

Peripheral Giant Cell Granuloma: A Case Report

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ABSTRACT

Gingival overgrowth is one of the most unwanted significances that frequently lead to severe aesthetic variations and compromised oral hygiene maintenance. Giant cell granuloma is relatively a benign, non-odontogenic lesion of oral cavity. It is a reactive response to local irritations and trauma that may be of central or peripheral type. The purpose of this article is to report the clinical, histopathological features and treatment of a case of peripheral giant cell granuloma of a 72- year-old male patient, the lesion was present on anteroposterior region of mandible. The lesion was totally excised to the periosteum level and there was no recurrence or bony defect apparent in the area of biopsy after a follow-up period of 6 months. Effective oral hygiene can reduce its severity or avert its occurrence.

KEYWORDS: Gingival overgrowth, Giant cell, Hormone

INTRODUCTION

The peripheral giant cell granuloma (PGCG) is a common benign reactive lesion, which originates from the periodontal ligament or the periosteum.¹ It is also identified as giant cell epulis, osteoclastoma, giant cell reparative granuloma or giant cell hyperplasia. Giant cell reparative granuloma was first suggested by Jaffe for the alike central lesion of the jaw bones to discriminate them from the giant cell tumour as there was a belief that former lesion represent a local reparative reaction rather than being a true neoplasm.² The lesion "Peripheral giant cell reparative granuloma" was termed by Bernier and Cahn.³ As the reparative nature of the lesion has not been proved, so this terminology is not been used at present. Today, the term PGCG is widely accepted.⁴ Stimulated response like local irritation or trauma, which lead to gingival or mucosal haemorrhage are supposed to give rise to PGCG.⁵ Certain aggressive factors such as trauma, tooth extraction, badly finished restorations, plaque, calculus, chronic infections, and impacted food are responsible for the lesion.⁶ Histopathological diagnosis is mandatory because such type of lesions are hard to be identified clinically. It accounts for 7% of all benign tumours of the jaw.⁷ PGCG reacts well to comprehensive surgical curettage that discloses all bony walls. To eliminate any cause of irritation and to reduce the risk of recurrence a careful scaling and root planning should be done in the adjacent teeth. The involvement of periodontal membrane with the related teeth may need extraction to achieve complete removal.

CASE REPORT

A 72-year-old male patient reported to the department of oral medicine and radiology with the complaint of

swelling in the right lower jaw since one year. The lesion was not associated with pain. Occasional bleeding was notable from the lesion while eating, the lesion has grown larger in size since past few months. Extra-oral findings were absent. Intraoral examination revealed reddish pink, well-defined firm non tender and non-fluctuant swelling of 4x3cms extending from mesial aspect of 43 to distal aspect of 46 (Figure 1&2). Radiological examination



Figure 1: Reddish pink, well-defined firm non tender and non-fluctuant swelling extending from mesial aspect of 43 to distal aspect of 46.

revealed no evidence of bone involvement. Routine blood investigations were found normal, various biochemical tests like serum alkaline phosphatase, calcium and phosphorous levels were within normal limits. Patient's medical history was uneventful. After considering the dental history, scaling and root planning was performed followed by surgery for excision of the lesion. The surgical procedure was clarified to the patient, and informed consent was obtained. Excisional biopsy was planned under local anaesthesia; the lesion was excised

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Figure 2: Gross specimen measuring around 4x3 cms in dimensions.

up to the base of the lesion. The fragments of soft tissue adjacent to the tooth were trimmed off and was ensured that the lesion was completely excised in order to prevent recurrence of the lesion, and the sample was sent for histopathological examination. Supervision of the patient was done on weekly plan post-operatively, to ensure good oral hygiene in the surgery performed area. On the histopathological examination, the lesion showed a proliferative and ulcerated overlying epithelium composed of multinucleated giant cells (Figure-3). Under

