CASE REPORT

Peripheral giant cell granuloma

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ABSTRACT

Peripheral giant cell granuloma is an uncommon lesion. It occurs on gingiva or alveolar process, most frequently anterior to the molars of vital tooth and has specific histological features. Lesion is generally asymptomatic and has a relatively rapid growth rate, often attaining a size of 1 cm within a few months. Usually the size is between 0.5 to 1.5 cm in diameter. The lesion is entirely different from central giant cell granuloma, may or may not exhibit evidence of involvement of the bone. A slowly enlarging gingival mass with a reddish-pink surface was observed. The lesion was first noted 6 months ago by the patient but recently it has increased in lower anterior region. in size and interferes with eating. A periapical radiograph demonstrated focal loss of the alveolar crestal bone in the mandible.The diagnosis of peripheral giant cell granuloma, a benign reactive gingival lesion, is confirmed by histopathologic examination. Solitary gingival enlargements are a relatively common finding and are usually the result of a reactive response to local irritation[1]. Although incipient lesions may bleed and cause minor changes in gingival contour, progressive growth in some cases produces a significant tumescence that compromises normal oral function. The purpose of this case report is to illustrate an example of an aggressive peripheral giant cell granuloma (PGCG) and to discuss a reasonable differential diagnosis, based on the age of the patient, history and clinical features.

INTRODUCTION:

The lesion may be found in very young children as well as in dentulous or edentulous elderly person, mostly found in the patients in fourth to sixth decade of life and the mean age of patients at the time of diagnosis is typically 38-42 years. Although the peak prevalence is in the fifth and sixth decades, between 20 to 33% occur within the first two decades of life.[2,3] Females are affected almost twice as frequently as males. Lesions are generally asymptotic and have relatively rapid growth rate. As part of differential diagnosis, it must be distinguished from gingival cyst and central giant cell granuloma.

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CASE REPORT:

Chief complaint: A 35 years female patient reported in the outdoor patient department in Uttaranchal dental & medical research institute, Majri Grant (Haridwar road) Dehradun with the chief complaint of swelling of gums in the lower left front tooth region since 6months

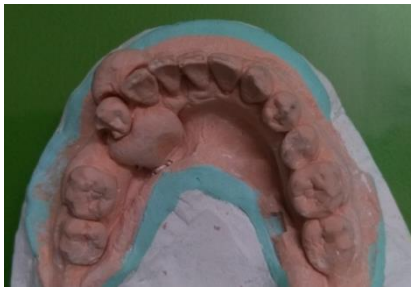
History of present illness: Patient's history revealed that a small swelling of gums appeared 6 months back in lower left front tooth region buccally, which gradually extended lingually and increased to attain present size. Patient reported the lesion to be asymptomatic, but bleeding tendency was observed on accidental biting during mastication. Extension of growth is in both buccal and lingual vestibule connected interproximally. Reddish pink in color. Growth was smaller in size initially but increased in size with time.

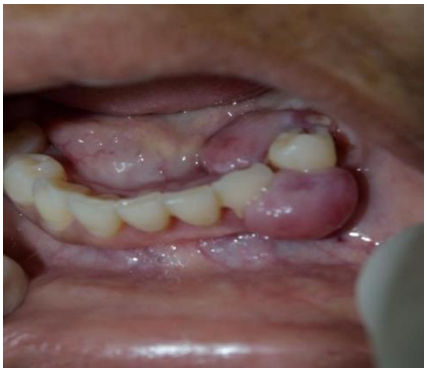
Dental history: Patient gives history of extraction of 33 and 35. She has undergone removal of growth two times in last one year in the past but growth reoccurs again and again.

Medical history: revealed no systemic diseases; examination of lymphonodes in the head and neck region revealed no lymphadenopathy. Patient was systemically healthy and was not taking any medications.

Clinical examination: Extraoral examination did not reveal any facial asymmetry and lymph node enlargement.

Intra-oral examination revealed an ovoid exophytic, pedunculated growth on buccal and lingual vestibule connected with peduncle interproximally between lateral Incisor and first premolar (32 and 34) Growth was bluish red in color, firm in consisitency and nontender which measures 1cm in diameter buccaly and 1.4 cm in diameter lingually. Pathological migration of 34 was present due to missing 33. Oral hygiene index for the patient was 3.66 indicating poor oral hygiene.





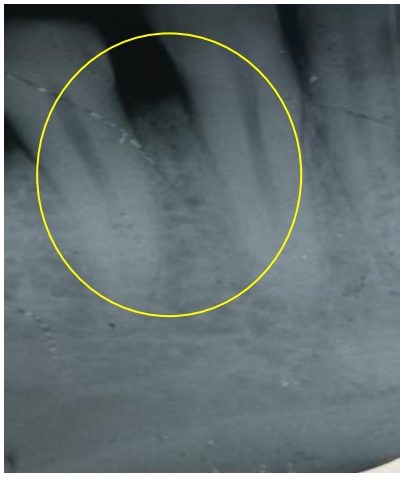
Intra-oral view of the growth b/w 32and 34

Pseudo Pocket depth: 7mm distobuccal aspect of 32 and 5 mm mesiobuccal aspect of 34.

Provisional Diagnosis: Pyogenic granuloma, parulis and peripheral ossifying fibroma.

