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“Non-Surgical Management of Plasma Cell Gingivitis: A Mystifying Clinical Entity”-Case Report

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Abstract

Introduction: Plasma cell gingivitis (PCG) is a diagnostic dilemma for clinicians. It is also referred to as atypical gingivostomatitis, idiopathic gingivostomatitis, allergic gingivostomatitis, and plasma cell gingivostomatitis which are characterized by bright fiery red gingiva with spontaneous bleeding on slight provocation.

Case Description: A 29-year-old male patient reported to the department with a chief complaint of dirty teeth and bleeding gums for 11 months. Patient did not have any systemic bleeding disorders or allergic history. Clinical examination revealed plaque accumulation, diffuse, erythematous lesion of the gingiva. The lesion was limited to attached gingiva. Hence, a provisional diagnosis of plasma cell gingivitis was made. Complete scaling and root planing were performed and patient was instructed to apply 0.1% kenacort on the affected area thrice daily for 1 month and was followed up for 15 days, 21 days and 1 month.

Discussion: The present case was managed with a nonsurgical periodontal therapy, scaling, and root planing for the removal of the plaque followed by Phase IV for a re-evaluation of plaque and calculus and also reinforce oral hygiene practice which is very important for patients with such conditions. Definite treatment regimen involved the use of topical application of 0.1% kenacort that helped in the complete remission of redness and swelling.

Conclusion: The removal of the etiologic factor with meticulous plaque control and patient cooperation are important. The use of 0.1% kenacort shows effective results in the elimination of this gingivitis. However, long term follow up must be evaluated to study success rate.

Keywords: Allergic gingivostomatitis, atypical gingivostomatitis, plasma cell gingivitis

Introduction

Plasma cell gingivitis (PCG) is a rare benign condition of the gingiva characterised by sharply demarcated erythematous and oedematous gingivitis often extending to the mucogingival junction^[1]. Other terminologies previously used for this unusual type of conditioned enlargement were atypical gingivitis, plasma cell gingivostomatitis, allergic gingivitis, and idiopathic gingivostomatitis^[2,3].

The aetiology of PCG is not clear, but due to the obvious presence of plasma cells, many authors suggest that it is an immunological reaction to allergens present in toothpaste, chewing gum, mint pastels and certain foods^[4].

Clinically lesions appears as Diffuse, erythematous, and papillary lesion of the gingiva, which frequently bleeds, with minimal trauma. Gingival ulcerations are rare^[5].

PCG can be subdivided into three types-Caused by an allergen, neoplastic, and unknown cause.

Early diagnosis is essential as PCG has similar pathologic changes seen clinically as in leukaemia, HIV infection, discoid lupus erythematosus, atrophic lichen planus,

desquamative gingivitis, or cicatricial pemphigoid that must be differentiated through hematologic and serologic testing.^[1]

Case Description

A 29 years old male patient reported to the department of Periodontics, with a chief complaint of dirty teeth and bleeding gums on slightest provocation which was bright red for 11 months. On further elicitation, patient did not have any systemic bleeding disorders or allergic history. Clinical examination revealed plaque accumulation, diffuse, erythematous lesion of the gingiva, which frequently bleeds with minimal trauma. The lesion was limited to attached gingiva. Hence, a provisional diagnosis of plasma cell gingivitis was made.

The personal history revealed that he cleans his teeth once daily with a toothbrush for 3-4 minutes along with tooth paste.

On intraoral examination, oral hygiene status was poor with few flecks of stains. (Fig 1) Gingival status of mandibular anterior region revealed diffuse, erythematous lesion of the gingiva and it bleeds upon slight provocation. The

erythematous gingiva was limited to the attached gingiva only. (Fig.2) Complete blood count investigations were done and it revealed normal range of all the parameters. Based on clinical findings, a provisional diagnosis of plasma cell gingivitis was made. The case was managed with a formulated treatment plan which comprised of Phase I therapy: nonsurgical periodontal therapy, scaling, and root planing for the removal of the plaque followed by Phase IV

for a re-evaluation of plaque and calculus and also reinforce oral hygiene practice which is very important for patients with such conditions. Definite treatment regimen consists the use of topical application of 0.1% kenacort thrice daily for 1 month that helped in the complete remission of redness and swelling. The patient was kept on a regular follow-up for 15 days, 21 days, and 1 month. (Fig 3)



Fig 1: Pre-operative picture-frontal view



Fig 2: Week post scaling pictures-frontal view



Fig 3A: 15TH Day Follow-Up



Fig 3B: 21ST Day Follow-Up



Fig 3: Follow-up pictures

Discussion

Plasma cell gingivitis is a rare condition, and the first case was reported by Kerr *et al.* in 1981, when they observed gingival enlargement in gum chewers, which disappeared after discontinuation of the chewing habit.^[6] It is considered to be a type of hypersensitivity reaction to an allergen, but the exact cause of the plasma cell infiltration is not known.

In 1995, PCG was classified by Sollecito *et al.* into three types on the basis of their etiology.^[7] Type 1 – caused by an allergen, Type 2 – neoplastic nature, and Type 3 – unknown origin. According to the above-mentioned classification, this case report discusses a Type 3 PGC.

This case report presents pronounced erythematous enlargement of the mandibular anterior region covering almost complete width of the attached gingiva till the mucogingival junction whereas plaque-induced gingivitis would only involve the marginal gingiva and not the entire width of attached gingiva. In the present case, gingiva responded to local therapy, i.e., scaling and root planing but did not resolve the complete inflammation where in case of plaque-induced gingivitis, it would have resolved completely and hence inconsistent with a plaque-related etiology.

Mechanism of Action of Kenacort 0.1% Gel

- Kenacort 0.1% oral paste 5g contains 'triamcinolone' which belongs to the class of 'corticosteroids'. It controls inflammation by acting on the immune system.
- It decreases the activity of the immune system by blocking white blood cells from attacking the body cells.
- It reduces the release of chemicals that cause inflammation. Interleukin 1 beta, interleukin 6, TNF alpha.
- It causes constriction of blood vessels decreasing the access of cells to the site of injury. This effect helps in reducing the swelling, pain and discomfort.

A case report by Konidena A *et al.* in 2014 revealed use of 0.1% triamcinolone acetonide and 5 mg levocetirizine, which reduced the symptoms of plasma cell gingivitis.^[8] This is similar to our case report, as use of kenacort 0.1% gel reduced symptoms.

Another case report by Shivalingu MM *et al.*, in 2016 revealed use of topical and systemic corticosteroids which reduced the symptoms of plasma cell gingivitis similar to this case report^[9].

Conclusion

Hence, to conclude that the removal of the etiologic factor can completely remove this gingivitis, meticulous plaque control and patient cooperation are also important. However, regular follow up and long term behaviour must be evaluated to study success rate.

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