https://doi.org/10.48047/AFJBS.6.12.2024.546-550

African Journal of Biological Sciences

Journal homepage: http://www.afjbs.com

Research Paper Open Access

Viral Induced Reactive Oral Plasmacytosis: A Rare Case Report

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Transaction Details:
Order ID: CFPay_AFJBSPUB_4dnkietpv4
Transaction ID: 2851235515
Date and Time: 29 June 2024, 6:29 PM.

Article History
Volume 6 Issue 12, 2024
Received: 25 May 2024
Accepted : 25 June 2024
doi:
10.48047/AFJBS.6.12.2024.546-550

Abstract
Plasmacytosis is a condition of the increased number of plasma cells in tissues, exudate, or blood as a defense mechanism. Transient immune reactions in any infection or autoimmune disorder may present as reactive plasmacytosis that might rarely also manifest as plasma cell mucositis. Reactive plasmacytosis has been reported in several viral infections and has been found to completely disappearwithin 2 weeks. Complete clinical evaluation, individualized investigation, and more specific tests are required to rule out these oral manifestations. Thus, we hereby present an extremely rare condition wherein Human Papillomavirus (HPV) led to reactive plasmacytosis.

Keywords - Human Papillomavirus, Viral induced, Oral Warts, Reactive Plasmacytosis, Squamous papilloma

Introduction

Plasmacytosis can be described as a condition characterized mainly by immense proportions of plasma cells in either tissue, exudates, or blood. Reactive plasmacytosis is a transientevent based on the reflection of immune reactions and it is seldom found in variety of diseases such as infectious diseases, tumours, and autoimmune disorders.[1] It has been substantiated thatvariousviral infections including Hepatitis A, Epstein-Barr, Dengue virus, and ParvovirusB 19 are associated with reactive plasmacytosis.[2] Orally these lesions can be manifested as plasma Cell Mucositis (PCM).

A group of HPVis causative of papillary lesions, clinicallypresentingan intensely erythematous mucosa with papillomatous, cobblestone, nodular, or velvety surface changes.[3] Symptoms might include dysphagia, oral pain, sore throat, and pharyngitis.[4]

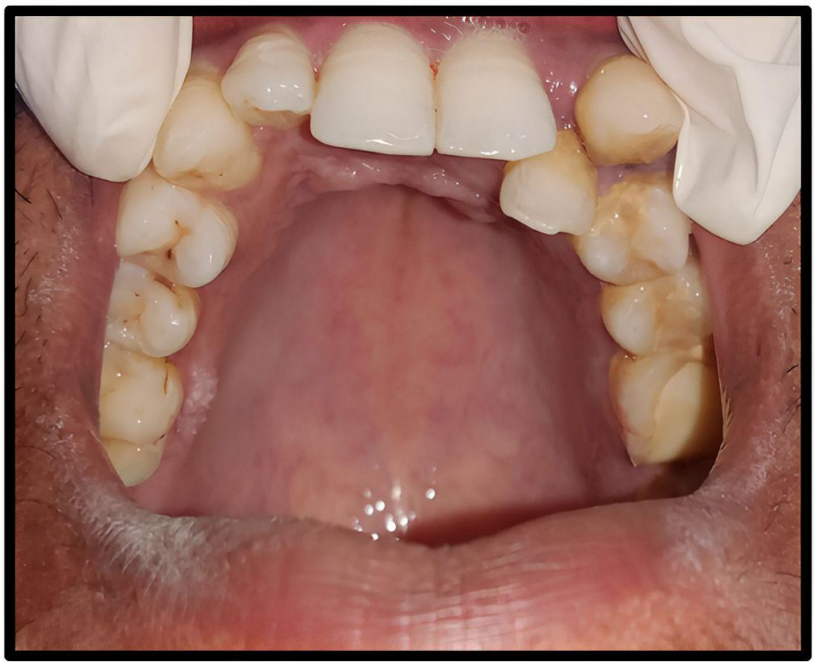
Only close communication between specialists in several disciplines can differentiate the PCM from other neoplastic conditions.Therefore, it is necessary to perform more specificinvestigationsto achieve an appropriate diagnosis and obtain better clinical management.[5]Thus, here we describe a rare case report of a patient who presented with a papillary overgrowth as a manifestation of HPV-induced reactive plasmacytosis.

