

**\*\* no patient handout**

## **Oral lichen planus - Oral Mucosal Lesion**

### **Synopsis**

Oral lichen planus is a T-cell-mediated inflammatory mucosal disease that likely represents a hypersensitivity disorder to a contactant or circulating antigens; sometimes the antigen is not identified. It affects middle-aged and older adults with a predilection for females (2:1). Lichenoid hypersensitivity reactions in the mouth are often indistinguishable from oral lichen planus, and the two terms are sometimes used interchangeably.

Patients may have few to no symptoms if they have the classic or reticular form of **lichen planus**. Erosive / erythematous and ulcerative lichen planus lesions are associated with increased sensitivity to acidic, spicy, and crunchy foods as well as pain. Some patients present with erosive/erythematous and ulcerative lesions on the gingiva, representing the clinical entity desquamative gingivitis. Patients with desquamative gingivitis are more likely to have the vulvovaginal-gingival or peno-gingival syndrome. Brushing often causes pain and bleeding, so oral hygiene is generally poor. Up to 25% of patients report lichen planus on the skin. It may also be on the scalp.

Medications such as anti-hypertensive agents, some NSAIDs, sulfasalazine, and carbamazepine are associated with the development of skin and oral lichen planus. Statins have been implicated in skin lichen planus. Patients with hepatitis C, lupus erythematosus, and chronic graft-versus-host disease often develop oral lesions that are clinically indistinguishable from oral lichen planus. Lesions may also appear locally as a result of hypersensitivity to a contactant (such as amalgam and composite restorations, and cinnamic aldehyde compounds).

Lesions are usually present for months and years and will relapse and remit.

Related topics: **Lichenoid Drug Eruption, Lichen Planopilaris**

### **Codes**

ICD10CM:

L43.9 – Lichen planus, unspecified

SNOMEDCT:

235049008 – Oral lichen planus

### **Look For**

Look for bilateral white reticulations (striations) and papules in a symmetric distribution on the buccal mucosa, tongue, and labial mucosa. This is often associated with surrounding erythema and erosion and sometimes ulcerations, covered by a yellow fibrinous exudate. If lesions are primarily erythematous and ulcerative, then look for subtle faint reticulations at the periphery of the erythematous and ulcerated areas; this is particularly true for desquamative gingivitis. The reticulated areas tend to be non-tender while the erythematous and ulcerative areas are tender.

Involvement of the tongue dorsum may present as areas of white papules or generalized white smooth areas with atrophy of the filiform papillae. Lichenoid hypersensitivity to a dental restoration may be unilateral and very focal.

## Diagnostic Pearls

Bilateral white reticulations in a symmetric distribution are characteristic. However, lichen planus caused by a local hypersensitivity reaction is asymmetric and focal.

Be wary of making a diagnosis of a unilateral plaque or a red and white plaque on the ventral tongue or floor of mouth. These may represent erythro-leukoplakia (often dysplastic) and should always be biopsied.

## Differential Diagnosis & Pitfalls

- **Candidiasis** – These lesions are not reticulated and often, although not invariably, can be scraped off leaving a raw, red surface.
- **Oral hairy leukoplakia** – This is not usually reticulated and has typical vertical grooves aligned perpendicularly to the long axis of the tongue; if in doubt, a biopsy is indicated.
- Some cases of **leukoedema** may present as painless, delicate reticulations on the buccal mucosa. Disappearance of these lesions with stretching is characteristic for leukoedema.
- **Hepatitis C** is associated with lesions of oral lichen planus, mainly in populations with a genetic predisposition (HLADR6) including some Mediterranean populations.
- **Lupus erythematosus** is associated with erythematous macular areas of the oral mucosa (especially hard palate) that may have faint reticulations. Biopsy of affected mucosa exhibits the positive lupus band test on immunofluorescence, and patients with **systemic disease** will have a positive titer for anti-nuclear antibody.
- **Chronic graft-versus-host disease** occurs more than 100 days after allogenic hematopoietic stem cell transplantation and may be indistinguishable from lesions of typical lichen planus except for the history of transplantation.
- **Mucous membrane pemphigoid** and other autoimmune vesiculobullous disorders (including **pemphigus vulgaris**, **linear IgA disease**, and **epidermolysis bullosa acquisita**) may present as a desquamative gingivitis. All patients with this clinical entity without obvious symmetric white reticulations should be biopsied for immunofluorescence studies to rule out such autoimmune diseases.
- Chronic **ulcerative stomatitis** may appear similar clinically but histologically will show antibodies directed against the nuclei of stratified squamous epithelium on direct immunofluorescence studies. Such lesions also tend to be somewhat more refractory to treatment.

