

## PERIPHERAL GIANT CELL GRANULOMA : A CASE REPORT

Babita Pawar<sup>1</sup>, Gowri Pendyala<sup>2</sup>, Raju Anarthe<sup>3</sup>, Anuradha Bhosale<sup>4</sup>, Sanket brahmbhatt<sup>5</sup>, Shivkanya bhadange<sup>6</sup>

1.Professor,Dept of Periodontology and Implantology, Rural Dental College,PIMS, Loni

2.Reader, Dept of Periodontology and Implantology, Rural Dental College,PIMS, Loni

3.Reader, Dept of Periodontology and Implantology, Rural Dental College,PIMS, Loni

4.PG student, Dept of Periodontology and Implantology, Rural Dental College,PIMS, Loni.

5.PG student, Dept of Periodontology and Implantology, Rural Dental College,PIMS, Loni

6.PG student, Dept of Periodontology and Implantology, Rural Dental College,PIMS, Loni

### ABSTRACT:

The peripheral giant cell granuloma (PGCG) is a reactive lesion of the gingival tissues. Usual contributing factors include local irritating factors such as plaque, calculus, food impaction, trauma, improper restorations and traumatic tooth extraction. This report presents a case of peripheral Giant Cell Granuloma along with clinical, histological features and management in an adult male patient.

**Key Words:** Peripheral giant cell granuloma, central giant cell granuloma, excision, exophytic growth.



### INTRODUCTION

The peripheral giant cell granuloma (PGCG) is an exophytic growth of the oral cavity accounting 7% of all benign tumors of the jaw, also known as giant cell epulis or peripheral giant cell reparative granuloma.<sup>[1]</sup> It is not a true neoplasm but rather a benign hyperplastic reactive lesion.<sup>[2]</sup> It occurs in response to local irritation such as traumatic tooth extraction, improper dental restorations, ill-fitting dentures, plaque, calculus, food impaction and chronic trauma.<sup>[3]</sup> It is more frequent in females than in males, with a slightly higher prevalence in the 30- to 70-year-old-age group, and largely affects the mandible(55%) than maxilla. <sup>[4]</sup> Recently, Choi reported the association of peripheral giant cell granuloma with hyperparathyroidism secondary to renal failure.

The peripheral giant cell granuloma occurs exclusively on the gingiva or edentulous alveolar ridge. Clinically, it manifests as a firm, soft, bright red nodule or as a sessile or pedunculated mass. Granulomas are benign reactive lesions usually treated with surgical resection with extensive clearing of the base of the lesion and elimination of the local etiologic factors. Malignant transformation of these lesions are rare. The recurrence rate after local excision is around 10%.

The histological features consist of a non-encapsulated highly cellular mass with abundant dispersed multinucleated giant cells. Chronic inflammatory cells are present, and neutrophils are mainly encountered in the ulcerated base of the lesions. Fibroblasts form the basic element of the peripheral giant cell granuloma. <sup>[5]</sup>

In majority of the cases no evidence of radiographic changes could be usually detected as the lesion is a soft tissue lesion that very rarely affects the underlying bone.<sup>[5]</sup> but in some cases radiographs exhibit evidence of superficial destruction of the alveolar margin or crest of the interdental bone.

### CASE DETAIL

A 55-year-old male patient reported to Dept. of Periodontology with a chief complain of swelling in lower right back region of jaw. On clinical examination an exophytic growth was present involving the buccal aspect of alveolar ridge of the mandibular right first and second premolar region. The lesion was dumbbell shape, sessile, bluish tinge in entire surface. On palpation, the lesion was tender, smooth and soft in consistency. The patient gives a history of pan chewing for the past 20 years and had a habit of placing the pan in the region where the lesion was present. Medical history was non-contributory. Past dental history includes extraction of canine, first and second premolar and first molar of 4th quadrant 3 years ago. Radiographic examination did not reveal any loss of bone.

After thorough clinical and radiological examination, an complete excisional biopsy of the lesion was performed using a No. 15 b-P blade , (Fig 2, 3,4) and the specimen was send for histopathological examination. After the procedure simple sling sutures were placed to control bleeding. Periodontal pack was placed. Post-operative healing

was uneventful, follow up of six months revealed no recurrence of the lesion.