Electric pupl testing: 32 and 34 are vital.

Radiographic investigation: Intaoral periapical radiograph does not exhibit evidence of involvement of the bone underlying the lesion. Superficial erosion of the alveolar crest in relation to the growth was seen in periapical radiograph. In addition, a widened periodontal ligament space is associated frequently with tooth mobility may represent lesion extension around the root[4] but was not an evident finding of this case.



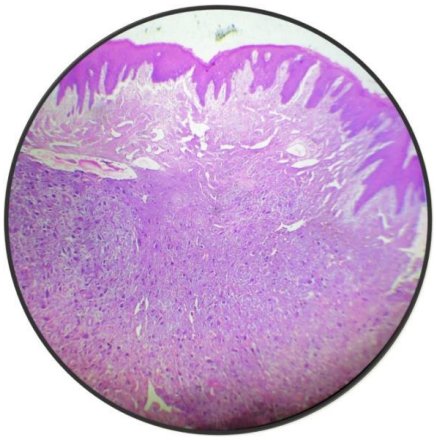
Circumscribed Area showing no bone loss

Lab Investigation: Her complete blood count revealed normal results.

After phase I periodontal treatment, incisional biopsies was performed for both the buccal and lingual lesions. Biopsy specimens were embedded in 10% formalin and sent to Department of Oral Pathology. Routine histological examination with hematoxylin and eosin (H and E) stains were performed. After confirmation of the diagnosis of the lesion complete surgical excision was performed.

Microscopic appearance of gaint cell lesion is unique. It consists of a noncapsulated mass of tissue composed of a delicate reticular and fibrillar connective tissue stroma containing large numbers of ovoid or spindle – shaped young connective tissue cells and multinucleated giant cells. The giant cells in some instances resemble osteoclasts and in other cases are considerably larger than the typical osteoclast[5].

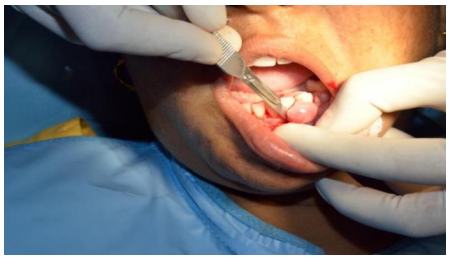
Capillaries are numerous, particularly around the periphery of the lesion, and the giant cells in some instances may be found within the lumina of these vessels. Foci of hemorrhage, with liberation of hemosiderin pigment and its subsequent ingestion by mononuclear phagocytes, as well as inflammatory cell infiltration, are also characteristic features. The giant cells resemble a lot with osteoclasts. Predominantly the lesion is found anterior to the permanent molars. Its origin is thought to be from endothelial cells of capillaries. It also have been hypothesized that the occurrence of the giant cells within the vascular channels, suggesting that they arose here through fusion of endothelial cells. The microscopic features of the lesion were consistent with Peripheral Giant Cell Granuloma (PGCG).



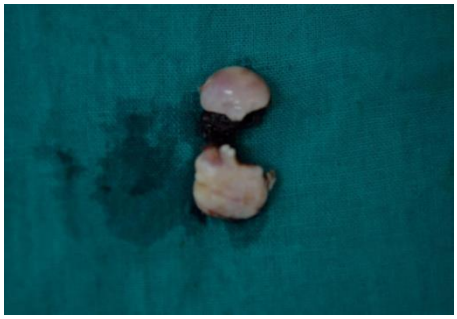
Histological section showing Giant cells

Treatment provided:

Management of this gingival lesion is surgical excision with cauterization at the site of origin of the peduncle to minimize the chances of recurrence and elimination of any local contributing factors. The recurrence rate is approximately 10% but multiple recurrences with eventual loss of the adjacent teeth are a potential complication



Surgical Exicision



Excised tissue

Differential diagnosis

Gingival lesions that mimic the PGCG are the pyogenic granuloma, parulis and peripheral ossifying fibroma.

The pyogenic granuloma may be difficult to differentiate from the PGCG based on clinical features alone. Radiographically unlike the PGCG, displacement of teeth and resorption of alveolar crestal bone are not observed. Pyogenic granuloma presents as a soft, friable nodule that bleeds freely with minimal manipulation.

Another erythematous nodule of the gingiva is the parulis, which is associated with an entrapped foreign body, a gingival pocket and/or a nonvital tooth. Pain and the expression of a purulent exudate with fluctuation in lesion size help to differentiate this inflammatory disease from the PGCG.

The peripheral ossifying fibroma is a reactive gingival growth that shares similar clinical features as the PGCG. Although this reactive lesion is often ulcerated and inflamed, it lacks the purple or blue discoloration that is commonly associated with the PGCG. Identification of small flecks of calcification within the tumescence on a radiograph aids in diagnosing the peripheral ossifying fibroma, when present.

In rare instances, PGCG is an oral manifestation of hyperparathyroidismwithout obvious central bony involvement.[6,7] While this is an unusual initial presentation, hyperparathyroidism should be considered when multiple lesions are found or if repeated recurrences are documented despite adequate treatment.

A parathyroid tumor or chronic renal disease may result in excess production of the parathyroid hormone that stimulates the formation of a giant cell lesion.[8]

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