

# Oral lichen planus and its variants: A case series

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**Abstract :** Oral lichen planus is a common inflammatory disease that affects mucosal and cutaneous tissues. It is classified into 3 types namely; reticular lesions, including white lines, papules and plaques; atrophic or erythematous lesions; and erosive lesions, including ulcers and bullous lesions. Whereas reticular forms are usually asymptomatic and sometimes discovered during a routine oral clinical examination, the erythematous forms are painful, causing discomfort to the patient. The pathogenesis of lichen is unknown and the treatment plan is also not definite. The objective of this paper is to report two cases of lichen planus in male patients and to discuss the main aspects of this disease in relation to etiopathogenesis and treatment.

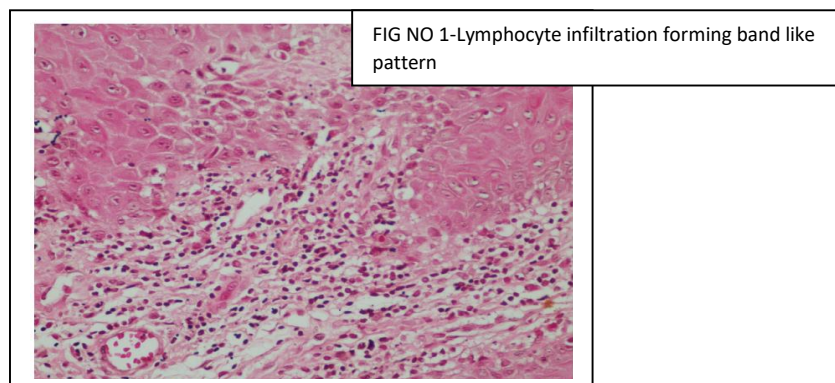
**Keywords :** oral lichen planus, histopathology, malignant transformation.

## Introduction

Lichen planus is a chronic, inflammatory disease that affects the mucosal and cutaneous tissues. It is a common disorder which affects 0.5 to 2 % of the general population. Its oral form is more common than the cutaneous form which can be recurrent and resistant to the treatment(2).The etiology of lichen planus is unknown. Sugerma et al. (3) believe that specific and non-specific mechanisms may be involved in the etiopathogenesis. It is believed to result from an abnormal T-cell mediated immune response in which basal epithelial cells are recognized as foreign body because of the changes in antigenicity of their cell surface(1). Oral lichen planus is classified into 3 types namely; reticular lesions, including white lines, papules and plaques; atrophic or erythematous lesions; and erosive lesions, including ulcers and bullous lesions. Whereas reticular forms are usually asymptomatic and sometimes discovered during a routine oral clinical examination, the erythematous forms are painful, causing discomfort to the patient (4). Lichen planus has potential for malignant transformation (2), and the risk of malignant transformation varies between 0.4 and 5% in a period of observation from 0.5 to 20 years (5). However, many controversies remain with regard to the risk of malignant transformation, to the clinical form with the greatest potential for malignancy, and about therapies used for the treatment of OLP(5).

## Histopathology-

The final diagnosis of oral lichen planus depends on the histopathological examination, which includes apoptosis of the keratinocytes along with liquefaction of the basal layer, lymphocytic infiltrate between epithelium and the connective tissue, areas of hyperkeratinization which gives rise to the classic Wickhams striae, sawtooth rete pegs are seen, cavitte bodies are also seen. These histologic features are also seen with other conditions such as lichenoid reaction, reaction to dental amalgam and drugs. Hence the histological report needs to be co related with the history and the clinical presentation of the lesion.

