Plasma Cell Gingivitis: A Rare Perpetuating Entity

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Abstract

Background: Plasma cell gingivitis is a rare unexpected condition in an individual inconsiderate to be diagnosed for. Although many research has shown the light on the treatment and diagnosis of the disease again exclusion criteria are most considerate. In the current situation patient presented with typical features of inflammation after the confirmatory histopathological diagnosis only plasma cell gingivitis came into contemplation. Properly applied medications were provided to the patient and improvement was seen in follow up. Being congruent with a number of conditions, its diagnosis is served quite succour for mankind.

Case Presentation: A 35-year-old female presented with swollen and occasional painful gums, with intermittent gum bleeding. Her medical, dental, family history and personal history were non-contributory. There was no history of any allergy or Para functional habits such as mouth breathing. No abnormalities were detected in her general physical and extra oral examination. On examination, there was erythema and inflammation of gums suggestive of gingivitis, with normal CBC and PS report. She has been refracted any of the treatment given earlier. Thereafter, a punch biopsy of gums was done and the tissue was sent for histopathological examination.

Conclusion: PCG is a remarkable condition, most likely allergic in nature. While being a purely benign, the clinical appearance and localization may conceal much more detrimental conditions Therefore, each lesion requires due attention.

Keywords: *Plasma cell, gingivitis, rare, inflammation, histopathological.*

Introduction

It is a rare benign inflammatory condition of gingiva characterized by sharply demarcated erythematous and oedematous, non-ulcerative gingivitis often extending to the mucogingival junction occasionally accompanied by cheilitis and glossitis[1,2]. Various synonyms used in literature are idiopathic gingivostomatitis, plasma cell gingivostomatitis, atypical gingivostomatitis and allergic gingivostomatitis and many more[3]. It is been considered as a hypersensitive and immunological reaction to some antigen often chewing gum, toothpaste, or other foreign objects[4]. The exact etiology is unknown but considered mostly due to immunological reaction because of the presence of plasma cells [5]. The allergens identified are mostly cinnamon aldehyde and cinnamon used as flavoring agents. There is no particular sex or age predilection. The diagnosis needs clinical, histopathological and hematological screening to make differential diagnosis other clinically similar conditions[3].

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Radiological Findings: On radiographic examination, Orthopantomograph (OPG) revealed interdental bone loss with ill-defined radiolucency of apical teeth [figure 1].

Gross findings [Figure 2]:

Histopathological findings [figure 3, 4]:

The section shows squamous mucosa with oedematous squamous acantholytic separation of squamous cells. Submucosa shows diffuse as well as nodular aggregates chiefly composed of mononuclear cells and abundant plasma cells. No vesico-bullous lesion is identified. The plasma-lymphocytic infiltrate at places shows histiocytes but no granuloma or giant cells seen.

