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Case Report

Plasma Cell Granuloma of Gingiva -A Rare Case Report

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Abstract

The term "plasma cell granuloma" is used to describe a localized benign proliferation of mature plasma cells. Intraoral plasma cell granulomas involving the tongue, lip, oral mucosa and gingiva have been reported in the past. This case presents a 16year-old female with maxillary anterior gingival overgrowth. Histological examination revealed inflammatory cell infiltrate containing sheets of plasma cells. This case highlights the need that tends to locate in the oral cavity, primarily on the periodontal tissue. It reinforces the existence of plasma cell granuloma on the gingiva that it is extremely uncommon. Clinical features and histopathologicaly in early stages closely resembles plasmacytoma (malignant). This case highlights the need to biopsy unusual lesions to rule out potential neoplasms and also emphasizes the need to submit all the excised tissue for histological.

Key Words: Plasma Cell; Gingiva; Oral Cavity.

Introduction:

Plasma cell granuloma (PCG) is a rare form of idiopathic inflammatory pseudotumor, characterized by a benign proliferation consisting predominantly of plasma cells and reticuloendothelial elements.[1] These lesions have no sex predilection and may occur at any age. It manifests primarily in the lungs, but may occur in various other anatomic locations like the oral cavity which is very rare on the gingiva. Intraorally, involves most commonly the tongue, lip, oral mucosa and least commonly on the gingiva.[2] The exact incidence and etiopathogenesis is unclear and may arise due to periodontitis, periradicular inflammation due to the presence of a foreign body or may be due to an idiopathic antigen. The lesion's, biological behavior, and appropriate treatments are unclear. The most commonly considered treatment for plasma cell granuloma is a complete resection and little is known about the prognosis.[3]

We present such a rare case of plasma cell granuloma of gingival in the oral cavity.

Case Report:

A 16-year-old female patient reported to the Department of Oral Medicine And Radiology, M.M College of Dental Sciences and Research, Mullana with the chief complaint of growth in upper right front region of jaw since 20 days. History of present illness revealed that this growth was initially small and was present one and half months back. Initially the growth was small in size and bleeding was present on touching. The patient had got the growth excised from a local hospital in Saharanpur 1 month back and then 20 days back, the growth had reappeared, and it grew in size and attained the present size. The lesion was

painless but the patient complained of bleeding on touching and interference with oral hygiene practice. The medical history was non significant.

On intraoral examination, a solitary growth was extending from mesial aspect of 11 to distal aspect of 12 on palatal aspect and on buccal aspect in between 11 and 12. The growth was well-circumscribed, oval, and sessile. The growth was firm in consistency. The approximating size of growth was 3 cm x 2 cm diameter. The colour of the growth was reddish pink to that of surrounding mucosa (Fig 1).

On palpation the inspectory findings were confirmed. It was firm in consistency, fixed to underlying structures. It was nontender, nonpulsatile, non fluctuant and non compressible in nature. Bleeding was elicited on palpation.

A working diagnosis of pyogenic granuloma was made and radiographic investigations were done. Radiographic examination revealed no significant bony changes. There was no bony invasion and no bony destruction, no osseous changes seen (Fig 2). A provisional diagnosis of pyogenic granuloma was made and the patient was sent for the excision of the mass to the department of Oral and Maxillofacial Surgery.

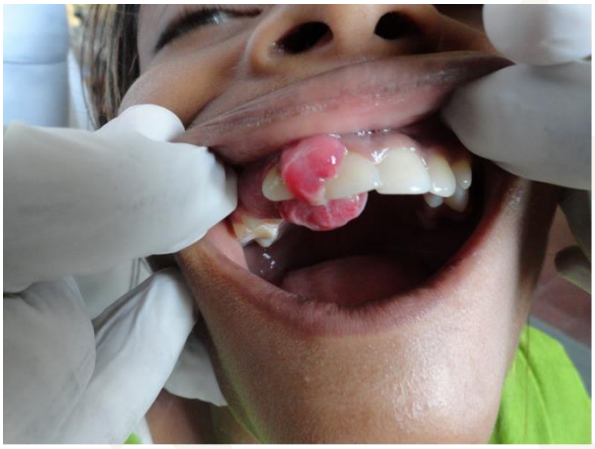

Figure No. 1

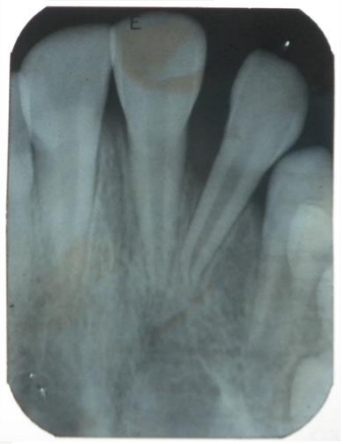

Figure No. 2

Before surgery, complete hemogram was done. The findings were within the normal limits. The patient was uncooperative, so it was decided to excise the growth under General Anaesthesia. Preanaesthetic check up was done in which Chest X-ray, ECG revealed no significant features.

The patient was send for urine analysis for Bence jones proteins to rule out multiple myeloma.

The lesion was excised under General anaesthesia and the specimen was sent for histopathological examination.

