

Ethnobotanical approach for oral Lichen Planus – A Review

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Abstract:

Oral lichen planus is a chronic, noninfectious, inflammatory disease from the skin and mucous membrane. It occurs most commonly in buccal mucosa and vestibular areas of tongue and gingival and it is painful in cases of erosive and atrophic lichen planus. Mostly middle age people are affected more specifically females. In this review the herbs for the treatment of oral lichen planus like turmeric, aloe vera, and purslane are widely discussed making it easier for use as current drug treatments that are palliative and have significant adverse effects.

Keywords: Oral lichen planus, inflammatory ,gingiva ,treatment

INTRODUCTION

Oral lichen planus--it is a chronic, noninfectious, inflammatory disease of the skin and mucous membrane. Lichen planus derives its name from lace like pattern produced by symbiotic algae and fungal colonies on surface rocks termed as lichens. It was first described clinically by Wilson in 1869 and histologically by Dubdrieuhl in 1906.¹

It is most commonly seen on buccal mucosa and vestibular areas followed by lateral borders of tongue and gingiva. The period of onset is in the middle age affecting mostly females.

Clinical appearance present in various manifestations such as reticular, papular, plaque, atrophic and ulcerative patterns.

ETIOLOGY AND PATHOGENESIS

Lichen planus is an abnormal T-cell mediated immune response in which basal epithelium cells are recognized as foreign because of changes in

the antigenicity of cell surface.² Likewise it is unknown if lichen planus represents a single disease process or several closely related entities with similar clinical presentation.

A recent immunological comparison of two variants of OLP suggested that different immunopathogenic mechanisms might be involved.³ Generally minority of patients may have disease that closely mimics lichen planus both clinically and histologically termed as LICHENOID LESIONS. Few examples are lichenoid drug reactions, lichenoid reactions seen in close proximity to amalgam restorations and chronic graft versus host disease.

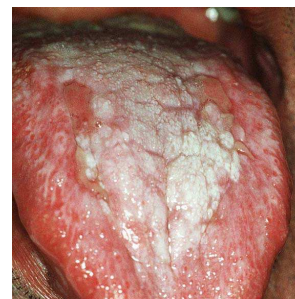


Fig 1: Ulcerative oral lichen planus in the dorsum of tongue

TREATMENT

The principle aim of treating oral lichen planus (OLP) is to alleviate the painful symptoms, the oral lesions and to counter the chances of transformation to malignant lesions, especially for erosive and strophic forms of OLP, which are more prone for transformation.

Use of current drugs are only palliative posing with wide range of adverse effects, HENCE LETS TAKE A BREAK AND TRY NATURAL MEDICINES WITH BETTER AILMENTS.

Valuable herbal therapies - *Aloe barbadensis* (aloe Vera), *Curcuma longa* (turmeric), *Potentilla tormentilla* (tormentil), *Portulacca oleracea* (purslane), *Glycyrrhiza glabra* (licorice) and *Tripterygium wilfordii* (thunder god of vine).

CURCUMA LONGA

Family: *Zingiberaceae* (Ginger, Zenzero, Gingembre, Jengibre, Gengibre)

Common name -Turmeric

In the traditional Indian system of herbal medicine known as Ayurveda turmeric is believed to strengthen the overall energy of the body, relieve gas, dispel worms, improve digestion, regulate menstruation, dissolve gallstones, and relieve arthritis, among other uses.

Modern interest in turmeric began in 1971 when Indian researchers found evidence suggesting that turmeric may possess anti-inflammatory properties. Much of this observed activity appeared to be due to the presence of a constituent called curcumin.⁴

The most important chemical components of turmeric are a group of compounds called curcuminoids, which include curcumin (diferuloylmethane), demethoxycurcumin, and bisdemethoxycurcumin. The best studied

compound is curcumin, which comprises 0.3-5.4% of raw turmeric.⁴

Curcumin in Oral lichen planus

Chainani-Wu N *et al*⁵ published "A randomised, placebo-controlled, double-blind clinical trial of curcuminoids in oral lichen planus" regarding the efficacy of curcumins in which subjects were randomised to receive either placebo or curcumins at 2000mg/day for 7 weeks is not possible as it was ended early for futility. Curcumins at this dose were well tolerated and the results suggest that for future studies a larger sample size, a higher dose and/or longer duration of curcumins administration should be considered.