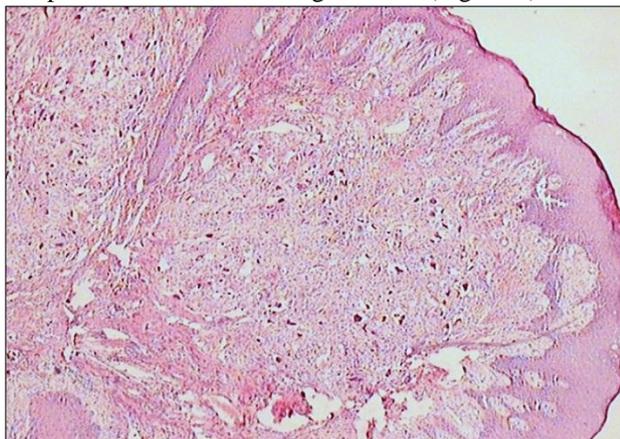


Figure 3: H&E section showing proliferative and ulcerated overlying epithelium composed of multinucleated giant cells.

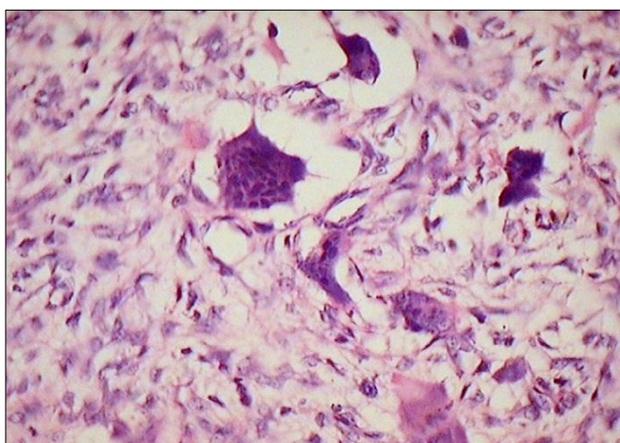


Figure 4: Under higher magnification multinucleated giant cells dispersed within a background of plump, ovoid and spindle shaped mesenchymal cells.

higher magnification, multinucleated giant cells were dispersed within a background of plump, ovoid and spindle-shaped mesenchymal cells (Figure-4) with the above histopathological features the diagnosis was confirmed as Peripheral giant cell granuloma.

DISCUSSION

PGCG is not a true neoplasm but rather a benign hyperplastic reactive lesion caused by local irritation or chronic trauma, but the cause is certainly unknown.⁸ Different local factors have been associated with PGCG including complicated dental extractions, dental restorations in poor conditions, food impaction, plaque and calculus, ill-fitting dentures, etc. A hormonal stimulus such as oestrogen and progesterone have an immune-suppressive action and may contribute to the growth of the lesion.⁹ In rare cases, giant cell granuloma, is an oral manifestation of hyperparathyroidism.¹⁰

The lesions can appear at any age the highest incidence (40%) is in the fourth to sixth decade of life. PGCG affects females more than male.¹¹ It is more frequently seen in lower jaw with posterior area being more probable site.⁹ Histopathologically, PGCG is composed of nodules of multinucleated giant cells in a background of plump and spindle-shaped mesenchymal cells and extravasated RBC's. The exact origin of giant cells is unknown. Ultrastructural and immunological studies have shown that giant cells are derived from osteoclasts.¹² Occurrence of PGCG is often associated with root resorption, widening of periodontal ligament space, and cupping resorption of underlying bone.¹³ The treatment of PGCG includes surgical resection and suppression of the causal etiological factors with a removal of the entire base of the lesion. Superficial resection of the lesion may cause recurrence which is infrequent and is observed in about 5 to 11% of cases.¹⁴

CONCLUSION

It is imperative to exclude the etiological factors and to examine the tissue histopathologically for confirmation of diagnosis regardless of the surgical technique employed, as the surgical excision is an effective treatment of choice in reducing the recurrence of the lesion. Therefore correct diagnosis and proper treatment planning is mandatory.

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