### HISTOPATHOLOGICAL EXAMINATION:

Histopathological examination under low magnification showed proliferative epithelium overlying a vascular connective tissue stroma. Under higher magnification, epithelium was of parakeratinized stratified squamous type. Connective tissue stroma showed numerous proliferating blood vessels with extracellular hemorrhage. Several multi-nucleated giant cells were seen interspersed in the connective tissue stroma. (Fig .5)

### DIFFERENTIAL DIAGNOSIS:

As the lesion was exophytic and hyperplastic in nature, differential diagnosis includes

- pyogenic granuloma
- central giant cell granuloma
- fibroma.

However, absence of ossification did not support the central giant cell granuloma and presence of vascularity can exclude fibroma.<sup>[6]</sup> The presence of several giant cells and hemorrhage ruled out other forms of inflammatory hyperplastic lesions such as pyogenic granuloma.

### DISCUSSION

Giant cell granulomas (peripheral and central) are benign, non-odontogenic, moderately rare tumors of the oral cavity. They originate from the periosteum or periodontal membrane

following local irritation or chronic trauma. There are no pathognomic clinical features whereby these lesions can be differentiated from other forms of gingival enlargement.<sup>[7]</sup> Microscopic examination is required for definitive diagnosis. The PGCG has numerous foci of multinuclear giant cells and hemosiderin particles in a connective tissue stroma.<sup>[8]</sup> Our case presented areas of chronic inflammation scattered throughout the lesion, with acute involvement occurring at the surface. The overlying epithelium is usually hyperplastic, with ulceration at the base.

In the above-mentioned case, it could be because of chronic irritation from the pan. The radiographic examinations generally do not signify any findings since it is confined to soft tissue without involving the bone.<sup>[10]</sup> Because of the

recurrence rate, close follow-up is indicated. The patient was placed on a maintenance phase for a period of 6 months with recall visits once every month. Patient had no further complains and no recurrence of the lesion was noted. The early and precise diagnosis of peripheral giant cell granuloma allows conservative management without risk to the adjacent teeth or bone. Proper therapy and regular follow-up will help in ensuring that there is adequate healing and minimal chance of recurrence, as demonstrated in this case.

## CONCLUSIONS

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 the adjacent hard tissues.

## REFERENCES

1. Neville BW, Damm DD, Allen CM, Bouquot JE. Soft Tissue Tumors. In Neville
2. BW, Damm DD, Allen CM, Bouquot JE, eds. Oral and Maxillofacial Pathology 3rd ed. St. Louis: Saunders; 2009: 507-563.
3. Motamedi MH, Eshghyar N, Jafari SM, Lassemi E, Navi F, et al. Peripheral and central giant cell granulomas of the jaws: a demographic study. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 2007; 103: e39–e43.
4. Kfir Y, Buchner A, Hansen LS. Reactive lesions of the gingiva. A clinic pathological study of 741 cases. J Periodontol. 1980; 51: 655-661.
5. Reichart PA, Philipsen H. Atlas de Patologia Oral. eds. 1 Masson; 2000; 164
6. Eversole LR, Rovin S. Reactive lesions of gingiva. J Oral Pathol. 1972; 1: 30-38.
7. Carranza FA, N. M., Takel HH. Clinical periodontology Book 9th Edition, 18:291 .2002.
8. L. Peripheral Giant Cell Granuloma: Immunohistochemical Analysis of Different Markers. Study of Three Cases. Av. Odontoestomatol 2007;

23(4): 189-1 Chaparro-Avedaño AV, Berini- Aytés L, 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.

9. Subarnbhesaj A. Peripheral Giant Cell Granuloma : A Case Report and

Review of Literature. Khon Kaen Dental J 2005;8:125-30.

10. Muratakgul , H., Gungörmus, M. &Harorli, A.. Peripheral giant cell granuloma: a clinical and radiological study. The Pain Clinic, 16, 2004, 59-63.

### FIGURES:



Fig-1 Exophytic Growth S/O Peripheral Giant Cell Granuloma



Fig-4 Post-Operative Site After 7 Days



Fig-2 Excised Lesion

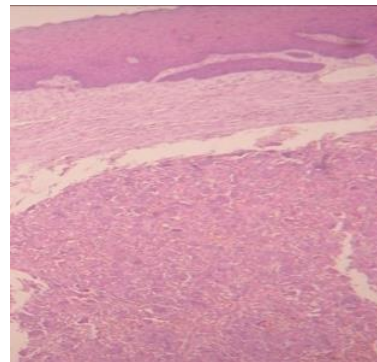


Fig-5 Histopathologic View S/O Peripheral Giant Cell Granuloma



Fig-3 Immediate Post-Operative Site