Desquamative Gingivitis as the Sole Manifestation in Oral Lichen Planus: Report of Case and Brief Literature Review

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Abstract

The Mouth is the mirror of the human body that reflects systemic disorders, and various systemic pathologies find expression in the oral region. Oral manifestations may be the initial feature or the only presenting sign in mucocutaneous diseases. Mucocutaneous disorders share two features in common: An immune-mediated pathogenesis and possibly common clinical appearance termed as 'Desquamative gingivitis'. Desquamative gingivitis is mostly a manifestation of a wide array of vesiculobullous disorders; however, it may also result due to endocrine disturbances, chronic infections, and allergic/chemical reactions. Hereby, presenting a case of oral lichen planus with Desquamative gingivitis as the sole manifestation in a 35-year-old female patient.

Keywords: *Desquamative Gingivitis, Oral Lichen Planus, Wickham's striae.*

Introduction

Tomes and Tomes (1894) were the first to describe chronic desquamative gingivitis. However, the term 'chronic diffuse desquamate gingivitis' was coined by Prinz in 1932 for chronic diffuse inflammation cases.[1] Immune-mediated oral mucosal disorders frequently manifest as desquamative gingivitis (DG).[2]Chronic desquamative gingivitis is a clinical condition typified by the intense desquamation, erythema, ulceration and erosion of the marginal and attached gingiva, and blistering. The term "desquamation" originates from the Latin word 'Desquamare', meaning scraping fish flakes. Desquamation refers to the 'erosion of epithelial tissues, skin peeling, and exfoliation.[3] Earlier, Desquamative Gingivitis was regarded as a pathological entity of obscure etiology, possibly precipitated by the deficiency of sex hormones in postmenopausal females.[4] McCarthy et al., in 1960, suggested that desquamative gingivitis is not a conclusivelesion but a gingival response including vesiculobullous disorders and allergic reaction to chemicals/allergens. So only desquamative gingivitis suggests a specific clinical manifestation and is not a definite diagnosis.[5] Nisengard and Levineconsidered the following criteria(s) for a clinical diagnosis of DG: (i) Gingival erythema doesnot result from plaque, (b) gingival desquamation, (c) other intraoral and sometimes extraoral lesions, and (d) complaint of pain in the mouth, mainly due to spicy foods.[6]

Case Report: A female patient aged 46yrs reported with a complaint of burning sensations in the mouth mainly in the maxillary and mandibular gums for 6 months. History reveals that 6 months back the patient experienced burning sensations in the maxillary

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gingiva, while taking spicy foods. Personal history reveals that the patient has attained menopause a few months back. Her medical history was unremarkable. Did not havea history of vesicle formation in the oral cavity. General physical examination did not reveal any cutaneous, ocular, and genital lesions. On clinical examination, there was a area of desquamation involving interdental, marginal and attached gingiva in relation to 14,15,16,24,25,26,34,35,36 & 44,45,46 region (Fig. 1 & 2). The desquamated area was surrounded by slender, faint white radiating striations (Wickham's striae). There was a loss of stippling in the desquamated lesion. The area showed bleeding on probing. palpationin the region did not give rise toa new lesion (Negative Nikolsky's sign). Taking into account chronic history, characteristic clinical presentation (desquamative gingivitis bordered by Wickham's striae, absence of vesicle formation, and negative Nikolsky's sign), a provisional diagnosis of desquamative gingivitis secondary to Erosive Lichen planus was given. An incisional biopsy was performed in the maxillary right posterior region in gingiva. Histopathology revealed acanthotic epithelium with a band like lymphocytic infiltrates and saw tooth rete pegs(Fig. 3).Fibrinogen bands in the basement membrane zone were observed on direct immunofluorescence study (Fig. 4). The histopathological and immunofluorescent confirmed the diagnosis as desquamative gingivitis secondary to erosive Lichen planus. After scaling, the patient was prescribed corticosteroids (Turbocort paste) to apply 3-4 times daily for 15 days and vitamin C chewable tablet (tab Celine BD x 15 days). However, the patient didn't turn up for follow up.

