

# GINGIVAL LICHEN PLANUS- A CASE REPORT

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## Abstract

Lichen planus is an autoimmune mucocutaneous disorder. Orally the most commonly involved sites are buccal mucosa, tongue and gingiva. About 10% of the patients with oral lichen planus have lesions confined to the gingiva. The purpose of this paper is to report a case of atrophic lichen planus of gingiva in 35 year old male patient with chief complaint of burning sensation in the oral cavity from past 6 months along with the presence of cutaneous lesions. Histopathological examination was carried out to confirm the diagnosis. The patient was treated with topical corticosteroids. Though the lesions persisted, symptoms of burning sensation in the mouth resolved, but recurred with the discontinuation of medication. It was treated with topical application of 0.1% tacrolimus thereafter and oral symptom was relieved. In spite of correct diagnosis and the treatment plan, management of these cases remains dilemma for the clinician. Further research is required to provide definitive treatment for these patients.

**Keywords:** Oral lichen planus, Tacrolimus, Pre-cancerous Lesions

## Introduction

Lichen planus derives its name from the term lichens, which means lace-like pattern produced by symbiotic algae and fungi colonies found on surface of rocks. Lichen planus is a common chronic mucocutaneous disorder, which involves skin and mucosa. It was first described clinically by Wilson in 1869 and histologically by Dubreuilh in 1906.<sup>1</sup>

Oral lichen planus (OLP) is a chronic, inflammatory mucocutaneous disease of unknown etiology, with prevalence rate of 0.2 - 4% in the population.<sup>2</sup> The usual age of presentation is between 30-60 years, and it is more frequently seen in women, with male to female ratio of 2:3.<sup>3,4</sup> Intraorally, the buccal mucosa is the most commonly affected site (64.3%), however, the gingiva may be involved with a similar frequency (59.8%), in approximately 10% of the patients the oral lesions are confined to the gingiva.<sup>5</sup> The tongue is involved with decreasing frequency (31.4%) followed by the palate (7.9%) and the lips (5.3%).<sup>4,6,7</sup> About 1% of the population may have cutaneous lichen planus. The typical skin lesions of the cutaneous form of lichen planus are described as purplish, polygonal, planar, pruritic papules and plaques.<sup>8</sup> These dermal lesions are commonly seen on the flexor surfaces of the legs and arms, especially the wrists. Since 30% to 50% of patients with oral lesions also have cutaneous lesions, the presence of these characteristic skin lesions can help in the diagnosis of OLP.<sup>9</sup> The etiology of lichen planus involves a cell-mediated immunologically induced degeneration of the basal cell layer of the epithelium.<sup>8</sup> Mental stress, malnutrition, infection (viral), mechanical trauma and tobacco use are the precipitating factors of OLP.<sup>10,11</sup> OLP with manifestation confined to the gingiva may be clinically characterized by presence of erythema (atrophic lichen planus), presence of ulcerations (erosive and/or ulcerated lichen planus), or vesiculobullous lesions (bullous lichen planus).<sup>12</sup> The rate of malignant transformations is demonstrated to be 0.3%–10%.<sup>13</sup> OLP may be associated with pain or burning sensation and discomfort, which interferes with the masticatory function and with quality of life.<sup>8</sup>

The differential diagnosis of OLP, presenting as white patches or hyperkeratotic striae, is broad and includes lichenoid lesions, leukoplakia, lupus erythematosus, chronic ulcerative stomatitis, and malignancy.<sup>8</sup> The treatment for OLP is generally directed towards the relief of symptoms and remission of the lesions. In spite of the knowledge of etiopathogenesis, treatment approaches are usually palliative with no definitive treatment for cure of the condition.

## Case Report

A 35 year old male patient reported to Department of periodontics, Vydehi institute of dental sciences, Bangalore with chief complaint of burning sensation in the mouth for the past 6 months which aggravated on consumption of any sort of food. Medical history revealed that patient was diagnosed with hypertrophic lichen planus of skin 3 years back. Patient had undergone homeopathy treatment for the same and lesions did not subside. At the time of presentation patient was on topical medication (clobetolol propionate and salicylic acid and hydroxyzine acid hydrochloride ointment) for the skin lesions. Patient was a known chronic smoker from past 20 years with 7-8 bidis per day.

**Extraoral examination** revealed well defined circumscribed planar, plaque like lesions with fine scaling of the surfaces were seen on flexor surface of hands and legs (Figure 1a, 1b, 2a, 2b)

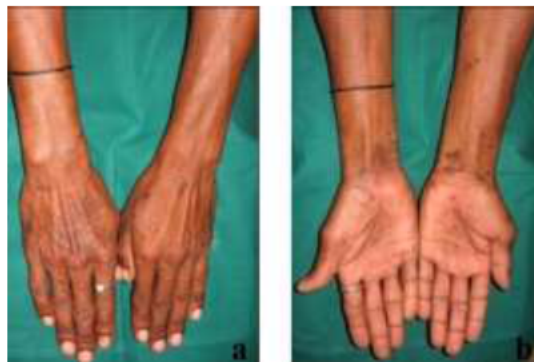


Figure 1a & 1b: Cutaneous lesions in flexor and palmar surfaces of arms



Figure 2a & 2b: - Hypertrophic lichen planus in flexor surfaces of legs

**Intraoral examination** revealed oral hygiene was fair and plaque like reticular lesions seen with 16, 15 and 14 in the gingiva (Figure 3).



