Menopausal Desquamative Gingivitis - A Diagnostic Challenge

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INTRODUCTION

Desquamative gingivitis (DG) is a unique non-plaque associated condition which can be aggravated by plaque accumulation.¹ It is characterized by desquamation of surface epithelium, intense redness, pain and burning sensation of gingiva. It usually manifests with vesicle formation, atrophy, erosion and desquamation, illustrating diffuse erythema of the marginal and keratinized gingiva and peeling of the surface epithelium.

PRESENTATION OF CASE

A 40-year-old female patient, employed as a teacher, presented to the department of periodontics with the chief complaint of burning sensation which aggravated in times of stress, and on consumption of hot and spicy food and bleeding from the gums in the upper and lower jaw since 5 years. She also experienced dryness in the oral cavity at night. Past medical history revealed that the patient had undergone hysterectomy when she was 25 years old. She had visited a dental clinic for the same symptoms 2 years ago, Oral prophylaxis, multivitamin capsules and chlorhexidine mouthwash were prescribed for 15 days. However, she discontinued the mouthwash after the first use, due to the burning sensation. She was not under any other medication. There was no relevant history of skin lesions, allergy, infections and deleterious habits. Family history was non-contributory. Extraoral examination of the skin on the limbs revealed the absence of any dermal lesions.

A thorough clinical examination, record of history, blood investigations, biopsies are necessary to formulate an appropriate early diagnosis.² Desquamative gingivitis is contemplated as the oral manifestation of several dermato-mucous disorders.³ Adequate knowledge about the conditions associated with desquamative gingivitis is essential since the early diagnosis of the lesion can provide a rational therapeutic approach for patient management. Hence it is necessary to record a comprehensive history of the patient, systemic symptoms, presence of similar lesions at other sites of the body topical and systemic medications used.⁴ The present case report discusses a probable hormonal aetiology.

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Intraoral Examination

Generalised erythema with areas of desquamation extending from the marginal to the attached gingiva of upper and lower jaw was present. There was generalized bleeding on probing and loss of stippling. Although not prominent, isolated areas of overlapping white lines were present in the attached gingiva. Nikolsky's sign was negative. The buccal, labial, lingual and palatal mucosa showed no evidence of any vesicles, ulcerations or bullae. The findings were reviewed by palpation which confirmed it as smooth, inflamed and non-scrapable. Restorations or cast partial dentures were absent. Based on the clinical examination and history a differential diagnosis of lichen planus/burning mouth syndrome/lichenoid reaction was assigned which were ruled out on further investigations.

Investigations

A complete blood investigation was advised. The test reports were normal. Informed consent was obtained to carry out a sequential series of lab investigations in order to obtain a definitive diagnosis. The differential diagnosis of the following lesions was ruled out since all of the following tests were inconclusive.

Exfoliative cytology and the histopathological examination of the smear indicated the presence of desquamated individual epithelial cells and sheets along with few colonies of streptococcal bacteria suggestive of desquamative gingivitis.

Excisional biopsy was carried out in upper right and left premolar region. Saw tooth rete pegs, subepithelial split and with numerous proliferating blood vessels and diffuse inflammatory cells in the connective tissue. A provisional diagnosis of an Autoimmune-mediated mucous lesion was provided.

Further, direct Immunofluorescence assay, using Michel's medium revealed clusters of colloid bodies staining in the subepithelial area with Ig M, Ig A, and C3. These features raised the possibility of lichenoid inflammation.

DISCUSSION OF MANAGEMENT

Careful oral prophylaxis including subgingival debridement was performed in the first visit. Patient education, motivation and oral hygiene instructions were given. Soft bristle toothbrush was prescribed. She was advised to refrain from the use of any sort of chemical mouth rinses. Systemic and topical corticosteroids have been utilized as remedial measures in the treatment of DG. Hence topical corticosteroid Triamcinolone oromucosal paste 0.1 % twice daily application, for the first week followed by a tapered dose of once daily, for the second week was prescribed. Reduction in inflammation and drastic relief in burning sensation was detected in the following month, hence supportive maintenance care is being provided to the patient. She was also referred for psychological counselling and to an endocrinologist.

DISCUSSION

There are a large number of desmosomal proteins such as desmoglein, desmosomal cadherins, desmocollins which play

a crucial role in maintaining the integrity of oral mucosa.⁵ The autoimmune response against any of these proteins results in loss of cell-basement membrane adhesion leading to various desquamative manifestations in the oral cavity.

Chronic desquamative gingivitis was first described by Tomes and Tomes in 1894.⁶ Prinz (1932) was the first to compose a descriptive definition for desquamative gingivitis characterized by the occurrence of erythema, desquamation, erosion, and blistering of the attached and marginal gingiva.⁷ McCarthy et al in 1960, studied 40 cases of desquamative gingivitis and concluded that it is not a specific disease entity but rather a clinical manifestation of several diseases.⁸ The etiologies categorized as: dermatological, endocrine disturbances, aging, abnormal response to bacterial plaque, idiopathic agents, and chronic infections.⁹

This patient reported an exacerbation of the burning during periods of stress. Soto et al, established a positive correlation between psychological alterations and burning sensation in the mouth.¹⁰ Hormonal disturbances can also result in oral desquamative lesions. DG is common after puberty, and particularly in persons above the age group of 30 years.⁴ It is more prevalent in women than in men. Most cases of desquamative gingivitis have been reported in women in the stage of puberty, pregnancy, menopausal and perimenopausal stage indicating a clear hormonal aetiology. Oestrogen, a cholesterol derivative plays a major role in protecting the integrity of oral mucosa. Oestrogen -to -oestrogen receptor binding has an important role in cellular interaction, inflammation, and tissue breakdown and repair.¹¹ Bilateral oophorectomy (removal of both ovaries) before the normal menopause is termed "surgical menopause". Surgical menopause is indicated at the time of hysterectomy for benign disease, heavy menstrual bleeding or fibroids.¹² The patient underwent a hysterectomy at a very young age and was advised initiating hormone replacement therapy by a physician, but was not convinced. Depleted oestrogen levels can result in atrophy and desquamation and diminish the effectiveness of the epithelial barrier during menopause.¹³

The conducted investigations were inconclusive, however, the patient experienced moderate relief with periodontal maintenance therapy and topical corticosteroids¹⁴ for 2 weeks. Hence taking into consideration the clinical presentation, stress related factors and the menopausal condition, a final diagnosis of menopausal desquamative gingivitis was made.

CONCLUSIONS

Management of desquamative lesions can be challenging to dental practitioners. Desquamative gingivitis due to hormonal imbalances such as during menopause can cause changes in the oral cavity such as burning mouth and patient discomfort. A systematic evidence-based protocol taking into consideration the history, clinical examination, pointed the focus towards a hormonal aetiology.

Hence, an awareness among general dentists and a multi-disciplinary approach with a team comprising of dentist, dermatologist, endocrinologist and psychologist should be considered to achieve an optimal outcome.

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