Discussion

The oral physician should be familiar with the varied clinical manifestations of desquamative gingivitis and should be able to formulate a precise differential diagnosis. The pathogenesis of Desquamative gingivitis associated disorders usually falls in 2 major categories- a) Cell-mediated (e.g. Oral Lichen Planus, and lupus erythematosus), b) auto-antibody-mediated (e.g. Pemphigus Vulgaris, and Mucous membrane pemphigoid). Pemphigus Vulgaris shows hyperkeratosis, while Mucous membrane pemphigoid shows blistering.[7]

According to Glickman and Smulow, desquamative gingivitis represents a clinical feature common to a wide array of disorders. A classification was formulated taking into account the etiologic factors, together with histologic and immunologic features.

A. Cutaneous disorders

- Contact stomatitis
- Psoriasis
- Lichen planus
- Cicatricial pemphigoid
- Pemphigus
- Bullous pemphigoid
- Epidermolysis bullosa acquisita

B. Disturbances of Endocrine

- Hormonal imbalance in postmenopausal females and following oophorectomy
- Testosterone imbalance
- Hypothyroidism

C. Response toAge

D. Exaggerated gingival response to biofilms

E. Idiopathic

F. Chronic infections

- Histoplasmosis
- Chronic candidiasis
- Tuberculosis

The term lichen planus (LP) is coined from the Greekword lichen meaning; tree moss and planus is a Latin word meaning; flat. The first person to describe the condition was Erasmus Wilson (1869)[9] Lichen planus (LP) is a chronic inflammatory, immunological disorder that affects the skin, nails, hair, and mucous membranes. Cutaneous lichen planus (CLP) lesions present with characteristic 6 "Ps"- "Purple, Polygonal, Planar, Pruritic, Papules, and Plaques", and frequently affect the flexor surfaces of the extremities.[10] Cutaneous LP lesions are recurrent, not contagious, exhibit self remission, and sometimes cause pruritis.[11]The oral lesions are recalcitrant to therapy, rarely undergo self remission, exhibit chronicity, and present varied clinical manifestations. The precise etiology of the OLP lesions could not be delineated. Lichen planus, an auto-immune disorder, is mediated by CD 8 + T cells, macrophages, and Langerhan's cells. Immune mechanisms trigger apoptosis resulting in cell destruction and the appearance of characteristic histological changes.[13]

OLP is frequently associated with psychosomatic

ailments (stress, anxiety, and depression). There exists ever al endogenous or exogenous predisposing factors for OLP. Exogenous factors include drugs (antihypertensive drugs & NSAIDs), amalgam restoration, infections (HCV & H. pylori), and food allergies. Endogenous factors include genetic factors and autoimmunity.[14]

The disease affects 0.5%-2% of the general population, with a female predilection between 30-70 years of age.[14] However, published literature has reported the infrequent occurrence of OLP in the pediatric population.[15] Our patient was a 46-year-old female who reported with burning sensations in the maxillary gingival region. The patient has attained menopause last year and was under depression.

The oral lesions have been classified into 6 types-reticular (most common form), erosive, papular,plaque-like, atrophic, and bullous (least common form).[15]The majority of the lesions are bilaterally symmetrical. The Buccal mucosa is the most frequently affected site, although, lesions are also seen on the dorsum and lateral aspect of tongue, vestibule, lip, and gingivae.[16] One of the characteristic clinical manifestations of OLP is the presence of Wickham's striae. This was named after Louis Frédéric Wickham who described the clinical appearance of OLP as the presence of greyish striae and dots.[17]

About 10% of OLP patients present with the disease localized to the gingiva, is termed as desquamative gingivitis (DG). DG can present as reticular, erosive, or atrophic subtypes. DG lesions may be aggravated during periods of psychological stress, anxiety, mechanical trauma (Koebner's phenomena), and chronic low-grade irritation.[18] OLP with isolated desquamative gingivitis may be characterized clinically by the presence of erythematous lesions (atrophic LP), ulcerations (erosive and/or ulcerated LP) or vesiculobullous lesions (bullous LP). OLP generally has a typical clinical presentation and distribution, but the atrophic and erosive forms exhibit diagnostic challenge.[19]

Our patient presented with diffuse desquamative lesions in the maxillary and mandibular posterior gingival region. The desquamated lesion was bordered by faint grayish-white striae on the periphery.A detailed anamnesis, thorough physical examination, and histopathology are the keystone for diagnosis. However, clinical diagnosis usually sufficesin classical lesions (Wickham's striae, erythematous area).[20] The characteristic clinical manifestations usually encompass bilaterally symmetrical reticular lesions. The essential histopathological features are liquefaction degeneration of the epithelial basal layer, hyperkeratosis with ortho and/or parakeratosis, band-like lymphocytic infiltrate in the connective tissue area, and sawtooth rete pegs.[12] In the present case, histopathological and Immunofluorescence findings were consistent with OLP.