Eric Yarnell ND⁶ has suggested curcumins as it has anti-inflammatory property and informed patients to dissolve it in soy milk, nut milk or animal milk and patients with kidney stones. To avoid this turmeric and curcumin extracts are suggested.

ALOE BARBADENSIS**FAMILY – Xanthorrhoeaceae****COMMON NAME- Aloe vera**

Aloe vera leaves contain phytochemicals under study for possible bioactivity, such as acetylated mannans, polymannans, anthraquinone C-glycosides, anthrones, anthraquinones, suchasemodin, and various lectins.⁷

Aloe vera in Oral lichen planus

Eric Yarnell ND⁸ has suggested Aloevera which subsides pain. The gel found inside the leaves of the aloe plant contain complex carbohydrates, including glucomannan, that soothe painful tissues and modulate the immune response.

POTENTILLA TORMENTILLA (Tormentil)**FAMILY- Rosaceae****COMMON NAME- Tormentil**

Tormentil in Oral lichen planus

It is used in the form of a tincture (a medicinal extract in a solution of alcohol), this herbal preparation coats lesions, protecting them from irritation by food or compounds in saliva, as reported by Dr. Yarnell⁸. This remedy should not be used within 30 minutes of taking any other medications, as the herb may block absorption of other drugs.

PORTULACA OLERACEA (Purslane)

FAMILY- *Portlaccaceae*

COMMON NAMES - Purslane, Verdolaga, Pigweed
Purslane contains more omega-3 fatty acids (alpha-linolenic acid in particular) than any other leafy vegetable plant. Research published by Artemis P. Simopoulos states that Purslane has 0.01 mg/g of eicosapentaenoic acid (EPA). This is an extraordinary amount of EPA for a land-based vegetable source. EPA is an Omega-3 fatty acid found mostly in fish, some algae, and flax seeds.⁹ It also contains vitamins (mainly vitamin A, vitamin C, and some vitamin B and carotenoids), as well as dietary minerals, such as magnesium, calcium, potassium, and iron. Purslane is a clinically effective treatment for oral lichen planus.

Purslane in oral lichen planus

Farzaneh Agha-Hosseini¹⁰ *et al* published a research article on "Efficacy of purslane in the treatment of oral lichen planus" in which they have evaluated the effectiveness of antioxidant-rich purslane in the treatment of OLP in which subjects were divided into two groups to receive purslane (n = 20) or placebo (n = 17) for 3 months. Assessments were made at baseline, after 2 weeks and each month for 6 months, based on the visual analog scale (VAS) and clinical improvement including lesion type and size. They concluded

that purslane was effective in treating OLP without any side effects.

GLYCYRRHIZA GLABRA (Licorice)

FAMILY – *Fabaceae*

COMMON NAMES-Licorice

The scent of liquorice root comes from a complex and variable combination of compounds, of which anethole is at most a minor component (0-3% of total volatiles). Much of the sweetness in liquorice comes from glycyrrhizin, which has a sweet taste, 30–50 times the sweetness of sugar. The sweetness is very different from sugar, being less instant and lasting longer. The isoflavene glabrene and the isoflavene glabridin, found in the roots of liquorice, are xenoestrogens.¹¹

Licorice in Oral Lichen planus

Licorice root (*Glycyrrhiza glabra*) or deglycyrrhized licorice (DGL) is an adaptogen that helps patients handle the anxiety and stress that can contribute to oral lichen planus. It also modulates the immune system. It is used in tincture form, though patients who want to avoid alcohol should use chewable DGL tablets instead. Licorice root should not be used by patients who have uncontrolled hypertension or who are taking corticosteroids or other drugs that can deplete potassium, reported by Dr. Yarnell.

TRIPTERYGIUM WILFORDII

FAMILY - *Celastraceae*

COMMON NAMES - Thunder god of vine

Thunder God of vine in oral lichen planus

Triptolide, a diterpenetriepoxide, is a major active component of extracts derived from *Tripterygium wilfordii*. Triptolide has multiple pharmacological activities including anti-inflammatory, immune modulation, anti-proliferative and pro-apoptotic activity.¹²

CONCLUSION

Oral lichen planus has been a major problem affecting the oral cavity if untreated it may increase the risk for oral cancers, so it is important for patients to get regular oral cancer screenings from a doctor or dentist. The disease appears to be related to stress, leaky gut and allergies and hence natural medicines offers ways to treat it also a proper diet and regular visit to the dentist ensures cure.

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