

Management Of Oral Lichen Planus : An Overview

Syeda Shadab¹, Sonia J. Sodhi², Sneha P. Patil³, Suraj D. Tambe⁴, Ruchi Kasat⁵

Abstract

Lichen planus is a chronic autoimmune, mucocutaneous disease. It can affect the oral mucosa, skin, genital mucosa, scalp and nails. It is a most commonly encountered chronic mucosal condition in clinical dental practice. Treatment of lichen planus is complicated due to periods of exacerbation and remission. Mainly treatment is aimed at alleviating symptoms during periods of exacerbation as well as to prolong the duration of remission. A regular follow-up of patients is required as there is high risk of malignant transformation in some types of oral lichen planus. In the present article we have attempted to review various pharmacological and nonpharmacological therapies in the management of oral lichen planus.

Keywords : Oral Lichen Planus, Therapies

Introduction

Lichen planus is a relatively common disorder, estimated to affect 0.5% to 2.0% of the general population. Lichen planus is greek word derived from lichen (tree moss) & planus (flat). It was first described clinically by Wilson in 1869. It is a chronic, inflammatory disease that affects mucosal and cutaneous tissues. Oral lichen planus (OLP) occurs more frequently than the cutaneous form and tends to be more persistent and more resistant to treatment.

In the majority of patients with oral lichen planus (OLP), there is no associated cutaneous lichen planus or lichen planus at other mucosal sites. This may be called "Isolated" OLP.[1] It commonly affects the middle-aged patients. OLP is mainly seen in women and characteristically the lesions are symmetrical, involving the buccal mucosa, tongue, gingiva, floor of the mouth, lips, and palate.

Lichen planus is believed to result from an abnormal T-cell-mediated immune response in which basal epithelial cells are recognized as foreign because of changes in the antigenicity of their cell surface. The cause of this immune-mediated basal cell damage is unknown. A recent immunologic comparison of 2 variants of OLP suggested that different immunopathogenic mechanisms might be involved. This article reviewed pharmacological and non pharmacological methods of management of OLP.

Pharmacologic methods

Drug therapy:

Drug therapy is the most common method for treatment of OLP. Different drugs have been used for treatment of OLP including immunosuppressives, retinoids, and immunomodulators. Drugs are used in two forms, topical or/and systemic.[1]

Topical drug therapy:

Topical drug therapy is a method of treatment in which drugs are applied directly to the part being treated i.e. on skin, eyes, or mucosa. Various groups of drugs are used in topical form for treatment of OLP including corticosteroids, immunosuppressives, retinoids, immunomodulators and analgesics.[1]

A. Corticosteroids:

Use of corticosteroids is the first line of treatment for OLP because of their activity in dampening cell mediated immune activity there by modulating the immune function.

¹PG Student, ²Professor Dept of OMDR, CSMSS Dental College Aurangabad,

³Senior Lecturer, Dept of Prosthodontics, Rural Dental College PIMS(DU)

Corresponding Author:

Dr. Sneha P Patil,

Dept of Prosthodontics, Rural Dental College PIMS(DU)

Email: patil.snehapatil.sneha28@gmail.com

Topical corticosteroids are commonly used to treat mild to moderately symptomatic lesions, options include triamcino-lone acetonide 0.1%, 0.05% flucinonide, 0.025% clobetasol propionate etc. Patients are instructed to apply a thin layer of the prescribed topical corticosteroid upto 3 to 4 times a day. It has been proved that topical aqueous triamcinolone acetonide suspension is effective in reducing mucosal erythema and ulceration.[2]

a. Systemic steroid therapy:

Systemic steroids are usually used in management of moderate to severe OLP or in cases resistant to topical therapy. The most commonly prescribed systemic steroid to manage OLP is *Prednisone*. The approach to therapy is to prescribe a high-dose, short-course regimen as it maximize therapeutic effect and minimize side effects. A single daily morning dose of 40 to 80 mg of prednisone is prescribed for 7 to 10 days. The ultimate dosage chosen depends of the severity of the lesion and the size of the patient. Tapering is not necessary because the risk of the Hypothalamic-pituitary-adrenal axis (HPA-axis) suppression is negligible with such short-term bursts. However, other possible adverse side effects may include insomnia, diarrhea, mood swings, nervousness, fluid retention, muscle weakness, hypertension, and decreased resistance to infection.[1]

B. Immunosuppressives:

a. Cyclosporine

Cyclosporine is a potent immunosuppressant and reduces the production of lymphokines. This drug may be used topically or as a mouth rinse. Cyclosporin can be used as an alternative therapy to conventional treatments for initial control of OLP. Voute et al. found no distinct advantages of cyclosporine over the use of topical corticosteroid.[3]

b. Tacrolimus

Tacrolimus is a macrolide immunosuppressant with a mechanism of action similar to cyclosporine, but is 10 to 100 times more potent and has better mucosal penetrating properties. Also it has been suggested that use of low concentration of topical tacrolimus in distilled water provides a rapid palliating effect in patients with erosive OLP.[4]

C. Retinoids:

Retinaldehyde 0.1% was used in the treatment of OLP and leukoplakia. This drug showed good clinical efficacy, but there was no long-term follow-up and any control group. But Isotretinoin gel 0.1% has also been suggested

as an alternative to topical corticosteroids in the management of OLP. It has been proved that OLP can also be treated with fenretinide and tazarotene gel 0.1% successfully.[1]

D. Immunomodulators:

1. Phenytoin

It is an antiepileptic drug with immunomodulatory and wound healing properties. It has been reviewed that its immunomodulatory property can lead to recovery in OLP patients.

