

CASE REPORT

PERIPHERAL GIANT CELL GRANULOMA: A CASE REPORT

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ABSTRACT

Peripheral giant cell granuloma is a benign reactive lesion of gingiva. It manifests as a firm, soft, bright nodule, sessile or pedunculate mass. It is an infrequent exophytic lesion of the oral cavity, also known as giant cell epulis, osteoclastoma, giant cell reparative granuloma, or giant-cell hyperplasia. The aim in publishing this report is to present the clinical, histopathological features and treatment of a peripheral giant cell granuloma case, which was seen in gingiva of a 10 year old male child, with history of disturbed chewing functions due to its large size. Intraoral examination revealed a raised, round, sessile, smooth-edged mass of size 2x 1 cm² and was located on the canine, deciduous first molar region. After initial periodontal treatment, excisional biopsy was performed under local anesthesia. The lesion was diagnosed as Peripheral Giant Cell Granuloma after clinical and pathological examination.

Key Words: *Giant cell granuloma and Gingival enlargement.*

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} The etiology of this lesion is still not precisely defined. In 1962, Gottsegen suggested the development of peripheral giant cell granuloma often after periodontal surgery.⁴ However, some investigators consider it to arise in response to local irritating factors such as tooth extraction, poor dental restorations, food impaction, ill fitting dentures, plaque, and calculus.^{4,5} Low socioeconomic status of the patients and unfavourable oral hygiene also seem to be predisposing factors to peripheral giant cell granuloma.⁶

They are reportedly more common among individuals in their 50s and 60s, present slightly more frequently in the mandible than in the maxilla, have a slightly higher incidence in females than males. It may develop at the interdental papilla, gum or edentulous alveolar margins. These hemorrhagic lesions rarely exceed 2 cm in diameter, may be pedunculated or sessile, red or reddish blue in colour and reveal an elastic structure on palpation.⁷ Peripheral Giant Cell Granuloma tend to be asymptomatic, pain is uncommon, however, the lesion may become ulcerated as a result of repeated trauma.⁸

CASE REPORT

A 10 year old male child reported to the Department of Pedodontics and Preventive Dentistry with chief complaint of gingival growth in left maxillary tooth region since 1 month.

It was associated with difficulty in chewing, due to its large size. There was no history of pain. Extraoral examination revealed no any pathological findings, no facial asymmetry, no lymphadenopathy; however, intraoral examination revealed a reddish blue soft, exophytic, pedunculated mass of size 2x1 cm² extending from distal surface of permanent left lateral incisor to mesial surface of left primary second molar (Figure 1,2).



Fig 1: A bluish-red exophytic, non-painful lesion arising in the maxillary left canine-molar area



Fig 2: Intraoral photograph: In occlusion

It was not tender on palpation with no bleeding or pus discharge. Differential diagnosis of pyogenic granuloma, peripheral giant cell granuloma, peripheral ossifying fibroma, inflammatory fibrous hyperplasia, peripheral odontogenic fibroma, eruption hematoma was made. Radiographic examination revealed erupting 23 and 24. Normal follicle space and outline with no evidence of calcification (Figure 3).

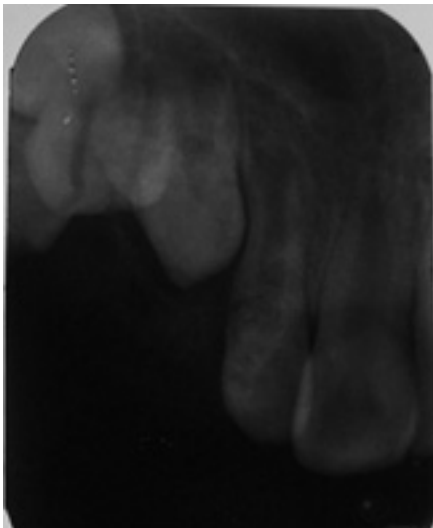


Fig 3: IOPAR showing erupting 23 and 24, Normal follicle space and outline with no evidence of calcification

Surgical excision was planned as a management approach. Blood investigation was done to rule out any disorder. Blood investigation revealed haemoglobin level of 8.7 gm/dl while others lab investigations were in the normal range. Due to less hemoglobin level, patient was referred to Department of Pediatrics for consultation and he was diagnosed having nutritional anaemia. After medical consultation, excisional biopsy was done under local anesthesia (Figure 4, 5).

