https://doi.org/10.48047/AFJBS.6.5.2024.5698-5702

African Journal of Biological Sciences

Desquamative Lesions Of Gingiva – Clinicopathologic Presentation And Review Of Literature

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Article History
Volume 6,Issue 5, 2024
Received: 27 mar 2024
Accepted : 05 apr 2024
Doi:-
10.48047/AFJBS.6.5.2024.
5698-5702

ABSTRACT
Desquamative gingivitis (DG) is a descriptive clinical term signifying epithelial detachment of the oral masticatory mucosa, presenting as "peeling gums." this usually manifests as a sign and symptoms rather than a distinct disease entity, often associated with various underlying mucocutaneous conditions. Accurate diagnosis necessitates a meticulous clinical evaluation, encompassing a comprehensive medical history and lesional biopsy with histopathological examination, and potentially sometimes more specialized investigations such as direct and indirect immunofluorescence assays. Treatment for DG centers on addressing the underlying disease and etiology which may frequently requires the administration of immunosuppressive medications, such as corticosteroids. Furthermore, meticulous oral hygiene practices to eliminate local gingival irritants, including dental plaque and calculus, can significantly enhance treatment outcomes.

Keywords: Desquamative gingivitis, peeling of epithelium, lichen planus, pemphigus vulgaris,

INTRODUCTION

Desquamative gingivitis (DG) represents an inflammatory disorder of the oral mucosa. Clinically, it presents with a characteristic constellation of findings such as erythema, or redness of the gingiva which usually arises from the vasodilation within the tissue[1]. Epithelial desquamation which remains the hallmark feature of desquamative gingivitis along with edema and numerous vesiculobullous lesions which is mostly seen in marginal & attached gingiva.

Initially, DG can be asymptomatic, with patients experiencing no noticeable discomfort. However, as the disease progresses, a burning sensation ranging from mild to severe can develop. Additionally, chronic soreness, particularly exacerbated by spicy foods, may become a significant complaint.

The **timeline** of events in which the recognition of the first documented presentation on DG was in the year 1894 by Tomes and Tomes[2]. However, it wasn't until the year 1932 that Prinz[3] established "**Desquamative Gingivitis**" as a distinct clinical term. This early characterization primarily described the observable features of inflammation and epithelial detachment affecting the gingival tissues. Later Engel et al. in 1950[4] investigated chronic desquamative gingivitis by employing histochemical techniques and observed the characteristic changes in matrix of gingival corium and it was also noted that depolymerization of matrix and cementing substance, along with the disruption of collagen fibers .Than in the year 1960 McCarthy et al[5] advocated that DG was not a specific disease entity, but a response accompanied by various disorders

Chronic desquamative gingivitis (CDG) presents with various causes and mucous membrane pemphigoid (MMP) and lichen planus (LP) are amongst the common dermatoses. It can be the first symptom of the underlying disease. If plaque-induced gingival inflammation is present, it can aggravate the condition and mask histological characteristics of the underlying disease and can delay diagnosis and may also lead to misdiagnoses. As no specific etiology can be elucidated, henceforth desquamative gingivitis can also be considered as a nonspecific gingival diseases or conditions.

While sharing some superficial similarities with periodontal disease DG offers a unique set of etiological factors and clinical characteristics that warrant differentiation for optimal patient management. Unlike periodontal disease, which primarily arises from bacterial plaque accumulation and the subsequent host inflammatory response[6] while both conditions can present with gingival inflammation and erythema, DG displays a characteristic clinical presentation that is desquamation (shedding) of the epithelium, a feature rarely seen as a clinical finding in periodontitis.

Etiological Factors for Desquamative Gingivitis[7]

I. **Autoimmune conditions** which commonly includes Bullous pemphigoid ,Lichen planus ,Pemphigus vulgaris
II. **Local Hypersensitivity reactions** includes: Drugs in form of chemical burn, Sodium lauryl sulfate in toothpaste, Dental materials
III. **Other miscellaneous conditions :**Plasma Cell Gingivitis, Discoid Lupus Erythematosus (DLE) ,Systemic Lupus Erythematosus (SLE)

Table1- Clinical Features of Desquamative Gingivitis[8]

- Fiery red color gingiva with smooth and shiny surfaces
- Peeling away of epithelium is seen
- Ulceration may occur after chewing of food
- Keratosis of gingiva
- Bulla & ulcers formation on gingiva
- Atrophy of gingiva
- Difficulty in eating hot& spicy food

Lichen Planus

Lichen Planus (LP) is the most common cause of desquamative gingivitis. It is responsible for nearly 45% of cases of desquamative gingivitis.[9] LP is an autoimmune condition present on the skin, hair, eyes, mucous membrane and nails. LP lesions on the skin have a purplish raised flat appearance with no particular pattern. When the lesions present in the oral cavity it is referred to as oral lichen planus.

