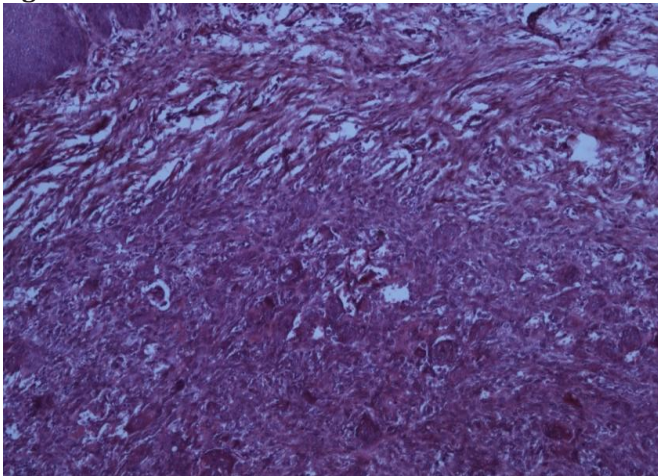


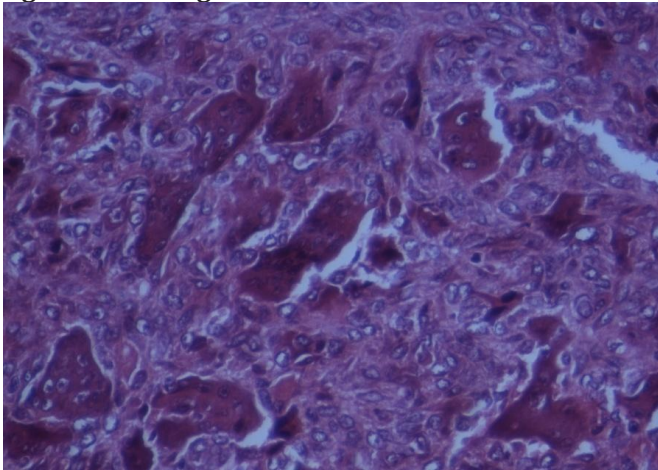
Figure 1 : Intraoral View of Lesion



**Figure 2 : Excised Lesion**



**Figure-3 Histological View under 10x**



**Figure 4- Histological View under 40x**

#### DISCUSSION

Giant cell granuloma (peripheral and central) are benign, non odontogenic, moderately rare tumors of the oral cavity, which originate from gingival or mucoperiosteum of the alveolar bone(10,11). It is more common in the mandible than the maxilla . From a clinical perspective, PGC is the common giant cell lesion in both jaws. The PGCG occurs throughout life, with peaks in incidence during the mixed dentitional years(12) and in the age group of 30–40 years(13).It is more common among females (60%)(13).Although PGCG develop within soft tissue “cupping” superficial resorption of the underlying alveolar bone crest may be seen. At times , it may be difficult to know whether the mass is a peripheral lesion or

central giant cell granuloma eroding the cortical plate into the gingival soft tissue.

In the past, several hypotheses had been proposed to explain the nature of multinucleated giant cells including the explanation that they were osteoclasts left from physiological resorption of teeth or reaction to injury to periosteum. . Peripheral Giant Cell Granuloma is a small, well-demarcated, soft swelling, sessile or pedunculated, deep red to bluish red in color, usually originating from periodontal ligament or mucoperiosteum. The size of lesion varies between 0.5 to 1.5 cms(13). In the present case the lesion was excised completely and the histological examination revealed the presence of PGCG. No recurrence of the lesion was noticed after 6 months of follow up.

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