Case Description

A 32-year-old male patient visited the Department of Oral Medicine and Radiology with a chief complaint of mild pain in the right upper and lower back tooth region overthe last 5 days. On being asked the patient also reported having mild fever and fatigue 5 -7 days back which subsided on its own, but he was not aware of any other finding in the mouth. No history of weight loss, cutaneous lesions, irritation, or rashes was reported. The patientgave no history of any deleterious habits or stress. No significant extraoral finding was obtained.

On Intraoral examination, a well-defined exophytic overgrowth with whitish papillary projections was observed at the palatal aspect ofmarginal gingiva with relation to 16, measuring around 1x1.5 cm in dimension. On palpation it was elevated, rough in texture, non-tender and non-scrapable[Figure 1,2]. Based on the clinical appearance and history of the patient a provisional diagnosis of Squamous papilloma or Warts (verruca vulgaris) was given. On further investigation, viral culture revealedthe presence of viral particles within the nuclei.An excisional biopsywas performed and the specimen obtained was 1.6 x 0.6 x 0.4 cm in dimensions. The histopathologic report showed stratified squamous epithelium with pseudo-epitheliomatous hyperplasia and surface keratinization. Sub-epithelium showeda dense infiltrate comprising numerous plasma cells and few lymphocytes. No fungal profile or dysplasia was noted. Radiographic investigations also didn't reveal any significant findings[Figure –3]. Based on the investigations,a final diagnosis of Warts (HPV) leading to

reactive plasmacytosis in relation to 16 was made. Thepatient was kept on regular follow-up for 12 months and no recurrence was noted in this period[Figure -4].



