

## RECURRENT PERIPHERAL GIANT CELL GRANULOMA OF THE GINGIVA- A CASE REPORT

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### ABSTRACT

Peripheral giant cell granuloma (PGCG) is one of the common reactive gingival mass, frequently seen in females with preponderance for fifth and sixth decades. PGCG is characteristically solitary in nature, has a rapid growth and have high chance of recurrence. We report a case of PGCG in a 35-yr old male patient which recurred in a span of 1 year.

**KEY WORDS:** *Peripheral, Recurrent; Giant cell, Gingiva; Excision*

### INTRODUCTION

Peripheral giant cell granuloma is a relatively common tumour like growth of the gingiva. Although they are designated as tumour like growth, they do not represent a true neoplasm but it's rather a reactive lesion caused by local irritation or trauma. As they bear resemblance to other gingival masses, a thorough diagnostic acumen is indispensable for accurate diagnosis.

#### Case report

A 35-year old male patient reported with a complaint of painless growth in the upper left back gum region since 3 months. Patient's history revealed that he had a similar growth in the same region 1 year ago and was surgically removed in a private dental clinic. The present complaint was noticed since 3 months and he had observed it to gradually increase in size. There was no history of associated symptoms such as pain, paraesthesia or numbness; however, the patient had a history of occasional bleeding on provocation. There was no history of trauma, food impactions or any chronic infections of the oral cavity. The medical, surgical and family histories were non-contributory. Extra-oral examination did not reveal any abnormalities. Intra-oral examination revealed a purplish, solitary, well defined oval shaped gingival growth ranging 1.5x1 cm in size in relation to 27, extending from the distal aspect of 26 to mesial aspect of 28. The growth had an irregular surface at focal areas and appeared to arise from the underlying soft tissue. It was pedunculated, mobile, non-tender and soft in consistency (Fig.1). Based on the history and clinical findings the following differential diagnoses

were considered: peripheral giant cell granuloma, pyogenic granuloma and fibrous epulis.

Patient was then subjected to routine hematological and radiographic investigations. The complete hemogram was within the normal limits. Intra oral periapical radiograph (IOPAR) and ortho pantomograph did not reveal any pathological changes except for mild generalized horizontal bone loss and missing 15 & 36. (Fig. 2 & 3).



Fig.1 . Intraoral photograph showing the gingival mass

Excisional biopsy was performed and the lesion was removed along with its surrounding tissue and curetted. Histopathological examination of the specimen showed presence of parakeratinized stratified squamous epithelium. The connective

tissue had highly cellular, delicate, fibrillar stroma with plump shaped fibroblasts. Abundant capillaries, giant cells and mild chronic inflammatory cells were also noticed (Fig. 4)

Based on the clinical, radiographic and histopathological findings, a final diagnosis of recurrent giant cell reparative granuloma was arrived. The patient is on regular follow-up for the past one year with no signs of recurrence.



Fig.2 .IOPA radiograph in relation to 26, 27 & 28 region

### Discussion

Peripheral giant cell granuloma (PGCG) is the most frequent giant cell lesion of the jaw and it is often called as giant cell tumour, giant cell epulis, giant cell hyperplasia, osteoclastoma and reparative giant cell granuloma.<sup>1</sup> However, more recently the use of the term 'epulis' is deplored and similarly 'reparative' is also not continued as the lesion does not appear truly reparative in nature.<sup>2</sup>

The aetiology of PGCG is not clearly known. Evidence suggests that it is not a true neoplasm but rather a benign hyperplastic reactive lesion originating from the periodontal ligament or mucoperiosteum caused by local irritation or chronic trauma. The local causative factors can include complicated dental extractions, poorly contoured dental restorations, food impaction, plaque and tartar, etc.<sup>2, 3, 4, 5</sup> Conversely as they bear close microscopic resemblance to the central giant cell granuloma it is also believed that it represents soft tissue counterpart of the bony lesion and considered to originate secondary to an abnormal proliferative response.<sup>6</sup>