The cutaneous lesions of LP are characterized by 5 Ps: Purple, Polygonal, Pruritic Papules and Plaque. Lesion usually begins as discrete, flat-topped papules that are 3 to 15 mm in diameter which may coalesce into larger plaques.

Pemphigus Vulgaris

Pemphigus vulgaris is a chronic autoimmune bullous dermatosis that results from the production of autoantibodies against desmogleins 1 and 3.[10] It is the most frequent and most severe form of pemphigus, occurring universally, usually between 40 and 60 years of age. It usually begins with blisters and erosions on the oral mucosa, followed by lesions on other mucous membranes and flaccid blisters on the skin, which can be disseminated.

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Systemic Lupus Erythematous

One of the cardinal manifestations of lupus erythematosus is the presence of oral lesions. The gingivitis seen here is more commonly localized rather than generalized. The type and severity of gingival lesions are directly related to disease activity.[12] Discoid lupus erythematosus presents on the buccal mucosa and palate as lichen planus like plaques. Systemic lupus erythematosus presents as ulcerative, hyperkeratotic plaques on the palate and buccal mucosa. Discoid lupus occurs with desquamative gingivitis, if the latter is characterized by labial erosions and serosanguineous discharge.

Plasma cell gingivitis

This hypersensitivity reaction to mouth rinses, flavored mint/ chewing gum, etc., though rare, may present as desquamative gingivitis. It is referred to as stomatitis medicamentosa. A similar reaction may occur as a contact allergic response to drugs taken orally or parenterally (eg: penicillin, aspirin burns) and is referred to as stomatitis venenata.

Table 2: **Nature of desquamative gingivitis in various dermatological conditions**[13]

Disease	**Nature Of Gingival Involvement**
Lichen planus	Reticular pattern/erosions in gingival mucosa
Mucous membrane pemphigoid	Desquamative gingivitis with vesicles
Pemphigus	Extensive gingival erosions, desquamative gingivitis, ulcers, positive Nikolsky's sign
Chronic ulcerative stomatitis	Painful recurrent gingival ulcers(similar to erosive LP)

Erythema multiforme (major)	Gingivo-labial erosions with exudate and swollen lips

Diagnosis and Management of Desquamative Gingivitis

In our day-to-day practice, we sometimes encounter certain unusual gingival manifestations that can put a clinician in a quandary, as to what the diagnosis is. One such condition is desquamative gingivitis. The initial cause for this condition was unclear for quite some time, and since these cases were seen predominantly in women in the fourth-fifth decades they were suspected it to be linked to some hormonal derangement during menopause[14]

It is important to be aware of this rare clinical entity so as to distinguish DG from plaque induced gingivitis which is an extremely common condition, easily recognized and treated daily by the dental practitioner. Early recognition of these lesions may prevent delayed diagnosis and inappropriate treatment of potentially serious dermatological diseases.

The diagnosis involves a systematic assessment of Clinical history and oral examination, Histopathological examination and Immunofluorescence

The clinician has several alternatives to choose from in managing DG. Aggressive therapy with very high potency topical or short-term systemic corticosteroids may bring about improvement of lesions more rapidly[15] Mild therapy with medium or low potency topical corticosteroids such as triamcinolone mixed into a denture adhesive, another adherent paste or under an adhesive patch can also be used.

DG is not a clinical entity but an oral manifestation of systemic disease in which many diseases are present which mimics DG are present.[16] many patients are not diagnosed until lesions have become severe although onset of DG is usually gradual and mild manifestations precede more severe lesions thus diagnosing and consolidated treatment regime is of utmost importance. Thus a precise treatment algorithm is of utmost importance in treating this conditions of multiple autoimmune, and vesiculobollous conditions.

CONCLUSION

The diagnosis and treatment of DG can be complex due to the diverse range of causes which are both common (plaque-induced) and uncommon (non-plaque-induced). Therefore, there's a critical need for more in-depth clinical studies and report of rare conditions mimicking desquamative conditions which will enhance our understanding of the disease and clinical representation and ultimately will lead to more accurate diagnoses and effective treatment strategies.

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