Multiple Peripheral Giant Cell Granuloma: 18 Months Recall

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ABSTRACT

Peripheral giant cell granuloma is one of the reactive lesions of oral cavity seen on the gingiva and alveolar ridge. It can occur due to local irritational factors, trauma, etc. This case report describes an unusual presentation of peripheral giant cell granuloma on the lingual aspect of mandibular anteriors with hard bony consistency and a firm, consistent growth seen in interdental region between left maxillary premolars in a 55 year-old female patient. Traditional surgical excision was performed under local anesthesia. No recurrence occurred in the follow-up of 18 months.

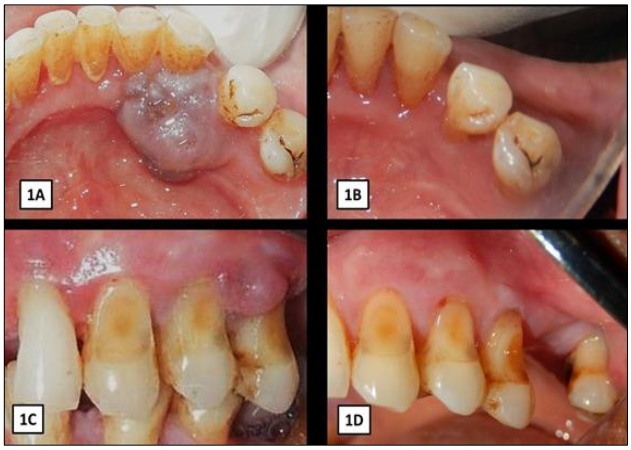
KEYWORDS: Peripheral Giant Cell Granuloma (PGCG), Excisional Biopsy, Gingival Overgrowth.

INTRODUCTION

Oral cavity manifests a spectrum of lesions ranging from developmental, reactive and inflammatory to neoplastic. These lesions occur due to constant stimuli which might be internal or external.[1] Reactive hyperplastic lesions represent the most frequently encountered oral mucosal lesions in humans. Giant cell epulis is a reactive lesion that occurs primarily in gingival tissue and alveolar mucosa in both dentate & edentulous area. The peripheral giant cell granuloma is an inflammatory hyperplastic lesion that probably involves a reactive response in the periosteum, periodontal ligament, and gingiva. This lesion can be differentiated from other inflammatory hyperplastic lesions by presence of multinucleated giant cells whose origin is undetermined.[2] Otherwise known as peripheral gaint cell tumor, giant cell epulis, osteoclastoma, giant cell hyperplasia, or giant cell reparative granuloma.[3] As documented this condition is a reactive lesion, caused by local irritating factors which include trauma from extractions, food impaction, calculus, periodontal disease, periodontal surgery, orthodontic appliances, defective restorations with overhanging margins, and ill-fitting removable appliances.[4] A case of 55 years old female with two gingival overgrowths has been described.

CASE REPORT

A female patient of 55 years presented with chief complaint of hard and soft swelling in lower front region of the jaw (inner aspect) since 1 year (Lesion 1) (Figure 1A) and also in upper left back tooth region of the jaw since 2 months (Lesion 2) (Figure 1C). On eliciting history patient revealed that swelling in the lower jaw was initially of a peanut size which was gradually increased to the present size. It was associated with difficulty in mastication. Swelling was not associated with pus discharge or pain. Medical history was not contributory except for menopause. Clinically acceptable symmetry was observed extra orally. Lymph nodes are not tender and non-palpable.



1A: Lesion 1 showing overgrowth on lingual aspect between mandibular canine and premolar.1B: Area representing lesion 1 at 18 months follow up with no recurrence. 1C: Lesion 2 showing overgrowth between left maxillary premolars in the interdental region. 1D:Area with no recurrence of lesion 2 at 18 months followup.

Intra oral examination of lesion 1 revealed well circumscribed erythematous growth between mandibular canine and premolar (33 & 34) measuring about 2×2cms in diameter and originating from marginal gingiva on lingual aspect of the associated teeth. It was hard in consistency and non-tender. Oral hygiene was poor. Intra oral periapical radiograph revealed cupping superficial bone resorption with lower canine (33) associated with the lesion. (Figure: 2A)

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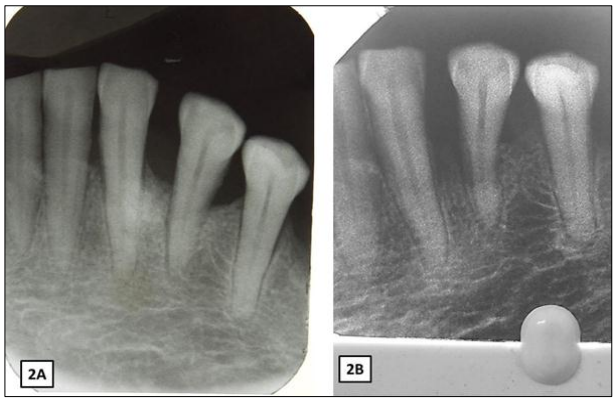

Figure 2: 2A: IOPA of lesion 1 showing cupping bone resorption with 33, and radiodense shadow seen on 33. 2B: IOPA of lesion 1 at 18 months follow up.