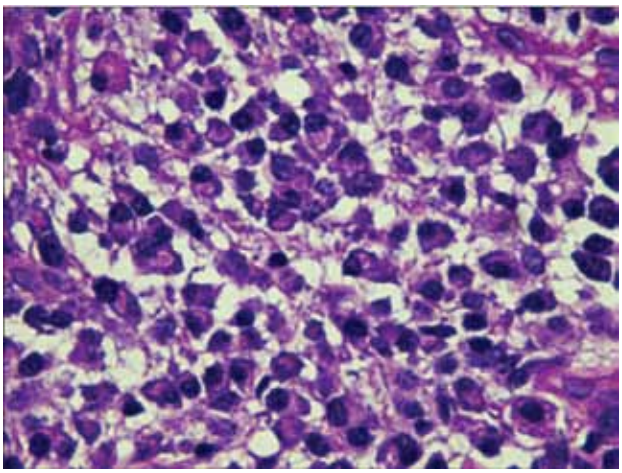

Figure 3

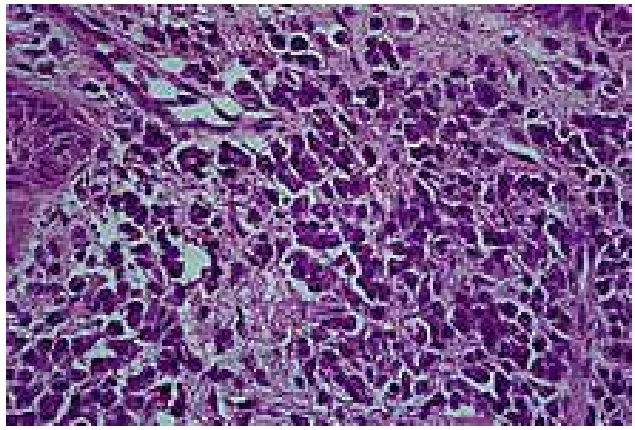

Figure 4

Discussion

The enigma of PCG considered a clinical condition for several years, with many reports appearing in the literature. Clinically, PCG appears as a diffuse erythematous & edematous lesion of gingiva along with a sharp demarcation along the mucogingival junction. It frequently bleeds with little trauma or touch[6]. As seen here the patient also presented with a similar complaint. The exact etiology of PCG is not clear but considered as a hypersensitivity reaction to allergens present in the toothpaste, chewing gums and certain food and oral care products, strong spices and some herbs such as chili, pepper and cardamom. Other than allergic etiology it can also present as a neoplastic lesion or as lesions of unknown cause.[7, 8, 9].

Based on etiology, plasma cell gingivitis is categorized as three types: (1) lesions of unknown cause, (2) lesions owing to some allergen and (3) lesions due to neoplastic origin [10]. Clinically areas of whitening, epithelial sloughing and erosions also have been observed[11,12]. Laboratory investigations usually are within normal limits and sometimes an elevated erythrocyte sedimentation rate can be seen. Patch tests to identify an allergen could be helpful. Also, a biopsy would be of great help in differentiating other gingival conditions [13].In most cases, the first-line therapy should commence with the exclusion of all known potential allergens, as this may result in improvements. Also, oral hygiene improvements and professional periodontal care usually result in the reduction of the marginal gingivitis. excision biopsy of the lesion, wherever applicable, including the case presented here, followed by histological analysis might be not only the best diagnostic approach but also the most beneficial therapeutic option.

Conclusion

PCG is a remarkable condition, most likely allergic in nature. While being a purely benign, the clinical appearance and localization may conceal much more detrimental conditions Therefore, each lesion requires due attention.

Clinical differential diagnosis may include any of the desquamative gingivitis, such as erythematous/ erosive lichen planus, autoimmune vesiculo-bullous diseases, such as mucous membrane pemphigoid and pemphigus Vulgaris, pubertal or pregnancy-induced gingivitis and leukemia-associated gingivitis should be taken into consideration.

Ethical Clearance: Taken from institutional ethics committee.

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Conflict of Interest: Nil.

Reference

1. Macleod R, Ellis J. Plasma cell gingivitis related to the use of herbal toothpaste. Br Dent J. 1989;166:375–6.
2. Gargiulo A, Ladone Jet al. Case report: Plasma cell gingivitis A. CDS Rev. 1995;88:22–3.
3. Shivalingu M, Rathnakara Set al. Plasma cell gingivitis: A rare and perplexing entity. J Indian Acad Oral Med Radiol 2016;28:94-7.
4. Presanthila J et al. Plasma cell gingivitis associated with cheilitis: A diagnostic dilemma!J Indian Soc Periodontol. 2012; 16(1): 115–119.
5. Rajani K et al. Localized Plasma Cell Gingivitis: An Unusual Presentation: A Rare Case Report. International Journal of Oral & Maxillofacial Pathology. 2014;5(4):33-35
6. Patanwala A, Fisher E et al. Plasma cell gingivitis affecting the gingival palatal mucosa and laryngeal cords. Perio 2006;3(2):123-8
7. Bali D, Gill S,Bali A. Plasma cell gingivitis - A rare case related to Colocasia (arbi) leaves. Contemp Clin Dent 2012;3(2):e182-4.
8. Janam P, Nayar B et al. Plasma cell gingivitis associated with cheilitis: A diagnostic dilemma. J Indian Soc Periodontol 2012;6:115-9.
9. Anil S. Plasma cell gingivitis among herbal toothpaste users. A report of three cases. J Contemp Dent Prac 2007;8:4-13.
10. Sangeeta D, Monica M et al. The plasma cell gingival enlargement: The diagnostic and esthetic concerns. Indian J Oral Sci 2012;3:117-20.
11. Mohammed S, Khaled A et al. Oral plasma-cell mucositis exacerbated by qat chewing – A case series. Saudi J Dent Res 2015;6:60-6.
12. Solomon L, Wein R et al. Plasma cell mucositis of the oral cavity: Report of a case and review of the literature. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 2008;106:853-60.
13. Michael G. Burket's Oral Medicine. 12th ed. USA: Shelton (CT): People's Medical Publishing House; 2015.