Peripheral giant cell granuloma can develop at any age, the highest incidence (40%) is seen in the fourth to sixth decades and as seen in our case, the mean

age group is 31-41 years.<sup>6</sup> There is no exact sex predilection; but, majority of the reports were found to occur in females. However, Bhaskar et al reported a slight predilection for males and our case was also a male.<sup>7</sup>

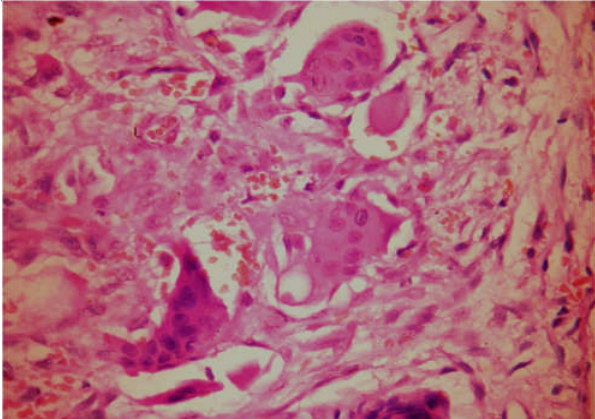
Clinically they occur exclusively on the gingiva or on the edentulous alveolar ridge and mandible are more commonly affected than maxilla at a proportion of about 2.4:1.<sup>6, 8</sup> They usually appear as a purplish, dark red or blue soft, smooth nodular mass, preferably on the premolar-molar area. It can be a sessile or pedunculated mass and the surface can occasionally ulcerate. Although the size of the lesion can vary from 0.5 to 1.5 cm in diameter, most lesions are smaller than 2cm in diameter and larger ones are seldom seen.<sup>6, 9</sup> In rare cases, giant cell granuloma can be associated with hyperparathyroidism and at times it can be the sole manifestation. This association can be suspected when the granulomas are multiple and the patient suffers recurrences despite adequate treatment.<sup>10</sup> The lesions typically associated with hyperparathyroidism appear centrally in bone and are referred to as brown tumors.<sup>11</sup>



Fig.3 . OPG showing maxillary and mandibular teeth

Radiographic features are usually nonspecific.<sup>12</sup> Widening of the periodontal ligament space and displacement of the adjacent teeth can be seen often. Cupping resorption of the underlying bone or minimal superficial destruction of the alveolar crest at the margin or interdentally is a characteristic feature in dentate patients.<sup>6</sup> In such instances, careful examination can reveal small bone spicules extending vertically towards the base of the lesion. In edentulous areas the cortical bone exhibits a concave resorption zone beneath the lesion, a feature that is referred to as a "leveling" effect.<sup>13</sup> Microscopically examination of the specimen will show a non-encapsulated mass of tissue composed

of a reticular and fibrillar connective tissue stroma giant cells.<sup>6,13</sup> Hemorrhage is also a characteristic feature of PGCG, which often results in deposition of hemosiderin pigment, especially at the periphery of the lesion. Adjacent acute and chronic inflammatory cells are frequently present and areas of reactive bone formation or dystrophic calcifications are not unusual. Ultrastructural and immune studies have shown the giant cells to derive from macrophages and the role of myofibroblast in PGCG.<sup>14</sup>



**Fig.4. Histological Photomicrograph 40X**

Treatment of PGCG includes elimination of the etiological factor and complete surgical resection of the lesion with or without removal of the associated tooth.<sup>2,6</sup> More recently resection has been tried with cold scalpel and carbon dioxide lasers.<sup>9</sup> The laser resection is highly advantageous that it causes less intraoperative bleeding, sterilizes the wound, requires no suturing and affords improved postoperative patient comfort. However, in contraposition the carbon dioxide laser is of limited applicability in lesions with adjacent bone involvement, where careful surgical curettage is required. The characteristic feature of PGCG is that recurrence is frequent and is observed in 5% -11% of cases, hence complete resection and curettage is required to avoid recurrence.<sup>5</sup>

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