

## Plasma Cell Gingivitis: A Case Report

**Dr. P. Arulraj<sup>1</sup>, Dr. P. Subramanian<sup>2</sup>, Dr. Arun Kumar Paramasivam<sup>3</sup>, Dr. Senthilkumaran M<sup>4</sup>, Dr. Navarasu M<sup>5</sup>, Dr. Dhivya R<sup>6</sup>**

<sup>1</sup>MDS, Associate Professor, Department of Oral Medicine and Radiology, Dhanalakshmi Srinivasan Dental College, Siruvachur, Perambalur, Tamil Nadu.

<sup>2</sup>MDS, Professor, Department of Oral and Maxillofacial Surgery, Dhanalakshmi Srinivasan Dental College, Perambalur, Tamil Nadu

<sup>3</sup>Professor, Department of Prosthodontics, Dhanalakshmi Srinivasan Dental College, Perambalur, Tamil Nadu

<sup>4</sup>Reader, Department of Periodontology, Dhanalakshmi Srinivasan Dental College, Perambalur, Tamil Nadu

<sup>5</sup>Professor, Department of Periodontics, Dhanalakshmi Srinivasan Dental College, Perambalur, Tamil Nadu

Senior Lecturer, Department of Oral and Maxillofacial Surgery, Dhanalakshmi Srinivasan Dental College, Perambalur, Tamil Nadu

### \*Corresponding author:

Dr. P. Subramanian,

MDS, Professor, Department of Oral and Maxillofacial Surgery, Dhanalakshmi Srinivasan Dental College, Perambalur, Tamil Nadu

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### ABSTRACT

Plasma cell gingivitis is a diagnostic predicament for all the clinicians. "It is also referred to as atypical gingivostomatitis, idiopathic gingivostomatitis, allergic gingivostomatitis, and plasma cell gingivostomatitis" which are more distinctive by bright red gingiva and easily bleeds on probing. It is frequently confused with inflammatory gingival enlargement, erythematous lichen planus, and other lesions. One such rare and benign entity is discussed in this article and managed after thorough clinical, radiological, histopathological, immunohistochemistry examination.

**Keywords:** Plasma cell, Gingivitis, Gingivoplasty

### 1. INTRODUCTION

Plasma-cell gingivitis is a rare and unique gingival disorder, characterized histopathologically by a dense chronic inflammatory infiltration of the lamina propria mainly of plasma cells. A wave of cases occurred during this period, thought to be caused by allergic reactions to spices or flavouring agents.[1] On examination, clinically Plasma cell gingivitis looks like acute leukemia whereas histologically mimics multiple myeloma or extramedullary plasmacytoma. So that meticulous examination by all means include clinical, histological and hematological steps.[2]

### 2. CASE REPORT

A 53-year-old female patient reported to our hospital with the chief complaint of bleeding gums for the past two years. The patient initially noticed as swelling of the gums. She was given medication and was treated by oral prophylaxis, without any significant improvement in his condition. There was a gradual increase in the gum swelling, which was painless, but associated with bleeding on biting with her front teeth. The recent change of oral hygiene products like toothpaste or consumption of chewing gum were denied by the patient. Her past medical, surgical, dental history was not contributory. On general examination the patient was calm, cooperative, conscious and oriented with time, place and person. Stature and build were normal. Blood pressure, pulse rate, SpO<sub>2</sub>, temperature was normal. On extra oral examination the facial form, appearance was normal.

On Intra oral examination revealed a fiery red gingival enlargement of the marginal, papillary, and attached gingiva of the entire upper and lower gingival region. There was bleeding on probing, with loss of stippling and contour [Fig-1]. It had a soft consistency and it was non tender in nature. There was a generalized increase in gingival pocket depth of more than 6mm present. Generalized moderate level of calculus was detected throughout the arch. The possibilities of other gingival inflammatory enlargement include tuberculous gingivitis, and chronic desquamative gingivitis also ruled out. Finally, the plasma cell gingivitis was provisionally considered.