Palatal view

Figure -1

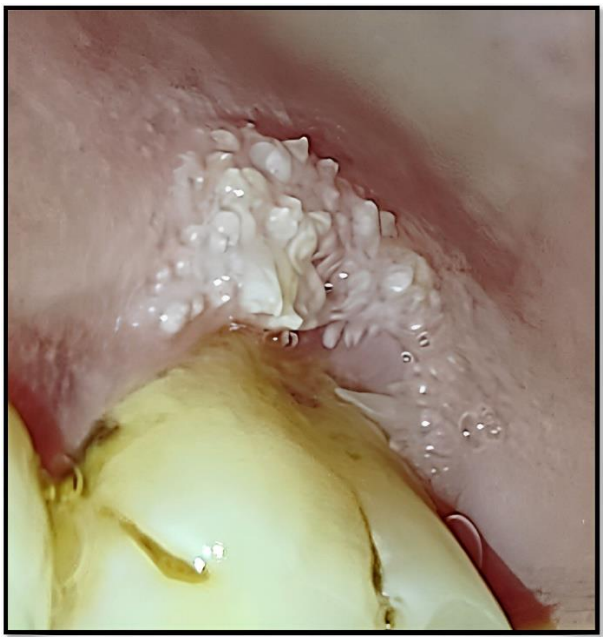


Figure - 2

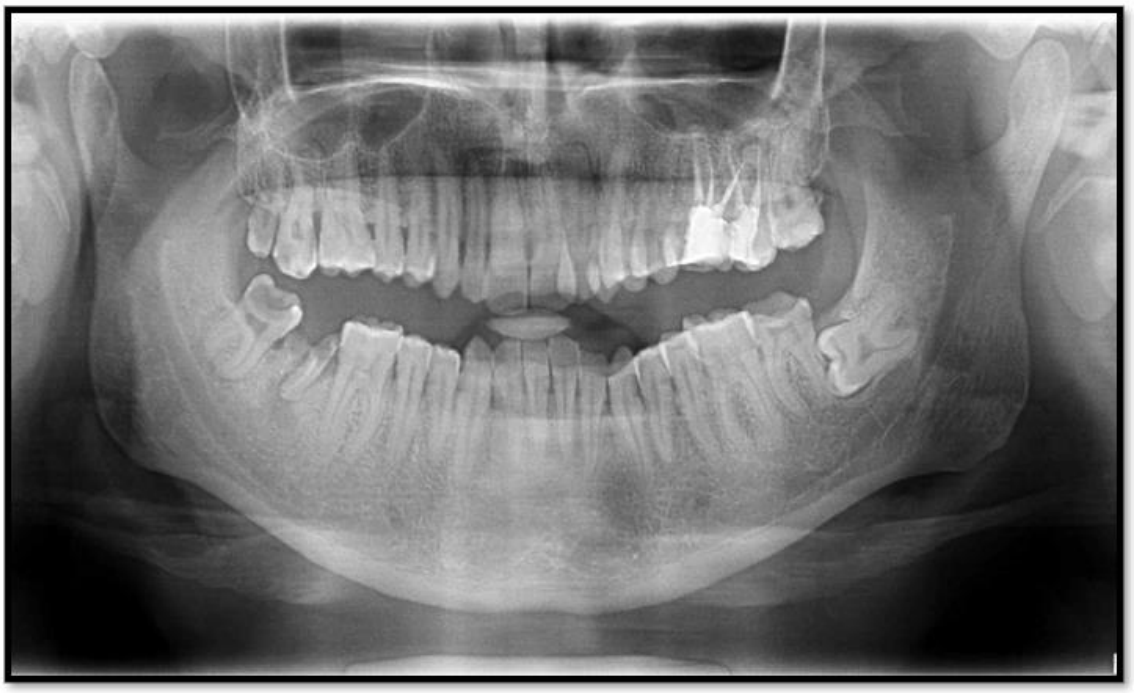


Figure – 3

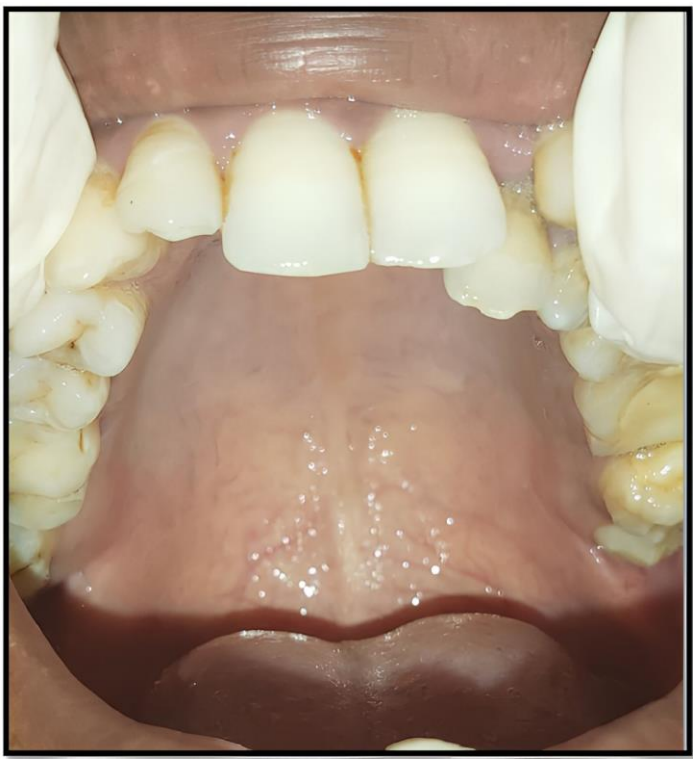


Figure - 4

Discussion

Plasmacytosis, which can also manifest as PCM, is an idiopathic disorder histologically characterized by dense infiltrates of lymphocytes and plasma cells in the submucosa, as noted in the present case.In the past, this pathology has been reported under various names according to the anatomical structure involved with the component of plasma cells, such as idiopathic plasmacytosis of the gingiva, plasma cell vulvitis, oral papillary plasmacytosis, or

mucous membrane plasmacytosis of the upper aerodigestive tract.[2]The lesions of PCM are usually observed on the mucosal surfaces, gingiva,lips, tongue, buccal mucosa,vulva and penis, epiglottis, and larynx.[4]In our case, it was present on the palatal mucosa.