Published literature has established an ODP association with multiple systemic comorbid conditions like as diabetes, hypertension, metabolic syndrome, thyroid disorder, psychosomatic diseases, renal disease, gastrointestinal disorder, and genetic predisposition to cancer. These systemic symptoms shows that OLP should be considered as a systemic disorder. All Doctors should work with primary healthcare physicians to rule out causative factors for the associated comorbidities.[22]

There exists no definite management protocol for OLP. Patient education and motivation to maintain meticulous oralhygiene is mandatory. Therapy primarily focuses on minimizing the duration and condition of symptomsincreases. Reticular and plaque formsthat are not symptomatic do not require pharmacologic intervention, the patient is advised to follow up.[23] Various medications are prescribed to check OLP which includes steroids (topical, intralesional, and systemic), retinoids, immunosuppressive, and immunomodulators. These treatment protocols can be used to control as there are variations in patient responses.[24] The patient was prescribed low potency topical steroids (Turbocort) to apply topically and chewable vitamin C tablets.

Figure 1: Desquamative gingivitis with Wickham Striae

Figure 2: Desquamative gingivitis with Wickham Striae

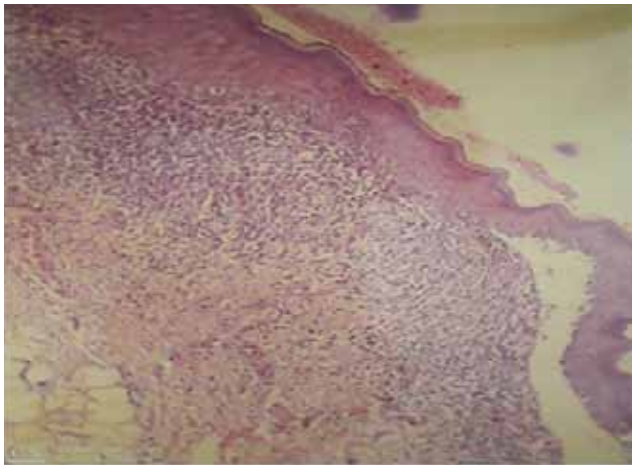

Figure 3: Acanthotic epithelium with basal cell degeneration and saw tooth rete pegs

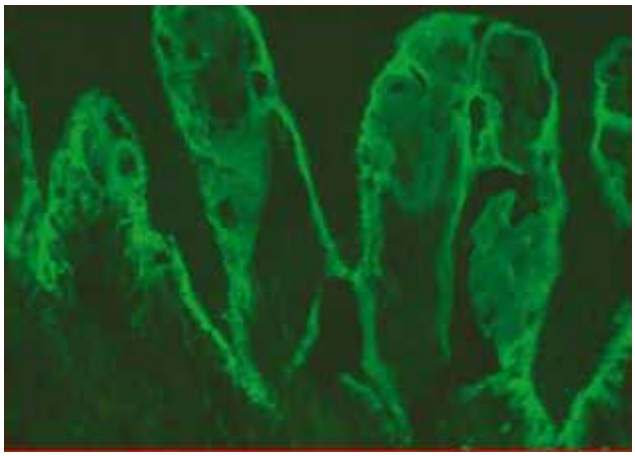

Figure 4: Shaggy bands of fibrinogen on basement membrane

Conclusion

Desquamative gingivitis per se is not a disease entity, but, a manifestation of a wide array of disorders. Gingival desquamation may present as the only manifestation in some cases; while it may be associated with other oral and extraoral manifestations, like Wickham's striae in lichen planus, Nikolsky's sign in pemphigus, ocular involvement in mucous membrane pemphigoid which helps in diagnosis. Cases where gingival desquamation is the only presenting feature; care should be taken for proper diagnosis as they may mimic plaque-induced gingivitis. Thus familiarization of various clinical presentation of gingival desquamation is essential for early diagnosis, treatment planning, and combating potential complications.

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