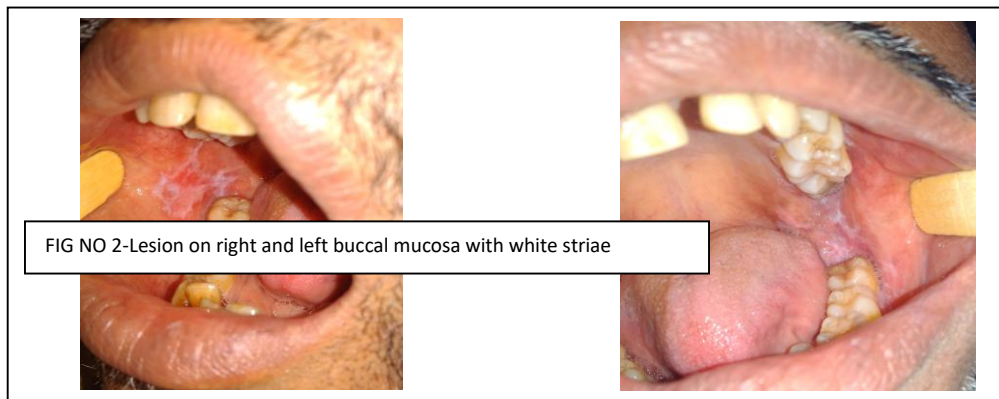


## Case report 1

A 45 year old male patient reported to the department of oral medicine and diagnosis with the complaint of pain in the upper left back teeth region since 5 days. The previous medical history revealed that the patient has diabetes since 3 years and under medication for the same. The patient was unaware of any known drug allergies. Patient did not give any history of mucosal abusive habits. On further questioning patient gave history of disturbed sleep since many months and also domestic related psychological stress which was the reason for the same.

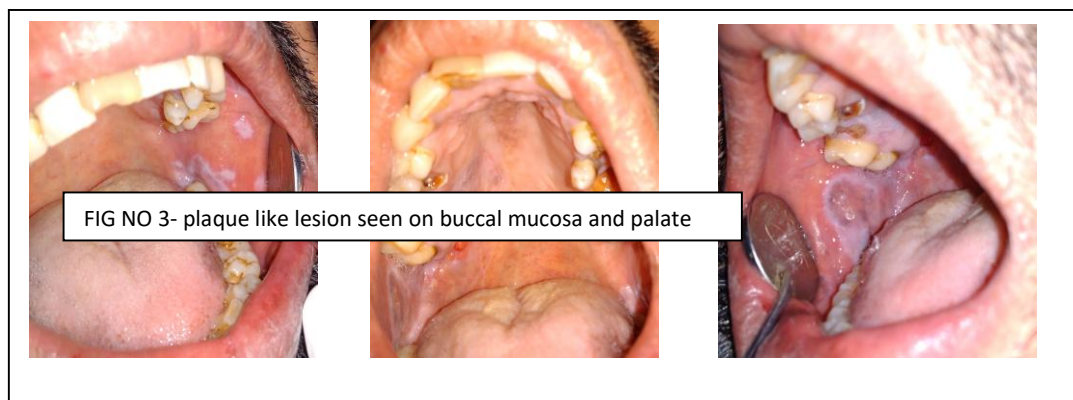
On examination his oral hygiene status was moderate. On soft tissue examination lesion was seen on the left and right buccal mucosa. It was diverse in shape and sized upto 1-2cm on both sides. On right buccal mucosa the lesion was seen to extend from region of first mandibular molar to the third molar area. On left buccal mucosa it extended from the third molar area to the retromolar pad and pterygomandibular raphae(fig no 2). It presented white keratotic interlacing lines with erythematous border. These striae are seen bilaterally. It appears to be flat irregular area. ulceration was not present. On palpation it was non tender. The clinical

diagnosis of reticular type of oral lichen planus is given. For confirmation of this diagnosis, an incisional biopsy of this lesion was requested.



#### Case report 2

A 52 year old male was referred to department of oral medicine and diagnosis with the complain of lesions and burning sensation on the both left and right inner cheek since 2 months. His history of presenting illness revealed burning sensation in her entire oral cavity which started as a low intensity pain 3 months back, it was intermittent in nature and had gradually progressed to the present state for the past 2months. Patient have no any other relevant medical history, neither any tissue abusive habits. On examination presence of lesion was observed on left and right buccal mucosa and palate(fig no 3). Lesion were irregular in shape, size and were white plaque-like with normal consistence from the tissue. On left buccal mucosa white patch like lesion were seen at the region of 2<sup>nd</sup> and 3<sup>rd</sup> molar extending till the retromolar pad area. The lesion on right buccal mucosa was extensive which extended from the mandibular 3<sup>rd</sup> molar area extending till maxillary 3<sup>rd</sup> molar. Palatal mucosa at the region of maxillary 3<sup>rd</sup> molar also had white patch like lesion extending till the middle third of the palate. On palpation it was non-tender, the surface of the lesions were rough and non-scrappable with no induration noted. On histological examination hyperkeratinized epithelium with areas of hyperplastic epithelium and atrophic epithelium were seen. The underlying connective tissue showed lymphocytic infiltrate. Saw tooth shaped rete pegs were evident. The final diagnosis of erosive lichen planus was given.



