



THE UNIVERSITY OF
**WESTERN
AUSTRALIA**

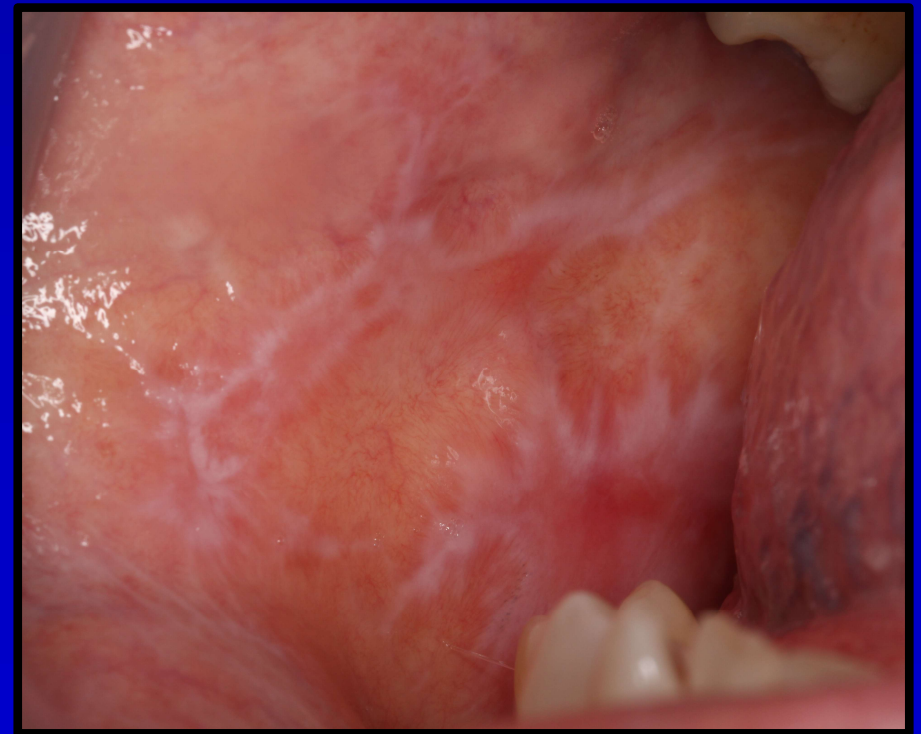
Allergies and immune mediated disease I - OLP



Dr Agnieszka Frydrych

Lichen Planus

- **Chronic, systemic** disease of established **immune-mediated** pathogenesis.



Lichen Planus



Lichen Planus

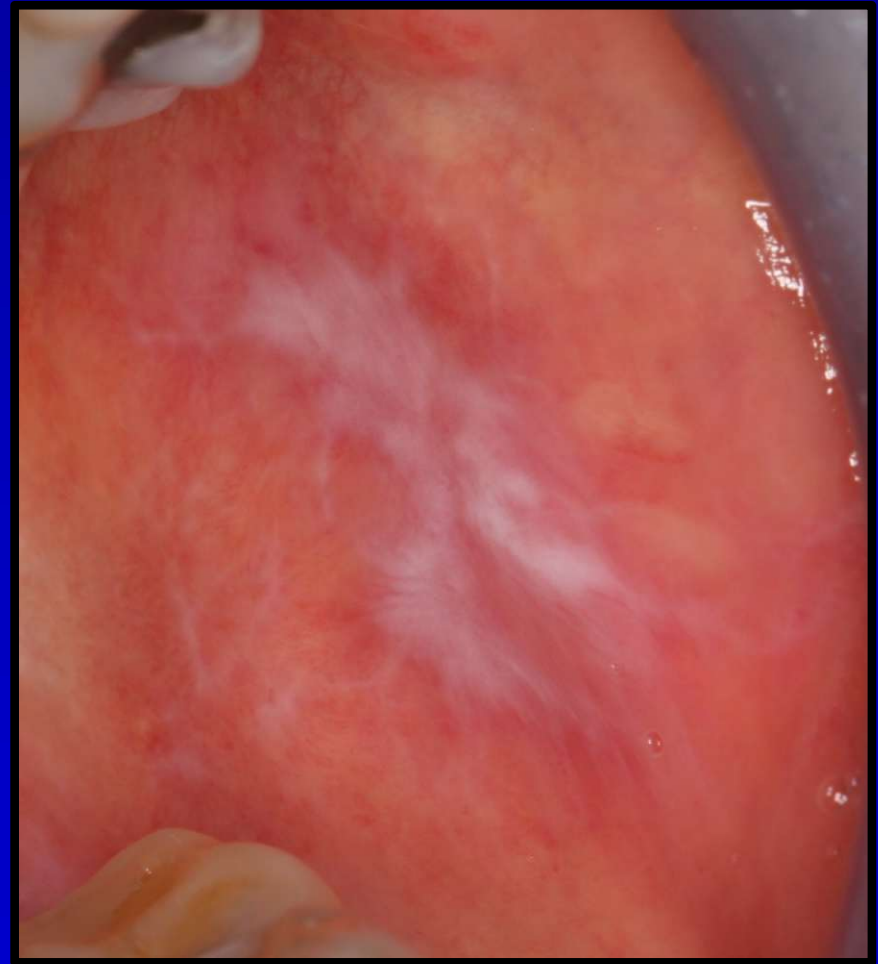


?