The multifactorial mechanism causingplasma cell proliferation could be considered a defense response mechanism to the underlying disease processes due to the increased release of paracrine growth factors such as cytokines, IL-6, or IL-10.[5]It has been substantiated that various viral infections including Hepatitis A, Epstein-Barr, Dengue,and Parvovirus B 19 are associated with reactive plasmacytosis.However, PCM is a rare disease, and its exact etiology is not yet known,it is generally reported in patients'witha previous history of immunologically mediated disease like Sjögren syndrome or possible autoimmune hepatitis. It is not noticed in all these cases and also no single disease is consistently associated.[4] No evidence of the malignant transformation of such lesions has been reported in the literature previously and thus its considered to be a benign condition in adults. Clinically itpresents as an intensely erythematous mucosa with papillomatous,nodular,cobblestone, or velvety changes on the mucosal surface[3]. In the present case, it presented as exophytic papillomatous growth which was histo-pathologically characterized as pseudo-epitheliomatous hyperplasia and surface keratinization which was thought to be associated with HPV virus infection.Since the lesion is non-resolutive, the main treatment modalities include relief from symptoms like dysphagia, sore throat, and pharyngitis.

Similarly, Blood plasmacytosis is an unusual hematological finding that is usually associatedwith plasma cell leukemia or advanced-stage multiple myeloma, where the plasma cells are a part of the malignant process. Non-malignant reactive peripheral plasmacytosis is rarely found in a of diseases, such as tumors, autoimmune disorders, and infectious diseases that seemmost pronounced during the first week of disease and eventually resolve within a few weeks.During the course of infection, the virus and cytokines are detectable in blood, as seen in other virus infections.[6]IL-6 plays a major role in the proliferation, differentiation, survival and immunoglobulin secretion including the role of other cytokines like IL-6, IL-10, MCP-1, G-CSF, and IP-10.[7]In the present case, viral culture was positive and the lesion clinically presented as a papillary lesion as seen in various HPV- related infections.

Differentials of HPV-associated reactive plasmacytosis in the present case includeprimarily verrucous hyperplasia or carcinoma, proliferative verrucous leukoplakia, and multiple myeloma. Verrucous carcinoma and PVL could be ruled out based on the habit history, and the site was also unusual for tobacco-associated lesions. Moreover, histologically, no dysplastic changes were observed. Multiple myeloma is a plasma cell disorder leading to dysregulation of bone marrow resulting in cytopenia, bone resorption and multiclonal antibodies production[8] which were absent in our case.

PCM can be treated with either topical, intralesional, or systemic corticosteroids based on the severity of the lesion.[4] In our case,an excisional biopsy was performed followed by a regular follow-up.

Conclusion

Plasmacytosis can be manifested orally as an asymptomatic reactive lesion associated with any viral disease or immunologic conditions which is transient and can generally completely disappear within a few weeks.

DECLARATION SECTION

Author Contribution –

Dr. Aishwarya Bhatnagar (Corresponding Author) -Conceptualization, Investigation, Writing - Original Draft Preparation.

Dr. Anamika Joshi (Co-Author) - Investigation.

Dr. Kailash Chandra Morya (Co-Author) - Visualization.
Dr. Kailash Kewalia (Co-Author) - Review & Editing

Ethics and Consent to Participate –
Ethical Approval – Not Applicable
Informed Consent – Verbal Informed Consent was obtained as patient's identity has not been revealed in article.

Funding –
No funding was obtained for the study.

Conflicts of Interest –
No conflicts of interest.

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