#### Case report 3

A 32 year old male patient reported to the department of oral medicine and radiology with the complain of ulceration on the tongue since 3-4 months. He previously took medication for the same but the recurrence of the ulceration was seen 4 months back. Patient had difficulty in eating spicy food, he also had discomfort since then. Patient had history of smoking and tobacco chewing since 4 years but he has recently stopped the habit completely. Patient gave the history of work related stress and occasionally missing the meals.

On examination patient had blanching of buccal mucosa and palate. Diffuse lesions in the form of ulcerative areas were seen interspersed within white keratotic areas present all over the lateral borders of the tongue(fig no 4). Ventral surface of the tongue is also seen involved. White radiating striae (wickhamstriae) were present with an interspersed erythematous patch. On palpation, the lesions appeared to be tender. The surface of the lesions were rough and non scrappable with no induration noted. Based on clinical presentation provisional diagnosis of ulcerative lichen planus was given. Then the clinical diagnosis was confirmed after the histopathological evaluation.



#### Treatment

Patient with oral abusive habit was advised to completely stop the habit. The patient dealing with psychological stress were counselled accordingly and asked to seek help if needed. Basic regimen of topical corticosteroid i.e triamcinolone acetonide 0.1 % 5gm paste was prescribed to be applied 3 times a day for 3 weeks and then the dose was tapered to twice daily after a month. This was continued for 2 months and the patient was recalled periodically for evaluation. After 2-3 months improvement was seen in the condition and lesion started to heal. Patients were put on a periodic recall to monitor the condition.

#### Discussion

Lichen planus is a chronic inflammatory condition that involves skin and oral mucosa. The etiopathogenesis of oral lichen planus is unknown but according to few literature the causative and exacerbating factors for oral lichen planus reactions such as, drugs (anti-malarial, diuretics, gold salts, antiretroviral), dental materials (dental amalgam, composite and resin-based materials, metals), chronic liver disease and hepatitis C virus, genetics and tobacco chewing(6). Stress was identified as one of the most frequent causes of acute exacerbation of the disease(7).cell mediated immunity may also predispose the lesion. Activated T lymphocytes and increased production of cytokines result in increased expression of the intercellular adhesion molecule (ICAM-1) and the major histocompatibility complex type II by keratinocytes, which leads to tissue destruction. This process results in immune vascular degeneration, lysis of cells in the basal layer, and, finally, dissolution of the cells of the basal layer(8).

OLP is commonly seen within the population between third to sixth life decades, it rarely occurs in the children. The patients in this case study were males of 52 and 45 years, which fall into the age range in which lichen planus is most commonly reported. Oral lichen planus is described as six clinically forms namely; reticular, papular, plaque-like, erosive, atrophic and bullous. A simpler clinical classification consists of three types of lesions: reticulated lesions, including rows, plaques, and whitish papules; atrophic or erythematous lesions; and erosive lesions, including ulcerations and bullous lesions. Whereas the reticular lesions are asymptomatic, the erythematous and erosive ones induce discomfort(4).

The reticular form is commonly seen with the clinical presentation of fine white lines or striae, these striae may also form a network but can also show annular pattern. Case no 1 presented here shows the same presentation. The anatomical location of the lesion is seen to bilaterally on buccal mucosa, which is said to be the common location for the reticular OLP. The papular type is clinically characterized by small white dots, which intermingle with reticular form. Plaque type OLP is seen as well demarcated white plaque which may or may not be surrounded by striae. It has a similar appearance with that of homogenous leukoplakia. It is frequently seen with smokers and on cessation of habit it may disappear or convert into reticular form. Case report 2 presented above shows a similar appearance of lesion in the left and right buccal mucosa and palate. These forms are typically asymptomatic but patient may feel roughness and discomfort.

