

## An integrated approach in management of desquamative gingivitis: A case report

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### Abstract

Desquamative gingivitis is a clinical entity which represents various mucocutaneous disorders. It is not a specific disease but a descriptive term for nonspecific expression of various dermatomucous disorders like cicatricial and bullous pemphigoid, pemphigus vulgaris, erosive lichen planus, erythema multiforme, psoriasis, and allergy. The prevalence of desquamative gingivitis has been found to be more common in middle aged women and often associated with psychological stress. In this case report, desquamative gingivitis associated with erosive lichen planus has been managed using an integrated approach which involves use of conventional treatment approach like steroid therapy along with use of antioxidants. In addition to these treatment approaches, psychological counselling also was carried out as patient suffered from chronic stress. This integrated approach has resulted in the remission of the lesion and no recurrence was observed even after few years.

**Keyword:** Desquamative, Gingival, Stress, Integrated

### Introduction

Desquamative gingivitis (DG) is a clinical condition with unclear etiology. This is not a specific diagnosis but a descriptive term for nonspecific gingival manifestation associated with a variety of muco-cutaneous disorders like: lichen planus, cicatricial and bullous pemphigoid, pemphigus vulgaris, erythema multiforme as well as allergic stomatitis, psoriasis vulgaris.

It is often associated with symptoms like, warmth, itchiness, burning and tingling sensation, sometimes associated with pain and often exacerbated by the presence of dental plaque. This disease was most often been reported in middle aged patients more commonly in females than in males and affecting 1-2% of the general population.<sup>(4)</sup>

Identification of the main disease is mainly based on detailed clinical examination of the buccal and extrabuccal lesions, histopathological examination, direct and indirect immuno-fluorescence of the serum.<sup>(1,2)</sup>

### Case Report

A 40 year old female patient reported with a chief complaint of redness and severe burning sensation in her gums during the intake of hot and spicy food for past six months. History revealed intermittent occurrence of lesions which occurred frequently when the patient had episodes of psychological stress. The patient also revealed a history of psychological depression for past 3 years due to financial constraints and recent death of a close relative. There were no dermatologic symptoms revealed.

On clinical examination, gingiva appeared erythematous with pain and tenderness while probing and palpation. Patient's oral hygiene status was fair<sup>(2,2)</sup>.



Fig. 1



Fig. 2



Fig. 3

Fig. 1, 2, 3: Preoperative photograph showing desquamative lesions

**Management:** On the first day of visit local factors like calculus and debris were removed gently from the tooth surface. A section of the tissue obtained from the perilesional area was sent for biopsy.



**Fig. 4: Section of tissue obtained for biopsy**

Histopathological examination of the lesion showed hyperkeratotic and atrophic epithelium with loss of rete pegs. Basal cell degeneration was evident with subepithelial band of dense chronic inflammatory infiltrate predominantly lymphocytes and plasma cells. Correlating with clinical history, the histopathological features were suggestive of erosive lichen planus.

**Fig. 5**

**Fig. 6**

**Fig. 5, 6: Histological appearance of the tissue**

Patient was given instructions to maintain good oral hygiene. At one week recall, slight remission was observed. On the second visit, patient was prescribed steroid ointment Kanacort (0.1% triamcinolone) thrice daily for one month. Patient was referred to psychologist for counselling and stress management.

After one month slight remission in the lesions were observed but had not completely subsided. No new lesions were found.

Patient was again reinforced on oral hygiene maintenance and instructed to continue the use of kanacort ointment twice daily. As an adjunctive treatment, oxitard (himalaya) capsules which consist of natural antioxidants were prescribed twice daily.

At three month follow up complete remission of the lesions were observed with reduction in the burning sensation. Patient was able to take hot and spicy food.



**Fig. 7**



**Fig. 8**



**Fig. 9**

**Fig. 7, 8, 9: Postoperative photograph showing remission of the lesions**

The patient was instructed to taper the use of steroid ointment to twice daily and later to once daily and stop it completely after 15 days but to continue the use of oxitard capsules for one year. On recall visits no recurrence was observed.

### Discussion

The pathogenesis of lichen planus includes cell mediated immune mechanisms and neuroendocrine dysregulations mainly involving glucocorticoids.<sup>(5)</sup> In the vast majority of cases the skin lesions disappear spontaneously after few months, which are in sharp contrast with the gingival lesions, which usually remain for years and is often initial and the only sign of oral involvement. They appear in the form of desquamative gingivitis with erythema, oedema, and desquamation of epithelium or vesicle formation, white papules and lines, erosions or atrophy.<sup>(1)</sup> Histopathologically, areas of hyperparakeratosis or hyperorthokeratosis, with thickening of the granular cell layer and saw-toothed rete pegs are seen. Civatte bodies are often scattered within the epithelium and superficial lamina propria. Dense sub-basilar lymphocyte infiltration is composed largely of T cells. Hence it responds to immunosuppressive drugs.<sup>(6)</sup>

At the cellular level, OLP results from an immunologically induced degeneration of the basal layer and it is the initial event in recognition of an antigen by mucosal langerhaan cells. It is characterized by cytotoxic CD 8 + response on modified keratinocytes surface antigen<sup>(3)</sup> which is induced by

systemic drugs, contact allergens in dental restorative materials, mechanical trauma, bacterial or viral infection or unidentified agent.

Six clinical forms of oral lichen planus are white forms namely reticular, popular, plaque like and the red forms namely the erosive (ulcerated), atrophic (erythematous) and bullous. The lesion may appear as a mixture of clinical subtypes.

Major life events especially illness or death of a dear ones could precede or exacerbate cutaneous lichen planus.<sup>(4)</sup> The pathogenesis of lichen planus may include neuroendocrine dysregulations also mainly involving glucocorticoids.<sup>(5)</sup> Some investigators have hypothesized that skin has cutaneous neuroendocrine axes equivalent of the hypothalamic–pituitary–adrenal axis that would regulate local response to stress independently from the central level.<sup>(7)</sup> Psychological counselling of the patient has helped in recovery from depression and in managing stress which improved the treatment outcome and prevented its recurrence.

Recently it has been suggested that increased reactive oxygen species and lipid peroxides may play a part in the pathogenesis of various skin diseases, such as atopic dermatitis, psoriasis, vitiligo, and LP.<sup>(8)</sup> The radical NO interacts with ROS and contributes to inflammatory responses causing damage to endothelial cells with further upregulation and expression of intercellular adhesion molecule (ICAM)1. The inflammatory cellular infiltrate in LP, which consists mainly of CD4+ lymphocytes, is a well-known source of ROS.

Agha-Hosseini F showed that antioxidant-rich purslane was effective in the treatment of oral lichen planus (OLP).<sup>(9)</sup> Lycopene administered 8mg/day was very effective in the management of OLP, as lower levels of lycopene has been reported in erosive and atrophic lichen planus.<sup>(10)</sup> Oxitard is a herbal formulation manufactured by the Himalaya Drug Company used for treating submucous fibrosis, dermatoses, coronary artery disease, diabetes, postoperative recovery, convalescent patients and many other ailments. It contains *Mangifera indica*, *Withania somnifera*, *Daucus carota*, *Glycyrrhiza glabra*, *Vitis vinifera*, powders of *Emblica officinalis* and *Yashada bhasma* and oils of *Triticum sativum*. Patient was prescribed two capsules of oxitard per day and instructed to continue its use for almost a year.

## Conclusion

An integrated approach with involvement of conventional steroid therapy, use of antioxidants and psychological counselling has proved effective in management of stress induced erosive lichen planus. Patient didn't report any history of recurrence of lesions for almost a year.

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