Figure 3:- Plaque like reticular lesions seen with 16, 15 and 14 in the gingiva (Pre-treatment)

The lesions were plaque like atrophic (keratotic changes with mucosal erythema) in distribution with erythematous areas present in the interdental areas (confined only to the gingiva) (Figure 4-5).



Figure 4: - Plaque like atrophic in distribution with erythematous areas present in the interdental areas (Pretreatment)

Also white plaque like lesion was present on palatal aspect of 22, 24, 25, 26. The lesions were non- scrapable, tender and no bleeding was seen.

Based on past medical history and clinical appearance, a provisional diagnosis of atrophic lichen planus of gingiva was established.



Figure 5: - Erythematous areas present in the interdental area (Pre-treatment)

**Investigations:** Hameatologic investigation and biopsy was advised. An incisional biopsy was taken from maxillary premolar region of the attached gingiva irt 15, 14 after thorough oral prophylaxis (Figure 6).



Figure 6: - Biopsy taken after oral prophylaxis

**Histopathology:** revealed hyperorthokerototic stratified squamous epithelium, ‘saw-tooth’ shaped rete ridges, basilar degeneration and underlying connective tissue showed subepithelial band of inflammatory cells. (Figure 7a, 7b)

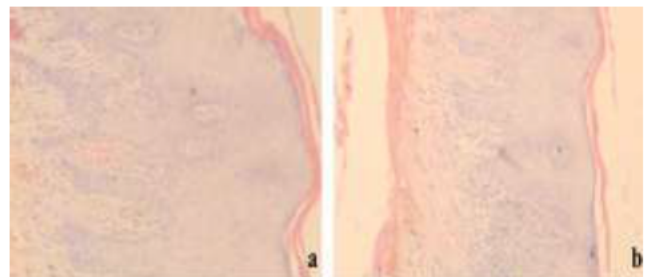


Figure 7a, 7b: - Histopathology showing hyper-orthokerototic stratified squamous epithelium, ‘saw-tooth’ shaped rete ridges, basilar degeneration and underlying connective tissue showed sub-epithelial band of inflammatory cells.

**Treatment:** Patient was advised to use topical Kencort orabase 0.1% ointment (triamcinolone acetonide) and to quit the habit of smoking. Patient reported a month after and was free of burning sensation in the oral cavity but both cutaneous and oral lesions were persisting.

**Persistence:** Patient had discontinued intraoral topical application of medication after burning sensation was

relieved, but reported again after 6 months with the same complaint, oral lesions aggravated but cutaneous lesions disappeared. Patient was advised to use topical tacrolimus 0.1 %, an immunosuppressant following which there was substantial improvement in symptoms within a month period. (Figure 8a, 8b, 8c, 9, 10)



Figure 8a, 8b, 8c: - Resolution of Cutaneous lesions



Figure 9: - Oral lesions 6 months after treatment



Figure 10: - Oral lesions 6 months after treatment

**Discussion**

This paper reports a case of atrophic gingival lichen planus. Lichen planus is a benign condition that affects skin and mucus membrane. Among the various forms of OLP (reticular, patch, atrophic, erosive, and bullous), atrophic lichen planus although not as common as the reticular form, but it is of more significance for the patient as such lesions are usually symptomatic. In the present case, patient showed atrophic, erythematous areas, with central ulceration of varying degrees on the gingiva. The periphery of the atrophic regions was bordered by fine, white radiating striae with small, raised, white, lacy lesions and plaques, which resemble keratotic diseases such as leukoplakia<sup>14</sup> were seen, since patient was a chronic smoker

definitive diagnosis of OLP was given after histopathologic examination.

Initially patient was advised to use topical corticosteroids i.e., Kencort orabase 0.1% ointment. Topical corticosteroids are commonly used in the treatment of oral LP to reduce pain and inflammation. Triamcinolone acetonide is frequently used either in orabase or as lozenges with the beneficial effect. A number of investigations have determined the efficacy of triamcinolone acetonide 0.1% suspension in the treatment of OLP.<sup>15</sup> Since oral lesions aggravated, topical tacrolimus 0.1 % was prescribed. Tacrolimus is a potent immunosuppressive agent, inhibiting T-cell activation at 10-100 times lower concentration than cyclosporine. Notably, topical tacrolimus seems to penetrate mucosa better than topical cyclosporine. This drug used topically can control symptoms and significantly improve refractory oral LP. Tacrolimus ointment 0.1% is well tolerated and appeared to be effective in oral LP that did not respond to topical steroids<sup>15</sup>. Establishing proper diagnosis, eliminating potential etiologic factors with adequate treatment and periodic dental visits are the key factors for management of these cases.

**Conclusion**

In spite of correct diagnosis and the treatment plan, management of these cases remains challenging for the clinician. Further research is required to provide appropriate treatment for these patients.

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