Lesion 2 was also well circumscribed erythematous growth between maxillary left premolars (24 & 25) in the interdental region. It was soft in consistency and non-tender. No radiographic changes were evident.

On clinical examination, a provisional diagnosis was given as peripheral ossifying fibroma for lesion 1 and irritational fibroma for lesion 2. The patient underwent complete blood investigations. Phase1 periodontal therapy was performed, and patient was recalled after 15 days for excisional biopsy. Excisional biopsy was performed under local anaesthesia. Any irritational factors like calculus and plaque were removed. The specimens were sent for histopathological examination.

Histological examination of lesion 1, in which soft tissue specimen showed vascular stroma with aggregates of multinucleated giant cells, chronic inflammatory infiltrate and capillaries. Giant cells were of varying size and shape and consisted of new nucleus, hemosiderin pigments were also evident. The giant cells were in close proximity to the surface epithelium and in that area fibrous lamina propria was evident. Overlying epithelium was discontinuous para keratinized stratified squamous epithelium (Figure 3A). Decalcified section showed trabeculae of sclerotic bone with few osteocytes and reversal lines (Figure 3B). Similar findings were observed in the histopathological examination of lesion 2 (Figure 3C).

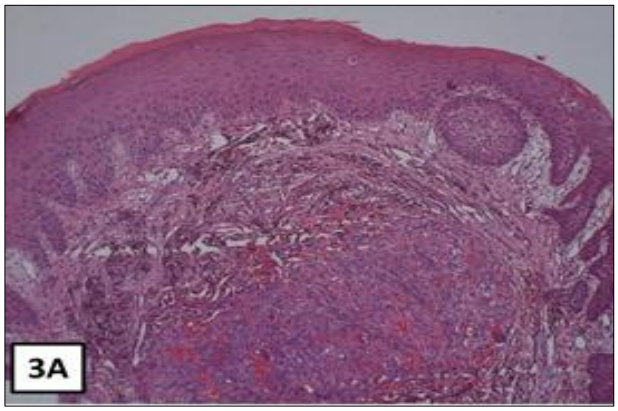

Figure 3A: Microscopic view of soft tissue specimen of lesion 1 showing aggregates of multinucleated giant cells

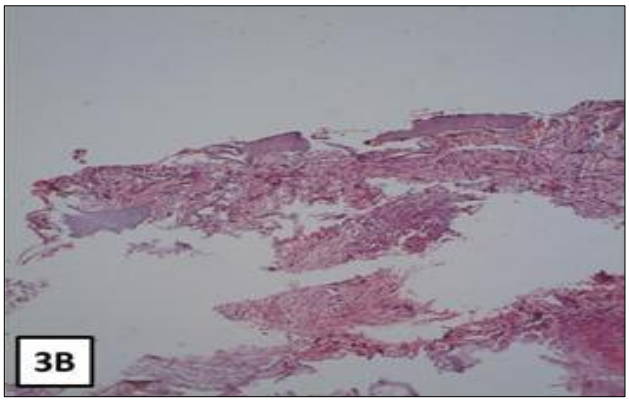

Figure 3B: Microscopic view of decalcified section of lesion 1 showing trabeculae of sclerotic bone.

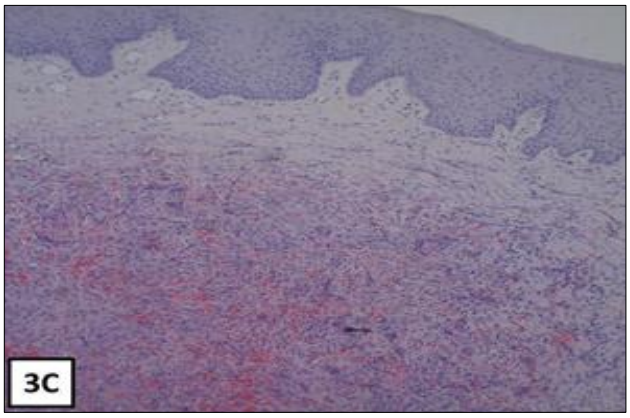

Figure 3C: Microscopic view of lesion 2 revealing multinucleated giant cells.

