

Plasma Cell Gingivitis - A Case Report

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Introduction

Plasma Cell Gingivitis is a rare benign inflammatory condition of unknown etiology, clinically characterized by sharply demarcated erythematous and edematous gingiva extending to mucogingival junction. Plaque control and conventional periodontal therapy are not of much help¹.

Plasma Cell Gingivitis is a hypersensitivity reaction to some antigen, often flavoring agents or spices¹. Over the years, case reports of plasma cell gingivitis have appeared in the dental literature. In the 1940s and 1950s, several cases of mucosal hypersensitivity and cheilitis secondary to the use of chewing gum were described.^{2,3}

Kerr et al.⁴ reported a case of Plasma Cell Gingivitis in 1971 resulting from an allergic reaction to one of the flavoring agents cinnamon in chewing gums. Hypersensitivity reactions to cinnamonaldehyde component of toothpaste has also been reported.⁵

Plasma Cell Gingivitis mimics lesions associated with discoid lupus, lichen planus, cicatricial pemphigoid, leukemia and myeloma, thus an early diagnosis in such cases is vital in patient's interest^{4,5} The diagnosis of Plasma Cell Gingivitis requires hematological screening in addition to clinical and histopathological examinations.

Histological picture shows stratified squamous epithelium showing an edematous pseudo hyperplasia. The underlying connective tissue is replaced by a population of cells predominantly made up of plasma cells which are identified by the eccentric nuclei (cartwheel appearance)². Hence Plasma Cell Gingivitis gets its name.

Plasma Cell Gingivitis is known by a variety of other names such as atypical gingivostomatitis, plasmacytosis, idiopathic gingivostomatitis, and allergic gingivostomatitis³.

This case report outlines a case of Plasma Cell Gingivitis which was brought on by the use of herbal tooth paste.

Case Report

A 15-year old female was presented to the department of Periodontology and Oral Implantology, at ITS-CDSR, Ghaziabad (U.P) with a chief complaint of red, swollen gums. Clinically, patient presented with severe inflammation of the gingival tissues from the free gingival margin to the mucogingival junction in both the maxillary and mandibular arches (Fig 1&2). Heavy plaque accumulation was present around the teeth, and gingival bleeding occurred with the slightest provocation. There was a negative Nikolsky sign (blister formation) with no cutaneous lesion.



Fig 1



Fig:2

The patient exhibited a slight loss of clinical attachment with respect to maxillary and mandibular incisors. Patient had neither any medical history nor reported a history of mouth breathing or the use of chewing gum. Only relevant history patient gave was a recent change to new herbal toothpaste. Provisional Diagnosis of chronic generalized gingivitis was given. Initial Periodontal therapy comprising of scaling and root planing and oral hygiene instructions were given. Patient was also instructed to rinse with 0.2% chlorhexidine twice daily.

The appearance of the gingiva improved in the second sitting after 7 days, but the gingiva was still severely erythematous. The erythema was disproportionate to the amount of plaque and calculus remaining on the dentition. (Fig. 3&4)



Fig:3



Fig:4

Since the removal of local etiologic factors did not resolve the gingivitis, a decision was made to biopsy the affected tissue and to get the hematological tests done. Gingival tissue was removed from the interdental papilla between the mandibular right lateral incisor and canine and processed for histopathologic examination. A blood specimen was obtained in order to rule out leukemia or other blood dyscrasias. Till the report was awaited patient was asked to change the tooth paste in her daily regimen for a period of 2 weeks. The histopathological report disclosed stratified squamous epithelium showing an edematous pseudo hyperplasia. The surface of this epithelium shows in some areas discontinuities with pooling of RBCs. The underlying connective tissue was replaced by a population of cells predominantly made up of plasma cells which are identified by the eccentric nuclei (cartwheel appearance). These plasma cells were concentrated around tiny blood vessels and were also layered in a pattern of sheets and nests. (Fig:5&6). A minute, presence of other inflammatory cells were seen juxtaposing the peripheries of lesion. The blood investigation report was within normal range. Thus, confirming the diagnosis as Plasma Cell Gingivitis.

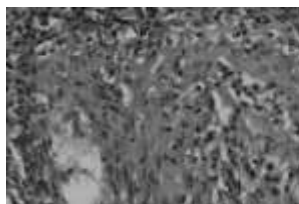


Fig:5



Fig:6

Eventually in the third sitting scaling and root planing were done for the patient again Patient was adviced to discontinue the herbal tooth paste. Strict oral hygiene instructions were given along with it patient was adviced topical application of Fucibet atleast three times a day for two weeks. After two weeks the lesion had regressed. (Fig :7).



Fig:7

Allergen in this case was herbal tooth paste which was confirmed when patient came back after three months, with erythematus gingiva, and giving a history of re use of the same tooth paste since a month. Patient was adviced to discontinue its use. In next follow up after two weeks lesion had subsided.

Discussion

Plasma Cell Gingivitis is a rare condition characterized by diffuse and massive infiltration of plasma cells into the connective tissue. 5 Clinically, the condition presents as a diffuse reddening together with edematous swelling of the gingiva, with sharp demarcation along the muco-gingival border. The etiology of Plasma Cell Gingivitis is not clear, but due to the presence of plasma cells many authors are of the opinion that it is an immunological reaction to allergens.5,6

The case presented here highlights the adverse effects and irrational use of herbal dentifrices. This case also illustrates the need to explore patient's individual background and habits when several possible etiologic agents have been eliminated and the desired clinical result is not obtained with conventional therapy.3 The differential diagnosis of the condition is very important because of its similarity other aggressive conditions.4 Most cutaneous disorders were eliminated from consideration by the lack of skin lesions and a negative Nikolsky sign. However, the patient's failure to respond appropriately to initial periodontal therapy necessitated a biopsy of the involved tissue. The histopathological picture revealed replacement of underlying connective tissue by a population of cells predominantly made up of plasma cells thus indicating the diagnosis7, 8. Once the diagnosis of Plasma Cell Gingivitis is made the screening for the various antigenic substances should be done. In this case the only relevant history patient gave was the use of a herbal toothpaste (allergen in this case).

The case presented here highlights the adverse effects and irrational use of herbal agents in dentifrices. Thus, emphasizing the need for comprehensive history taking, examination, and appropriate diagnostic tests in order to arrive at a definitive diagnosis and treatment plan for gingival conditions which are refractory to conventional therapy.

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