Histopathological examination revealed parakeratinized stratified squamous epithelium with long and thin rete pegs and underlying connective tissue. The connective tissue was fibrocellular with numerous proliferating endothelium lined blood vessels. The connective tissue showed the presence of plasma cells in clusters surrounding the blood vessels. The plasma cells were variable in size and shape, with very few large cells and numerous binucleated plasma cells (Fig 3).

So, final diagnosis of plasma cell granuloma was made based on clinical and histopathological findings.

The lesion was excised in the Department of Oral And Maxilllofacial Surgery (Fig 4). Follow up was done and revealed nothing significant findings.

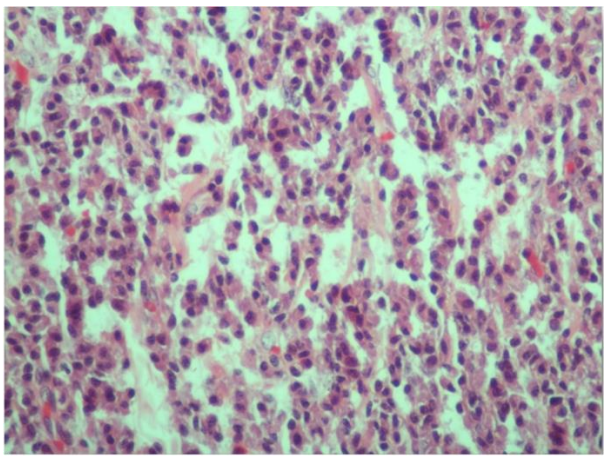

Figure No. 3

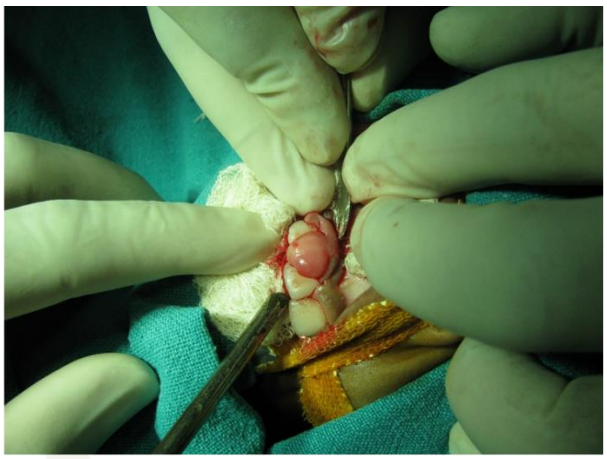

Figure No. 4

Discussion:

Plasma cell granuloma (PCG) is a highly, uncommon, reactive tumor-like lesion whose etiology remains uncertain .Although some authors suggest that it has a parasitic etiology.[6]

It has been called by different terms, namely; inflammatory myofibroblastic tumor, inflammatory pseudotumor, inflammatory myofibrohistiocytic proliferation, and Xanthomatous pseudotumor.[5]

It is formed by aggregates of mature plasma cells intermixed with mesenchymal cells mostly of the fibroblast and histiocyte-type and arranged in a granulomatous pattern.These are terminally differentiated B lymphocytes which are typically found in the red pulp of the spleen, medulla of the lymph nodes, tonsils, lamina propria of the entire gastrointestinal tract, mucosa of the nose and upper airway, and sites of inflammation. These are characterised by basophilic cytoplasm with an eccentrically placed nucleus.[4]

Plasma cell granuloma has been found in several sites in the body. The lungs and the stomach are the commonest sites; the tonsil, bladder are rarely affected.[7]

It is rarely found in oral cavity. Avecdo and Buchler–Mark and Steven ,Karthikeyan and Pradeep and Baltaciaglu *et al*. have reported lesion on the gingiva.[2] Kim *et al*.also reported gingival plasma cell granuloma in patients with cyclosporine-induced gingival overgrowth which was not true in our case.[2]

In our case, the young age of the patient suggested it to be a reactive lesion It has been postulated that the presence of a large number of plasma cells may represent an altered antigen-antibody reaction of the host or an alteration of blood flow imposing congestive vasodilation. [3]

The plasma cell granuloma should be diffferentitiated from plasmacytoma and multiple myeloma. Multiple myeloma is the tumor of the bone, whereas, plasmacytoma and plasma cell granuloma are soft tissue tumors. Differentiating the type of soft tissue tumor is mandatory, as plasma cell granuloma may be benign, but plasmacytoma may show early stages of multiple myeloma.[3]

In our case, the growth was differentiated from multiple myeloma on the basis of negative Bence jones protein and from plasmacytoma on basis of histopathological findings. It is suggested that biopsy is mandatory to rule out other differentitating lesions.

The treatment modality and follow-up of the soft tissue lesions varies. Plasma cell granulomas are usually treated by simple excision and removal of underlying inciting agent whereas neoplasms may require surgical excision, followed by chemotherapy and or radiotherapy.[4] In our case, simple excision, followed by regular check up sufficed.

With respect to prognosis, plasma cell granuloma seems to be a generally benign, nonrecurring

condition; nevertheless, local aggressiveness and recurrences may complicate the outcome of the disease.[5]

Conclusion:

Plasma cell granulomas tend to locate in the oral cavity, primarily on the periodontal tissue and exact incidence of these cases have not been reported in literature .This case report reinforces the existence of plasma cell granuloma on the gingiva that it is extremely uncommon. So there is a need for submitting all the excised gingival tissue for histopathological examination, irrespective of the clinical features and clinical diagnosis.

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