A final diagnosis of Peripheral Giant Cell Granuloma was made. 18 months post-operative follow up revealed no recurrence (Figure 1B&D).

DISCUSSION

The present case was diagnosed as peripheral giant cell granuloma based on the clinical and histological findings. PGCG is a non-neoplastic reactive lesion caused by trauma or irritation. This reactive hyperplastic lesion had shown highest incidence in the fourth to sixth decades of life, that can grow to an extent of 3 cm.[5] In the present case, the size of the lesion was 2×2 cm which was in accordance with the literature.

The PGCG is thought to arise from the periosteum or the periodontal ligament (PDL) after local irritation or chronic trauma. These lesions have been described as reddish or purple with a smooth surface and consistency that varies from soft to firm.[6] In the present case, the lesion was bluish red in color in accordance to the literature. However, on palpation, the lesion was hard in consistency, and bidigital palpation revealed bony involvement.

The preferential location of the lesion is premolar and molar zone, though Shafer,[7] Giansanti and Waldron[(8)] suggest that it was commonly occurred in the incisor and canine region. The occurrence of PGCG is 2 times more common in females than males. When compared maxilla

to mandible, it is more frequent in later.[9] Sex predilection and age of the patient and size and location of the lesion were compatible with the literature.

Radiographically cupping superficial bone resorption observed. In our case, occlusal radiograph showed soft tissue shadow. Intraoral periapical radiograph revealed crestal bone loss and radiodense shadow in the canine region which might be due to calcification of the lesion.

Histologic section of PGCG had shown numerous foci of multinuclear giant cells and presence of hemosiderin particles in a connective tissue stroma observed. Areas of chronic inflammation are scattered throughout the lesion. The overlying epithelium was usually hyperplastic, with ulceration at the baseline. All the findings which appeared in the histological section are similar to the cases representing PGCG, which have appeared in the literature.[9]

Other findings like presence of woven bone, lamellar bone or dystrophic calcifications have also been observed in few cases. In the present case, sclerotic bone with reversal lines were observed in the calcified specimen. Mineralized tissue has been frequently found histologically in these lesions, confirming that osteoblastic/osteoclastic activity is occurring. The relationship between mineralized tissue and the giant cells that are found in PGCGs is unknown. The presence of multinucleated giant cells confirmed the diagnosis of PGCG even though bony particles were noticed in the specimen sent for histological examination. Thus, the dilemma was cleared through histological examination eliminating POF.

Traditional treatment consists of local surgical excision down to the underlying bone, for extensive clearing of the base. There is requirement for the removal of local factors or irritants. Thus, in the present condition surgical excision was performed along with removal of local irritants to avoid recurrence.

Recurrence rate of PGCG is considered to be 10%. No evidence of recurrence has been reported after 18 months in our case.

CONCLUSION

This case report high lightens the uniqueness of PGCG. The clinical findings of the lesion being, hard in consistency along with involvement of the bone makes it exclusive.

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REFERENCES

1. Reddy V, Saxena S, Saxena S, Reddy M. Reactive hyperplastic lesions of the oral cavity: A ten year observational study on North Indian Population. J Clin Exp Dent. 2012;4(3):e136-40.
2. Agrawal Ashutosh, Aditi Murari, Arun Singh,Sunil Vutukuri; Peripheral Giant Cell Granuloma- A Case Report: Oral Max Path J, 4(2), July-Dec 2013 408-412.
3. Chaparro-avendaño AV, Berini-aytés , Gay escoda C. Peripheral giant cell granuloma. A report of five cases and Review of the literature. Med oral patol oral cir bucal 2005;10:48-57.
4. Dayan D, Buchner A, Spirer S. Bone formation in peripheral giant cell granuloma. J Periodontol 1990;61:444-446.
5. Kfir Y, Buchner A, Hansen LS. Reactive lesions of the gingiva. A clinicopathological study of 741 cases. J Periodontol. 1980;51:655- 61.
6. Peripheral giant cell granulomas: a series of 279 cases. Oral Surg Oral Med Oral Pathol Oral Radiol 2014;118:475-482.
7. Rajendran R. Benign and malignant tumors of the oral cavity. In: Rajendran R, Sivapathasundharam B, editors. Shafer's Textbookof Oral Pathology. 5th ed. New Delhi: Elsevier Publishers; 2006.p. 113- 308.
8. Giansanti JS, Waldron CA. Peripheral giant cell granuloma:Review of 720 cases. J Oral Surg 1969;27:787- 91.
9. Rodrigues SV, Mitra DK, Pawar SD,Vijayakar HN. Peripheral giant cell granuloma: This enormity is ararity. J Indian Soc Periodontol. 2015 Jul-Aug;19(4):466-9.

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