ORAL LICHEN PLANUS: AN UPDATE

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ABSTRACT

Lichen planus is a mucocutaneous disease affecting approximately 1.5 to 2% of the world population. Oral lichen planus (OLP) is a chronic mucosal condition. It has various oral manifestations, the reticular form being the most common. The course of the disease is usually unpredictable with bouts of remission and exacerbation being common. The most widely accepted treatment for lesions of OLP involves topical or systemic corticosteroids to modulate the patient’s immune response.

Key Words: Lichen planus, Mucocutaneous disease, Oral lichen planus, Lichenoid reaction, Corticosteroids

INTRODUCTION

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.¹ Lichen planus is a relatively common disorder, estimated to affect 0.5% to 2.0% of the general population.² There is a strong preference for the female sex.¹ Sousa & Rosa (2005) surveyed 79 oral lichen planus cases diagnosed between 1974 and 2003, and found that women are nearly four times more affected by this condition than men, and that white individuals are five and a half times more likely to develop this disease compared to other races.³ Clinically, oral lichen planus has specific and clearly identifiable features,³ usually presenting in one of two main forms - the reticular and the erosive forms – although other forms are not rare.⁴ In fact, according to Mollaoglu (2000), four other forms were originally described: the papular, “plate-like”, bullous and atrophic forms.⁷ The management of OLP should begin by taking the proper history and clinical examination. Elimination of any form of irritants-like maloccluded teeth, ill-fitting dentures, amalgam fillings should be removed. Incisional biopsy should be done to confirm the diagnosis. The patients with erosive or atrophic forms particularly should be observed periodically as it has malignant transformation potential varying between 0.3% and 3%. For the effective management of OLP, one has a wide range of drugs to choose from. When a patient with OLP presents with a burning sensation, usually as a first line of treatment one can prescribe a topical preparation of steroid and retinoids. As a second line of treatment in cases of steroids resistant, we may prescribe immunomodulatory drugs such as levamisole and dapsone. In resistant cases, where it is not responding to topical preparations or in a severe form of OLP tacrolimus, and systemic corticosteroids in conjunction with immunosuppressive like azathioprine can be given. So, it is essential to choose appropriate drug, mode of administration and dosage regimens individually and equal importance should be given for stress management.⁸

ETIOLOGY

The cause of OLP is unknown. It is said some certain factors mention below may trigger an inflammatory disorder.

- Hepatitis C infection and other types of liver disease.
- Allergy-causing agents (allergens), such as foods, dental materials or other substances.
- Genetic background.
- Immunodeficiency disorder.
- Some bacterial and viral diseases.
- Certain medications for heart disease.
Patients are instructed to apply a thin layer of the pre-

It is not uncommon for the same patient to

Various new agents have been recent-

The classic skin lesions of the cutaneous

“hugging” the basal layer.

Therefore; dentists in clinical practice

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HISTOLOGY

Lichen planus has a unique microscopic appearance that is

Thickening of the stratum corneum both with nuclei present (parakeratosis) and without (orthokeratosis). Parakeratosis is more common in oral variants of li-

Thickening of the stratum granulosum

Thickening of the stratum spinosum (acanthosis) with formation of colloid bodies (also known as Civatte bodies, Sabouraud bodies) that may stretch down to the lamina propria.

Liquefactive degeneration of the stratum basale, with separation from the underlying lamina propria, as a result of desmosome loss, creating small spaces (Max Joseph spaces).

Infiltration of T cells in a band-like pattern into the dermis “hugging” the basal layer.

Development of a “saw-tooth” appearance of therete pegs, which is much more common in non-oral forms of lichen planus.

CLINICAL SIGNIFICANCE OF ORAL LICHEN

OLP is one of the most common mucosal conditions affect-

the treatment protocols available is important. The similarity

TREATMENT

Topical steroids are the mainstay of palliative treatment of OLP but alternative therapeutic approaches are highly re-

Corticosteroids

Corticosteroids are the first line of treatment for OLP be-

Intralesional steroid therapy

Local injection of up to 0.2 to 0.4 ml of triamcinolone aceto-

Systemic steroid therapy

Prednisolone is the most commonly prescribed systemic ster-

The risk of the Hypothalamic-pituitary-adrenal axis (HPA-

High blood pressure or arthritis.

Certain drugs like ibuprofen and naproxen.

Stress.

Graft versus host disease.9,10

CLINICAL FEATURES

Lichen planus affects primarily middle-aged adults, and the

prevalence is greater among women.11 Children are only rarely affected.12 The classic skin lesions of the cutaneous form of lichen planus can be described as purpilish, polygo-

planar, planar, pruritic papules and plaques. These skin lesions commonly involve the flexor surfaces of the legs and arms, especially the wrists. The nail beds may also be affected, with resultant ridging, thinning and subungual hyperkerato-

13 Scalp involvement, if untreated, can lead to scarring and permanent hair loss.

Since 30% to 50% of patients with oral lesions also have cutaneous lesions, the presence of these characteristic cuta-

neous lesions can aid in the diagnosis of OLP. Several types of OLP have been described, the 2 main types being reticular and erosive OLP.1 It is not uncommon for the same patient to present with multiple forms of OLP.