- **Erythema multiforme** is not associated with reticulations and is of acute onset, with a history of reactivation of or recrudescence of herpes simplex virus (HSV) infection. There is usually but not invariably skin involvement with typical target lesions on the hands.
- Erythro-leukoplakia is not usually reticulated and appears as a red and white lesion that is usually painless. Biopsy is always indicated.

## Best Tests

In general, bilateral symmetric reticular lesions affecting typical sites (such as buccal mucosa, ventral tongue, and labial mucosa) do not require a biopsy for diagnosis. However, if there is any doubt regarding the diagnosis or if lesions are unilateral or primarily erythematous or ulcerative without reticular areas, a biopsy is indicated.

For lesions of desquamative gingivitis, a portion of the biopsy specimen should be submitted fresh or in Michel's medium for direct immunofluorescence studies.

## Management Pearls

The mainstay of therapy is topical steroids and pain management. It is usually not helpful to discontinue one medication for another in the same class, since most medications in that particular class may cause a similar reaction.

## Therapy

Topical glucocorticoid or calcineurin inhibitor therapy is the treatment of choice.

- Desoximetasone or clobetasol 0.05% gel: apply to affected site two times daily, or
- Triamcinolone acetonide 0.01% dental paste: apply to affected site two times daily, or
- Tacrolimus 0.1% ointment: apply to affected site two times daily.

Steroid inhalers (such as fluticasone or budesonide) have been used with some success.

For desquamative gingivitis, gels may be placed in a "bleaching tray" for 30 minutes twice a day. When disease is controlled, the time "under occlusion" may be lessened and/or a less potent steroid used.

- Dexamethasone rinse 0.1 mg/ml: swish 5 ml for 3-5 min and spit out; two to four times daily.
- Prednisolone rinse 10-15 mg/ml; swish 15 ml for 3-5 min and spit out; two to four times daily.
- Tacrolimus 0.1% ointment: apply to affected site two or three times daily.
- Intralesional steroid injections: 5-10 mg/cm<sup>2</sup> of ulceration.

Systemic therapy:

- Prednisone 1 mg/kg for 5-10 days with a taper.
- Hydroxychloroquine 200 mg.
- Mycophenolate mofetil 500 mg twice daily for 1 week, 500 mg three times daily for 2nd week, and 1000 mg twice daily thereafter.
- Cyclosporine 4 mg/kg daily.

Pain control:

- 2% viscous lidocaine: swish and spit out 5-10 ml as needed for pain.
- Mix equal volumes of viscous lidocaine with diphenhydramine and Kaopectate or Maalox: swish and spit out 5-10 ml as needed for pain.
- Dyclonine HCl 1%: swish and spit out 5 ml as needed for pain.

Candidiasis:

- Watch out for candidiasis. A culture before the start of therapy to check for candidal carriage is a reasonable strategy.
- Even if positive, not every patient will develop candidiasis, so close follow-up, usually within 2-4 weeks of initiating immunosuppressive therapy, is recommended.
- Treat the candidiasis only if it develops.

## Drug Reaction Data

Below is a list of drugs with literature evidence indicating an adverse association with this diagnosis. The list is continually updated through ongoing research and new medication approvals. Click on Citations to sort by number of citations or click on Medication to sort the medications alphabetically.

Medication	Citations
ACE inhibitor	<a href="#">1</a>

<b>Medication</b>	<b>Citations</b>
allopurinol	<u>1</u>
Alpha-adrenergic agonist	<u>1</u>
Antiarrhythmic	<u>1</u>
Anticonvulsant	<u>2</u>
Antifungal	<u>1</u>
Antigout	<u>1</u>
Antimalarials	<u>1</u>
aspirin	<u>1</u>
BCR-ABL tyrosine kinase inhibitor	<u>1</u>
benzodiazepine	<u>1</u>
Beta blockers	<u>1</u>
captopril	<u>1</u>
carbamazepine	<u>2</u>

<b>Medication</b>	<b>Citations</b>
certolizumab	<u>1</u>
Diuretic	<u>1</u>
enalapril	<u>1</u>
furosemide	<u>1</u>
hydrochlorothiazide	<u>1</u>
imatinib	<u>1</u>
indomethacin	<u>1</u>
infliximab	<u>1</u>
ketoconazole	<u>1</u>
lithium	<u>1</u>
lorazepam	<u>1</u>
methyldopa	<u>1</u>
naproxen	<u>1</u>

<b>Medication</b>	<b>Citations</b>
NSAID	<u>2</u>
Oral contraceptives	<u>1</u>
penicillin antibiotic class	<u>1</u>
phenylbutazone	<u>1</u>
propranolol	<u>1</u>
quinidine	<u>1</u>
quinine	<u>1</u>
Salicylates	<u>1</u>
sulfonamide	<u>1</u>
tetracycline antibiotic class	<u>1</u>
Therapeutic gold & gold compounds exposure	<u>1</u>