Desquamative gingivitis is characterized by erythematous gingiva, desquamation and erosion of the gingival epithelium. It is a clinical manifestation of various disorders that can manifest as a desquamative lesion of gingiva rather than a disease entity. It is seen mainly in adults, especially women, although rare cases have been observed in children. Failure to evaluate properly and systematically a patient with a clinical condition consistent with desquamative gingivitis can lead to unpleasant outcomes. Clinical features may be symptomatic to asymptomatic with complaints ranging from burning sensation to intense pain. Lesions are found in skin, genitalia, or oral mucosa, although confined to gingiva alone in some patients. Diagnosis and treatment planning depends on history, clinical features, histopathology and immunofluorescence.

Correct diagnosis of mucocutaneous disorders where DG is a presenting manifestation involves taking an incisional biopsy from perilesional site and sending a fresh specimen for immunostaining.

**Keywords:** clinical feature; desquamative gingivitis; immunofluorescence.

## INTRODUCTION

“Desquamative gingivitis” (DG) is a descriptive term, introduced by Prinz (1932) for lesions with erythema, desquamation, erosion, and blistering of attached and marginal gingiva. However, features consistent with chronic desquamative gingivitis were first described by Tomes and Tomes (1894). DG is not considered definitive diagnosis since it is a clinical manifestation of several disorders. Etiology remains obscure and commonly affects middle aged to elderly females. It is painful, and predominantly involves buccal/labial gingiva, frequently sparing marginal gingiva but can involve whole thickness of attached gingiva. Clinical appearance is not significantly altered by traditional oral hygiene measures or conventional periodontal therapy alone.

## CASE REPORT

A 36-year-old female was referred to the dental department of Bir hospital with a chief complaint of pain and associated soreness of gingiva for about three years, with periods of exacerbation and quiescence. Introral examination revealed erythematous and diffuse desquamative lesions of the gingiva, which were generalized for all maxillary and mandibular regions bilaterally (Figure 1). There was no history or evidence of deleterious habits. These symptoms exacerbated during times of increased psychological, emotional or physical stress, and on consumption of spicy food.
As for the oral hygiene measures, the patient used a commercially available toothbrush with horizontal method and fluoridated dentifrice for teeth cleaning once a day. At the time of examination, no other means of oral hygiene such as interdental aids were being practiced.

On examination of the gingiva, it was revealed that erythema with areas of desquamation extending up to the attached gingiva was seen in relation to the gingiva in the maxillary anterior region. Loss of stippling was also observed in the same region. Gingival enlargement was present in both maxillary and mandibular anterior teeth. Based on the history given by the patient and clinical findings (intraoral as well as extraoral), a provisional diagnosis of desquamative gingivitis was made. Since the patient also had a history of vesiculobullous lesions on the wrist, a dermatologist’s referral was sought. After consultation, a diagnosis of erosive lichen planus was made subject to confirmation by biopsy and immunofluorescence. The histopathologic examination of the gingival lesion showed flattened epithelium with liquefaction of the basal layer and juxtaepithelial areas of chronic inflammatory infiltrate. Thus, on the basis of both clinical and histopathological patterns, the case was diagnosed as gingival erosive lichen planus (Figure 2).

After the completion of phase 1 therapy (Figure 3) the patient was treated with a corticosteroid applied topically to the gingiva thrice daily (0.1% triamcinolone acetonide). The complete remission of lesions was observed after two months (Figure 4) and follow-up at one year did not detect exacerbation of the lesions.

Figure 1. Preoperative clinical features of patient with red, edematous gingiva with superficial epithelial desquamation and/or ulceration.
Figure 2. Histopathological findings.

Figure 3. Postoperative after scaling and root planning.

Figure 4. Review after two month.
DISCUSSION

Desquamative gingivitis has clinical appearance of gingiva that are red, glazed, often edematous, with loss of stippling, areas of superficial epithelial desquamation and/or ulceration. There is no evidence that DG can cause attachment loss and alveolar bone destruction. DG is recognized to be mainly a manifestation of a number of disorders ranging from vesiculobullous diseases to adverse reactions to variety of chemicals or allergens.

The clinical features can be described as: i) fiery, red, friable gingiva, ii) painful lesions that desquamate easily, iii) buccal aspect of anterior attached gingiva affected, iv) marginal gingiva spared, and v) not significantly improved by oral hygiene measures alone. Glickman and Smulow have described the clinical features of chronic DG according to mild, moderate and severe forms. Mild form of DG exhibit diffuse erythema of marginal, interdental and attached gingiva and the condition is painless. Moderate form of DG has clinical features of patchy distribution of bright red and gray areas involving the marginal and attached gingiva. Surface is smooth and shiny and gingiva soft in consistency with slight pitting on pressure. In severe form of DG, lesion is characterized by scattered, irregularly shaped areas in which the gingiva is denuded with a striking red appearance. Surface epithelium appears shredded and friable and can be peeled off in small patches. Areas of involvement seem to shift to different locations on the gingiva.