Sample was sent for histo- pathological analysis, which showed nodular tumor in the subepithelium separated by fibrous tissue. The tumor was composed of numerous multinucleated giant cells in stroma having ovoid to spindle shape cells. The stroma was richly vascularised and contained few inflammatory cells such as lymphocytes, plasma cells and eosinophils along with



Fig 4: After surgical excision of the lesion

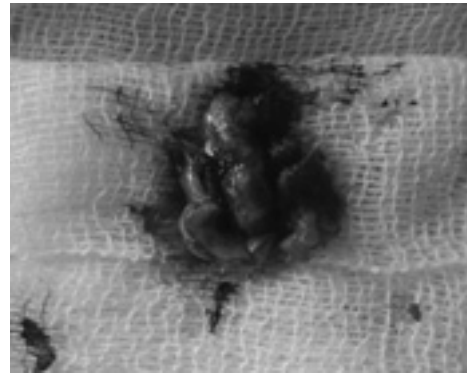


Fig 5: Excisional biopsy of the lesion measuring 2x 1 x 0.5cm

hemosiderin at the tumor periphery. Bony tissue included was histologically unremarkable. The overall histological features were compatible with peripheral giant cell granuloma (Figure 6).

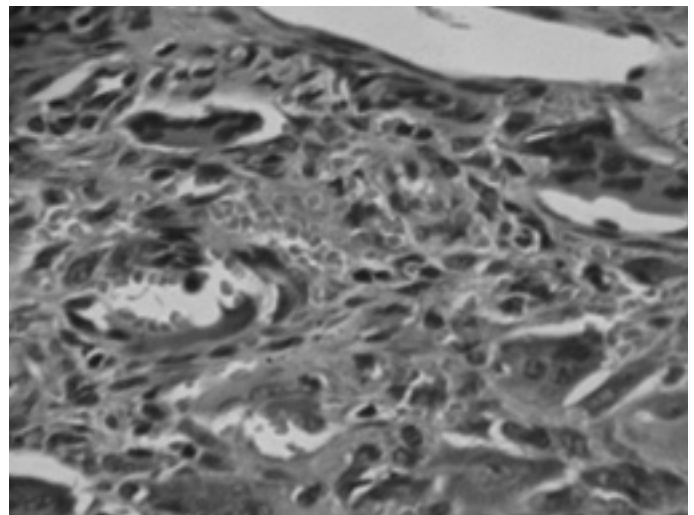


Fig 6: Numerous multinucleated giant cells in stroma having ovoid to spindle shape cells.

Postoperative healing was uneventful. Patient is still under follow up.

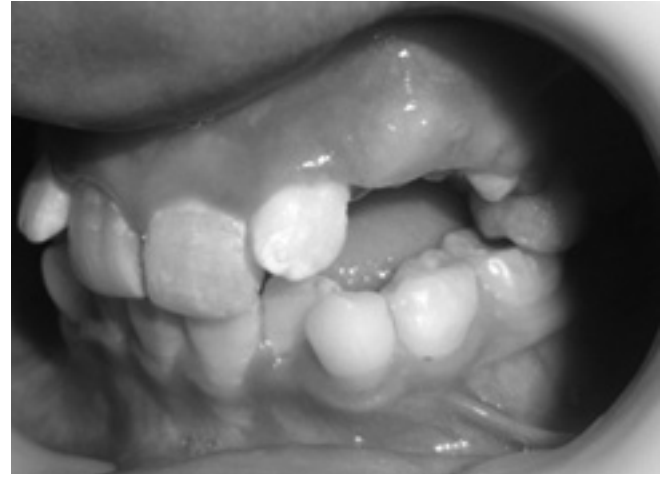


Fig 7: Follow up after 15 days

DISCUSSION

Peripheral giant cell granuloma accounts for less than 10% of all hyperplastic gingival lesions.⁷ It is seen in the young as well as in the elderly population with highest incidence in the 4th to 6th decades of life. However, 20-30% of cases manifest in the 1st and the 2nd decades of life.⁹ Cases of peripheral giant cell granuloma have been documented in children, where the lesion appears to be more aggressive, with absorption of the inter-proximal crest area, displacement of the adjacent teeth and multiple recurrences.¹⁰ Though the lesion was common among females and in mandibular arch; in the case presented, lesion was present at maxillary arch of a 10 year old male child. The preferential location of the lesion according to Pindborg is premolar and molar zone, though Shafer and Giansanti suggest that it generally occurs in the incisor and canine region.⁹ In this case, the lesion was present at premolar-molar zone. Giant cell granuloma (peripheral and central) is benign, non odontogenic, moderately rare tumors of the oral cavity. It arises interdentally or from the gingival margin, occurs most frequently on the labial surface, there are no pathogenic clinical features whereby these lesions can be differentiated from other forms of gingival enlargement. Microscopic examination is required for definitive diagnosis.¹¹

Traditional treatment consists of surgical resection of the lesion and elimination of the etiological factors.^{1,3,5} When the periodontal membrane is affected, full resection may require extraction of adjacent teeth. As an alternative to surgery, carbon-dioxide laser resection involves less intra-operative bleeding, provides wound sterilization and requires no sutures. However, laser treatment is contraindicated in cases where the lesion is oriented close to the bone and where careful curettage is required.⁵ No malignant variations have been reported, and recurrence rates have been reported to range from 4.41%–50%.^{7,8}

CONCLUSION

Early and definite diagnosis of peripheral giant cell granuloma on the basis of clinical, radiographic and histopathological examination allows conservative management with minimal risk to adjacent hard tissue.

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