

Plasma Cell Gingivitis: A Case Report

Shweta S Bhole¹, Pramod Waghmare², Rinisha Sinha³, Shashwat R Thombare¹

¹3rd Year Post Graduate Student, Department of Periodontology, Bharati Vidyapeeth (Deemed to be) University Dental College and Hospital, Pune, Maharashtra, India, ²Associate Professor, Department of Periodontology, Bharati Vidyapeeth (Deemed to be) University Dental College and Hospital, Pune, Maharashtra, India, ³2nd Year Post Graduate Student, Department of Periodontology, Bharati Vidyapeeth (Deemed to be) University Dental College and Hospital, Pune, Maharashtra, India

Abstract

The aim of the article is to present a report on the rare gingival condition called plasma cell gingivitis (PCG) which is a benign condition of gingiva usually characterized by sharply demarcated erythematous and edematous gingival lesion. It is said to be a hypersensitivity reaction to some antigens. This article presents a case of PCG in a 65-year-old female patient with an unknown cause, diagnosed by histopathological examination of the excised gingival tissue and its management by surgical interventions.

Key words: Antibiotics, External bevel gingivectomy, Gingival lesion, Hypersensitivity, Plasma cell gingivitis

INTRODUCTION

Plasma cell gingivitis (PCG) is known as a benign inflammatory condition of the gingiva. It is characterized by sharply demarcated erythematous and edematous gingivitis often extending to the mucogingival junction.^[1,2] PCG is considered as a hypersensitive reaction to some antigen.^[1] Some common allergens previously attributed are chewing gums, certain components of toothpaste, cinnamon, mint, and red pepper. This condition has been classified into three categories based on its etiology which is due to allergens, neoplastic origin, and unknown origin.^[1,2] However, the allergen in most cases is unknown, despite extensive allergy testing.

The other names of the conditions are idiopathic gingivostomatitis, atypical gingivostomatitis, plasmacytosis of gingiva, and allergic gingivostomatitis.^[3] Clinically, the lesion can be seen as diffuse gingival erythema with edematous smooth swelling, which is shiny and sometimes velvety in texture involving free gingiva and attached gingiva. The lesion usually shows a sharp demarcation often extending to the mucogingival border.^[4,5] The diagnosis

requires hematological screening in addition to clinical and histopathological examination. Histopathological features of PCG show dense infiltration of plasma cells in the subepithelial layer that results in a disruption of the basement membrane and dilated capillaries.^[6] Hematological examination is necessary in order to investigate other serious plasma cell lesions, including multiple myeloma or solitary plasmacytoma since the histopathological changes of PCG mimic those lesions.^[4] The differential diagnosis includes lesions that possess similar clinical characteristics like mucous membrane pemphigoid, pemphigus vulgaris, HIV gingivitis, and leukemia. Here, we present a rare case report of PCG with a cause of unknown origin.

CASE DESCRIPTION

A 65-year-old female patient presented to the Department of Periodontics, Bharati Vidyapeeth Deemed to be University, Pune, Maharashtra with the chief complaint of pain, swelling, and bleeding from gums in right and left upper and lower teeth region for 1 year. She also revealed a history of bleeding on slight provocation. Her medical, dental, and personal history were noncontributory. No history of any allergy or any abnormalities was detected in her general physical examination but her submandibular and sublingual lymph nodes were palpable and tender on both sides.

Clinical examination revealed diffuse gingival enlargement in both the arches which were covered by an erythematous

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Corresponding Author: Dr. Shweta S Bhole, Department of Periodontology, Bharati Vidyapeeth (Deemed to be) University Dental College and Hospital, Pune, Maharashtra, India.

epithelium and was hemorrhagic [Figure 1]. The gingiva appeared red, exophytic, and sessile with a broad base with the presence of bleeding on probing.

Routine hematological investigations were found to be normal. An Orthopantomogram showed severe alveolar bone loss everywhere.

Excision of the gingival lesion was done and sent for histological examination. However, the biopsy report revealed the presence of stratified squamous and para-keratinized epithelium which was lymphatic and atrophic at some places. The epithelium exhibited dysplastic features like prominent intercellular bridges, individual cell keratinization, basilar hyperplasia, cellular and nuclear pleomorphism. The connective tissue was dense and fibrous which consisted of collagen fiber bundles interspersed with fibroblasts. Abundant dense inflammatory cell infiltrate chiefly plasma cells which were oval with eccentrically placed hyperchromatic nucleus was noted. A few lymphocytes, macrophages, and foam cells followed by dilated engorged blood vessels and extravasated red blood cells were also noted down. All these features were suggestive of PCG.

The preliminary treatment comprised of oral hygiene instructions followed by scaling and root planning. The patient was advised to use a mouth rinse of 0.2%, 10 ml chlorhexidine gluconate twice daily along with the use of an ultrasoft toothbrush. Patient was recalled after 15 days and slight regression of the lesion was noted down. Insignificant changes in the color of gingiva along with no bleeding on probing and combined pockets were observed on her recall visit at the 15th day. Hence, a surgical approach was planned with gingival lesion and consent was taken. External bevel gingivectomy was done in all sextants followed by antibiotics (Augmentin 625 mg) and analgesics (Ketorol DT) course for 5 days with routine oral hygiene instructions. Post-operative healing was uneventful [Figure 2]. The patient was followed up for 1 year where no recurrence of the lesion was observed.

DISCUSSION

PCG is a peculiar oral lesion related to some allergens. Exact mechanism of the disease is still unknown.^[6] The etiology of this condition is not clear but due to the presence of plasma cells, it appears to be an immunological reaction to some allergens. The patient mentioned in this case report revealed no history of allergy which was suggestive of PCG of unknown origin. In this case, patient reported with diffuse reddening of the gingiva with edematous swelling, which was seen to be improved



Figure 1: Preoperative picture of plasma cell gingivitis



Figure 2: Postoperative picture of the case

after conventional periodontal therapy. The diagnosis of the lesion was made on the basis of histopathological examination of the excised gingival tissue. Difficulty in distinguishing this condition from exotic plasma cell lesions affecting the gingiva can be observed due to the presence of a large number of plasma cells in the established lesions of chronic inflammatory periodontal disease. These exotic plasma cell lesions include plasmacytosis, plasmacytoma, plasma cell granuloma.^[1,7,8] The important management of PCG is to avoid identified allergens. Many studies showed the improvement purely refraining from positive agents and intensive oral hygiene care.^[9,10] Combined treatment using Chlorhexidine gluconate mouth rinse was also reported to be effective in the management of PCG.^[4,5]

CONCLUSION

It is of utmost importance of recognizing PCG as one of the entities in the differential diagnosis of gingival conditions. This is because the diagnosis of PCG is based on comprehensive history taking, clinical examination, and appropriate diagnostic test. Histopathological examination

is one of the most significant test for differentiating PCG from other similar lesions. Thus, the present case report highlights the diagnosis, clinical features, and management of rare gingival lesion called PCG.

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