• Graft versus host disease.9,10

• Development of a “saw-tooth” appearance of the retorting pegs, which is much more common in non-oral forms of lichen planus.

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tion and allow for a lowering of the therapeutic prednisone dose. Possible side effects include nausea, vomiting, diarrhea, pancreatitis, bone marrow suppression, hepatotoxicity, arthralgias, and retinopathy. Levamisole in a dose of 150 mg/day and prednisolone 25 mg/day for 3 consecutive days each week for 4-6 weeks, showed improved results in the management of erosive OLP. Minor rashes, insomnia and headache are few of the noted side effects.

Prolonged use of any of the above modalities without supervision will result in undesirable systemic effects and adverse local effects including candidiasis and atrophy.

**Immunosuppressant - Cyclosporine**
Cyclosporine is an immunosuppressant and reduces the production of lymphokins. This drug may be used topically or in the form of mouth rinse. Cyclosporin can be used as an alternative therapy to conventional treatments for initial control of oral Lichen planus. The most common side effects of this drug are Hypertension and nephrotoxicity which limits its use in the treatment of oral lichen planus.

**Immunosuppressant - Tacrolimus**
Tacrolimus is a macrolide immunosuppressant with a mechanism of action similar to cyclosporine, but is 10 to 100 times more potent and with better mucosal penetrating properties.

Topical use of tacrolimus is a safe, well tolerated, and effective therapy for oral lichen planus lesions recalcitrant to traditional therapies.

**Retinoids**
Retinoids have also been tried for the treatment of OLP. Previous studies revealed that side effects were common and troublesome with marginal improvement. Topical application of Fenretinide (4-HPR), a newer retinoid showed to have a positive result with minimal side-effects in the treatment of OLP.

**UV radiation**
UV irradiation, especially in combination with psoralen's modulates the function of cells of the immune system. A study showed that PUVA with methoxypsaoralen which produced a marked improvement in 9 out of 18 patients, with common side effects such as nausea, dizziness and sun sensitivity.

**Griseofulvin**
Griseofulvin has been advocated for the treatment of erosive-ulcerative lesions when steroid treatment is contraindicated or when the lesions are resistant to steroids.

**Anti-malarials**
Hydroxychloroquine sulphate showed positive results in management of OLP. 9 out of 10 patients showed excellent response to hydroxychloroquine when given in dosage of 200 to 400 mg daily as a monotherapy for 6 months.

**Dapsone**
Use of dapsone in the management of OLP has revealed some benefit, but disappointing results have been seen in gingival lesions. Generally the use of dapsone is precluded because of significant adverse effects like hemolysis, nausea and headache.

**Phenytoin**
It is an anti-epileptic drug with immunomodulatory and wound healing properties.

**Photodynamic therapy**
Photodynamic therapy (PDT) uses a photo sensitizing compound like methylene blue which is activated at a specific wavelength of laser light. PDT have immunomodulatory properties which may induce apoptosis in the hyperproliferating inflammatory cells present in diseases like psoriasis and lichen planus, there by reversing the hyperproliferation and inflammation of lichen planus.

**Surgical management**
Surgical treatment is more applicable to the plaque-like lesions, because the affected surface epithelium can be removed easily. Surgical management is not suitable for the erosive and atrophic types because the surface epithelium is eroded. Cryosurgery and carbon dioxide laser therapies have been tried in management of OLP lesions.

**NATURAL ALTERNATIVES**
Lycopene is a potent antioxidant. Supplementing with 8 mg/day of lycopene for 8 weeks showed favourable results in OLP patients. Burning sensation was reduced by 84% and lowered oxidative stress in a placebo-controlled trial. 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.

Green tea (epigallocatechin-3-gallate) is known to have possessing anti-inflammatory and chemopreventive properties. Green tea is known to inhibit T-cell activation, migration, proliferation, antigen presentation and control other inflammatory mediators.
DISCUSSION

Oral lichen planus (OLP) is a common chronic inflammatory disorder. Identification of the causative agent is essential for the treatment of the oral lichen planus. Relief form symptoms of oral lichen planus can be achieved by the topical application of corticosteroids alone or in combination with other immunomodulatory topical agents. Systemic corticosteroids are used to control the disease.

CONCLUSION

Oral lichen planus (OLP) is a chronic mucosal condition commonly encountered in clinical dental practice. Proper history and clinical examination is very important for diagnosis. Incisional biopsy should be done to confirm the diagnosis. For the effective management of OLP, one has a wide range of drugs to choose from. Continuous development in management protocol for OLP is required due to recent increase in the incidence of malignant transformation rate even in the non-risk population group.

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REFERENCES