Erythematous or atrophic OLP is characterized by a homogenous red area, which commonly involves buccal mucosa or palate. When attached gingiva is affected it may occur without striae or papules and present as desquamated gingivitis. Ulcerative lesions are the most discomforting form of OLP. These lesions appear as fibrin coated ulcers surrounded by erythematous zone displaying radiating white striae. Patient often complains of discomfort, pain and burning sensation.

Differential diagnoses include lichenoid eruptions associated with medications, lichenoid lesions associated with contact with restorative materials, leukoplakia, lupus erythematosus and graft versus host disease (GVHD). OLP can often be separated from LCRs to dental materials, which are most often detected on the buccal mucosa and the lateral borders of the tongue. OLP, on the other hand, usually displays a more general involvement(9). Oral lichenoid drug eruptions<sup>117</sup> have the same clinical and histopathologic characteristics as OLP. The patient's disease history may give some indication as to which drug may be involved, but OLP may not start when the drug was first introduced. Withdrawal of the drug and rechallenge are the most reliable way to diagnose lichenoid drug eruptions but may not be possible(10).Oral GVHD has the same clinical appearance as OLP, but the lesion is usually more generalized.

As the etiology for oral lichen planus is unknown the basic condition are lacking in developing the treatment. Thus current treatment focuses on reducing or eliminating the symptoms. Several topical drugs have been suggested, including steroids, calcineurin inhibitors (cyclosporine and tacrolimus), retinoids, and ultraviolet phototherapy(11). Among these topical steroids are widely used such as triamcinolone acetonide. Topical application of cyclosporine, tacrolimus, and retinoids has been suggested as a second-line therapy for OLP. These steroids can be used as mouth rinse or gel as these formulas are easiers for the patient to use than paste. It is advisable to apply the drug two to three times a day during 3 weeks followed by tapering during the following 9 weeks until a maintenance dose of two to three times a week is reached. Relapse are common in case of lichen planus hence steroids need to be used at lowest possible dose to keep check on the symptoms. Opportunistic infection are common, in some cases antifungal

treatments may be required. Although topical steroids are usually able to keep OLP patients free of symptoms, systemic steroids are justified to be able to control symptoms from recalcitrant lesions. One milligram per kilogram daily for 7 days has been suggested, followed by a reduction of 10 mg each subsequent day. A maintenance dose with topical steroids may be commenced during the tapering of the systemic steroids.(12).

One of the most important issues concerning OLP is its potential for malignant transformation into OSCC. Although the WHO has categorized OLP as a precancerous condition, the risk of malignant transformation of OLP remains a subject of debate in the literature. It is uncertain what mechanisms could cause malignant transformation of OLP. The preferential sites of Oral Squamous Cell Carcinoma (OSCC) which develops from OLP lesions are the tongue and buccal mucosa, and the incidence is higher in the former than the latter, while epithelial dysplasia in OLP is more prevalent in the buccal mucosa(13). The frequency of malignant transformation ranges from 0.4 to 5%, with the highest rates in the erythematous and erosive lesions (6,8).

conclusion

Lichen planus is an autoimmune mucocutaneous disease that has no definite etiology hence there is no specific treatment regimen. The pathogenesis of OLP may involve both antigen-specific and non-specific mechanisms. A suitable protocol for lichen planus includes the correct identification of lesions histopathological analysis and the use of anti-inflammatory drugs as a treatment. The diagnosis of oral lichen planus is initially based upon the clinical presentation of bilateral white patches with or without ulcers or blisters, typically affecting the buccal mucosa, ventral, lateral and dorsal surfaces of the tongue and gingiva. The patients with OLP should be counselled as to the nature of the condition and different approaches to the treatment. They should be informed that there may be periods of symptomatic remission. Clinicians should maintain a high index of suspicion for all intraoral areas that appear unusual, even in patients with histological confirmed diagnosis of OLP. This is important as OLP has a potential to transform into squamous cell carcinoma affecting any part of oral cavity

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