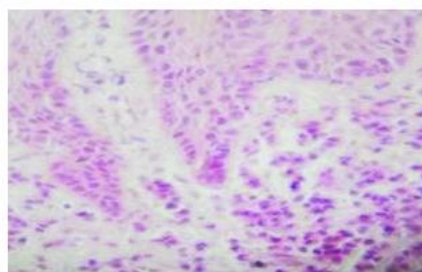
A complete hemogram and a routine biochemical did not show any abnormality. On radiographical examination CBCT shows interdental bone loss is evident with both horizontal and vertical aspects [Fig 2a & 2b]. Excisional biopsy of the growth was done on the entire maxillary and mandibular gingival region. Gingivoplasty was performed to maintain the contour of gingiva. A protective periodontal dressing was applied and the patient was recalled after one week. The postoperative healing was uneventful and oral prophylaxis was done meticulously done by the patient. The histopathological examination revealed sheets of round, plasma cells, suggestive of plasma cell gingivitis [Fig 3]. The patient was then advised to take antibiotics and analgesics during post operative period. Then followed by 5 mg of Levocetirizine tablet once daily and topical application of 0.1% triamcinolone acetonide for one week. The patient responded well to the treatment.



**Figure1:** Generalized Gingival Enlargement with Recession Present



**Figure 2a&2b:** Generalized bone loss in coronal and sagittal section in CBCT



**Figure 3:** Histopathological examinations show infiltration of plasma cells in the connective tissue

### 3. DISCUSSION

Plasma cell gingivitis is a rare condition characterized by a massive infiltration of plasma cells into the sub epithelial gingival tissue. Kerr *et al.* reported that the incident of plasma cell gingivitis, presence of cinnamonaldehyde is an main provoking agent which is commonly in chewing gums was identified. The condition resolved completely on the cessation of the use of these gums [3]. “S Jr Silverman described plasma-cell gingivostomatitis as a syndrome, consisting of gingivitis, cheilitis, and glossitis”. [4] In our case the involvement only in gingiva. In our case this etiology was completely not found. Clinically, the illness presents as a diffuse enlargement with edematous swelling of the gingiva in the maxillary and mandibular anterior segments. Although the exact mechanism behind this condition is not known, but the plasma cell presence may suggest an allergic source during contact in oral cavity. Large number of cases seen reported without any known or relevant causes [5].

In our case, the involvement was present in whole gingiva of the anterior and posterior segment of the jaws. Clinically, Plasma cell gingivitis presents as a diffuse reddening, together with edematous swelling of the gingiva, with a sharp demarcation along the mucogingival border. In our case, the patient presented with reddish gingival enlargement. Histopathological examination of Plasma cell gingivitis reveals plasma cell infiltration in a dense collagenous stroma.

Histologically, this condition must be differentiated from other serious conditions, such as, leukemia, plasmacytoma, multiple myeloma, and Waldenstrom’s macroglobulinemia, to facilitate early treatment for a better prognosis. Several medical and surgical therapies have been advised for the management of plasma cell gingivitis, for the management of plasma cell gingivitis The conservative medical treatments are topical/ systemic corticosteroids, antihistaminics, antimicrobials, and surgical options, including, excision of the enlargement by laser, electrocoagulation, and so on. Our patient responded with surgical excision of the enlargement in addition to oral prophylaxis.

### 4. CONCLUSION

Plasma cell gingivitis is a diagnosis of exclusion, differentiated mainly by the histologic finding of a submucosal plasma-cell infiltrate after circumstances such as infection and plasmacytoma have been eliminated. Detailed history taking, biopsy and hematological examinations are necessary to exclude hematological malignancies like leukemia and other local manifestations of systemic diseases. Although recurrences are not uncommon, no studies till date report a progression of this condition to a state malignancy of any type. The condition is believed to be a nonspecific inflammatory response, in the form of a plasma-cell infiltrate, to an unknown exogenous agent. The patient should be regularly followed up to assess oral hygiene maintenance as well as identification of a possible allergen to avoid recurrences.

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