The exact etiology of DG remains obscure. Early investigators believed that there was a single cause. McCarthy et al. were among the first who proposed that DG is a non-specific reaction pattern that can be associated with any one of several diseases or conditions. This group suggested that dermatologic diseases, hormonal factors, aging, metabolic disturbances, irritational factors, and chronic infections could cause DG. However, it has been shown that the great majority (approximately 75%) of cases of DG are manifestations of mucocutaneous diseases, primarily mucous membrane pemphigoid (MMP), oral lichen planus (OLP), and pemphigus vulgaris (PV). Other disorders manifesting desquamative gingivitis include dermatitis herpetiformis, linear IgA disease, chronic ulcerative stomatitis, erythema multiforme, pyostomatitis vegetans, epidermolysis bullosa acquisita, and Kindler syndrome.

The differential diagnosis of desquamative gingivitis can include various diseases of fungal, viral and bacterial origin. Nisengard and Levine cited the following as the standard in making a clinical diagnosis of DG: (1) gingival erythema not resulting from plaque, (2) gingival desquamation, (3) other intraoral and sometimes extraoral lesions, and (4) complaint of sore mouth, particularly with spicy foods. Hence it is of utmost importance to identify the disease responsible for desquamative gingivitis to establish appropriate therapeutic approach and management.

DG is a gingival response associated with a variety of clinical conditions, that may cause difficulties in diagnosis. When the site is chosen for biopsy, ulcerated areas should be avoided, as they may cloud the microscopic findings. Evenmore, initial lesions may have an unspecific histopathologic pattern represented by chronic inflammatory infiltrate. A second biopsy or immunohistochemical and immunofluorescence evaluation may be necessary for the differential diagnosis with those systemic diseases that mimic lichen planus, clinically or microscopically.

Most cases of oral lichen planus are often asymptomatic so in the present case, patients may have had the disease for a long time as lichen planus is a chronic condition with recurrent exacerbation and remission periods.

Malignant transformation of oral erosive and atrophic lesions has been described between 0.3-12.5% depending on different criteria. The development of squamous cell carcinoma may occur in those areas of oral mucosa directly affected by lichen planus. But, it is not certain whether atrophic and erosive forms of lichen planus have an intrinsic potential for the malignant transformation or possibility of development of oral mucosa squamous cell carcinoma by influence of exogenous carcinogens. It has been stated earlier, there is no consensus of the malignant potential of oral lichen planus, and authors believe that this assumption
is due to misconceptions, misdiagnosis and misinterpretations reported in the literature and legitimized with time. Most of the published cases of oral lichen planus with malignant transformation occurred in patients with a known history of exposure to carcinogens. The other authors represented it as diagnostic errors or even insufficient evidence to prove that lichen planus was present at the onset. The most important failures would probably occur in microscopic identification of changes in epithelial maturation with cellular aberrations that range from mild atypia to frank dysplasia.

As the etiology of lichen planus is not totally clarified,10 the therapy is palliative rather than curative. The symptomatic lichen planus is usually treated with anti-inflammatory medication, while gingival lesions are treated with topical corticosteroids. The patient is advised to maintain good oral hygiene in order to avoid superimposed periodontal associated problems. Though oral lichen planus is not always considered a premalignant condition the erosive and atrophic forms may be more vulnerable to exogenous carcinogens as they lack the normal epithelial protective barrier. So regular follow-up of erosive lichen planus is recommended for early diagnosis of suspected transformed lesions. However some authors, believe that oral lichen planus is undoubtedly a premalignant condition, justifying more aggressive type of treatment and strict follow-up for long periods.8,9

Thus, correct identification of mucocutaneous disorders where DG is a presenting manifestation involves taking a careful history and performing a thorough intra-oral examination. The presence of cutaneous, nasal, ocular and genital lesions should be carefully examined from the patient. A definitive diagnosis depends on taking an incisional biopsy from a perilesional site (with intact epithelium) and sending a fresh specimen for immunostaining. If a blistering condition is diagnosed, referral to an appropriate specialist is also advised. The gingival lesions are usually treated by improved oral hygiene measures and topical corticosteroid therapy. It is recommended that multi-centered, large scale studies be carried out for accurate diagnosis, better understanding and proper management of this painful condition.

CONFLICT OF INTEREST: None.

CONSENT: NMJ case report consent form was signed by the patient.

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