2. Dapsone:

Use of dapsone in the management of OLP has some benefit, but results are not satisfactory in gingival lesions. Generally the use of dapsone is precluded because of significant adverse effects like hemolysis, nausea and headache.[5]

E. Analgesics:

The use of a variety of topical analgesics is recommended for symptomatic therapy. Diphenhydramine elixir as mouthwash and xylocaine gel can be safely used along with other therapeutic agents.[6]

NON-PHARMACOLOGICAL THERAPIES

1. Natural alternatives:

a. Lycopene

Lycopene is a potent antioxidant derived from carrots. It is useful in the management of various systemic and oral malignant and potentially malignant lesions. 8 mg/day of lycopene for 8 weeks showed favorable results in OLP patients. Burning sensation was reduced by 84% and lowered oxidative stress in a placebo-controlled trial.⁷

b. Curcumin

Curcuminoids are components of *Curcuma longa* (turmeric) known to have anti-inflammatory properties. Studies to date indicate that higher dosages of curcumin (up to 6,000 mg/day) helped a significant number of OLP patients control their symptoms. Minimal side effects like diarrhea and gastrointestinal discomfort may occur, which are usually dose related. Whereas smaller doses of curcumin (< 2,000 mg/day) have proved to be less effective.⁸

c. Green Tea

Green tea (epigallocatechin-3-gallate) is known to have an anti-inflammatory and chemopreventive properties. Green tea inhibits T-cell activation, migration, proliferation, antigen presentation and controls other

inflammatory mediators It reduces the incidence of OLP by regulating these factors which are involved in the etiopathogenesis of the disease.[9]

d. Aloe vera

Various studies reveal that orally applied aloe vera reduces pain, promotes remission and improves quality of life in patients living with OLP.

e. Photodynamictherapy

Photodynamic therapy (PDT) uses a photosensitizing compound like methylene blue which is activated at a specific wavelength of laser light. It destroys the targeted cell via strong oxidizers, leading to membrane lysis, cellular damage, and protein inactivation. PDT have immunomodulatory properties which may induce apoptosis in the hyperproliferating inflammatory cells present in diseases like psoriasis and lichen planus by reversing the hyperproliferation and inflammation of lichen planus.[10] It also has shown positive results in management of head and neck tumors.

f. Photochemotherapy

In this method, clinician uses ultraviolet A (UVA) with wavelengths ranging from 320–400 nm, after the injection of psoralen. In two studies, UVA was applied to lesions, 2 hours after the injection of psoralen. After 2 months, most of the lesions had been improved and the remission times ranged from 2 to 17 months.[1]

g. Laser

The 308 nm excimer laser has been used as a additional method in the treatment of OLP. These treatments are painless and well tolerated. Clinical improvement has been achieved in most patients. Excimer 308 nm lasers could be an effective choice in treating symptomatic OLP.[10] ND:YAG laser, CO2 laser,

h. Surgery

Conventional surgical excision, cryotherapy can also be used in the treatment of OLP. But surgery is reserved to remove high-risk dysplastic areas.[1]

Conclusion

Patients with OLP should be managed as per the chronic nature and severity of the condition using various treatment modalities. Along with all these above treatment options, patient's counseling for stress management and

other related factors is considered to be an important part of the treatment of OLP. Because of the possibility of increased risk of malignant transformation, periodic reassessment of all patients with OLP is recommended.

References:

1. Sahebamee M, Arbabi FK. Archives of Iranian Medicine, 2005;8(4):252 – 256.
2. Vincent SD, Fotos PG, Baker KA, Williams TP. Oral lichen planus: the clinical, historical, and therapeutic features of 100 cases. Oral Surg Oral Med Oral Pathol Oral Radiol Endod. 1990;70:165-71.
3. Voûte AB, Schulten EA, Langendijk PN, Nieboer C, van der Waal I. Cyclosporin A in an adhesive base for treatment of recalcitrant oral lichen planus. An open trial. Oral Surg Oral Med Oral Pathol. 1994;78:437-41.
4. Stoopler ET, Sollecito TP, DeRossi SS. Oral lichen planus. Upda-te for the general practitioner. N Y State Dent J. 2003;69:26-28.
5. Beck HI, Brandrup F. Treatment of erosive lichen planus with dapsone. Acta Derm Venereol. 1986;66:366-367.
6. Setterfield JF, Black MM, Challacombe SJ. The management of oral lichen planus. *Clin Exp Dermatol.* 2000; 25: 176 – 182.
7. Saawarn N, Shashikanth MC, Saawarn S, Jirge V, Chaitanya NC, Pinakapani R. Lycopene in the management of oral lichen planus: A placebo-controlled study. Indian J Dent Res. 2011;22:639-643. Chainani-Wu N, Madden E, Lozada-Nur F, Silverman S Jr. High-dose cur-cuminoids are efficacious in the reduction in symptoms and signs of oral lichen planus. J Am Acad Dermatol. 2012;66:752-760.
8. Zhang J, Zhou G. Green tea consumption: an alternative approach to managing oral lichen planus. Inflamm Res. 2012;61:535-9.
9. Aghahosseini F, Arbabi-Kalati F, Fashtami LA, Fateh M, Djavaid GE. Treatment of oral lichen planus with photodynamic therapy media-ted methylene blue: A case report. Med Oral Patol Oral Cir Bucal. 2006;11:E126-9.