?

Lichen Planus



Lichen Planus

- Clinical patterns
 - Reticular
 - Plaque-like
 - Erythematous
 - Erosive / ulcerative
 - Papular
 - Bullous



Lichen Planus



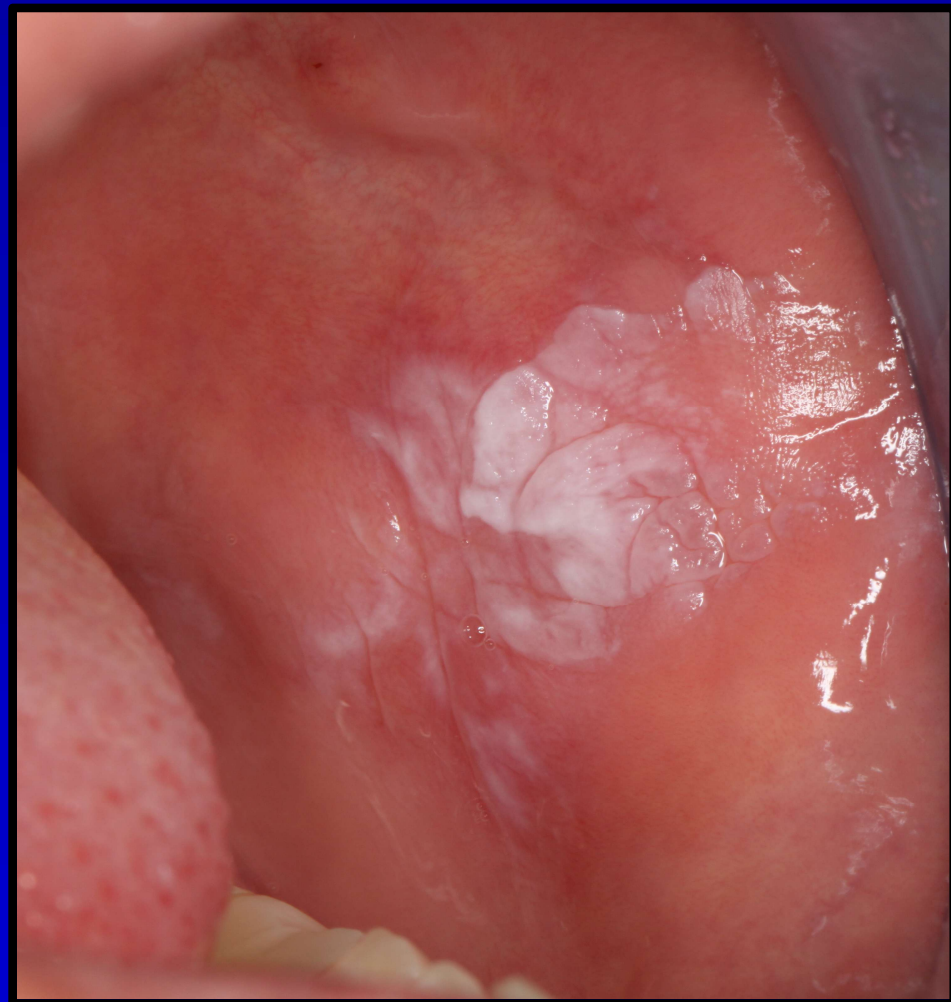
- Clinical patterns
 - Reticular



Lichen Planus



- Clinical patterns
 - Plaque-like



Lichen Planus



- Clinical patterns
→ Plaque-like



Lichen Planus

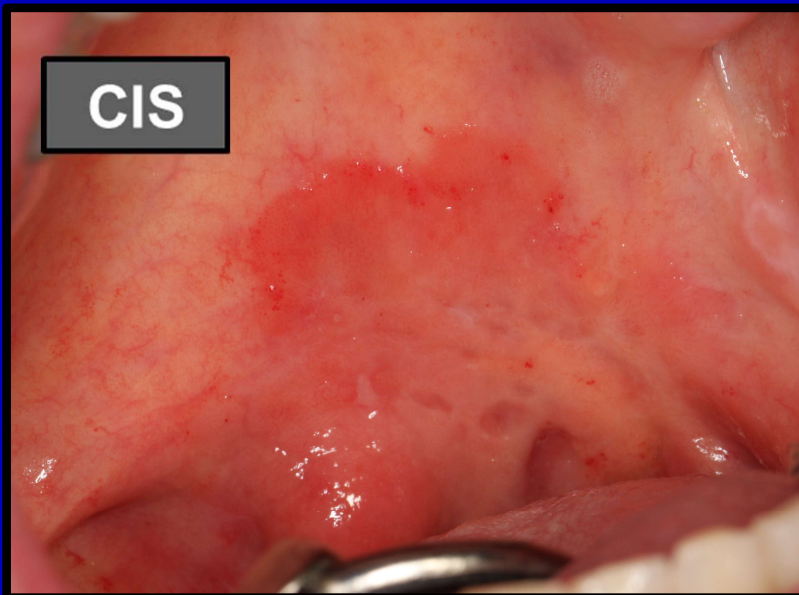
- Clinical patterns
 - Erythematous



Lichen Planus

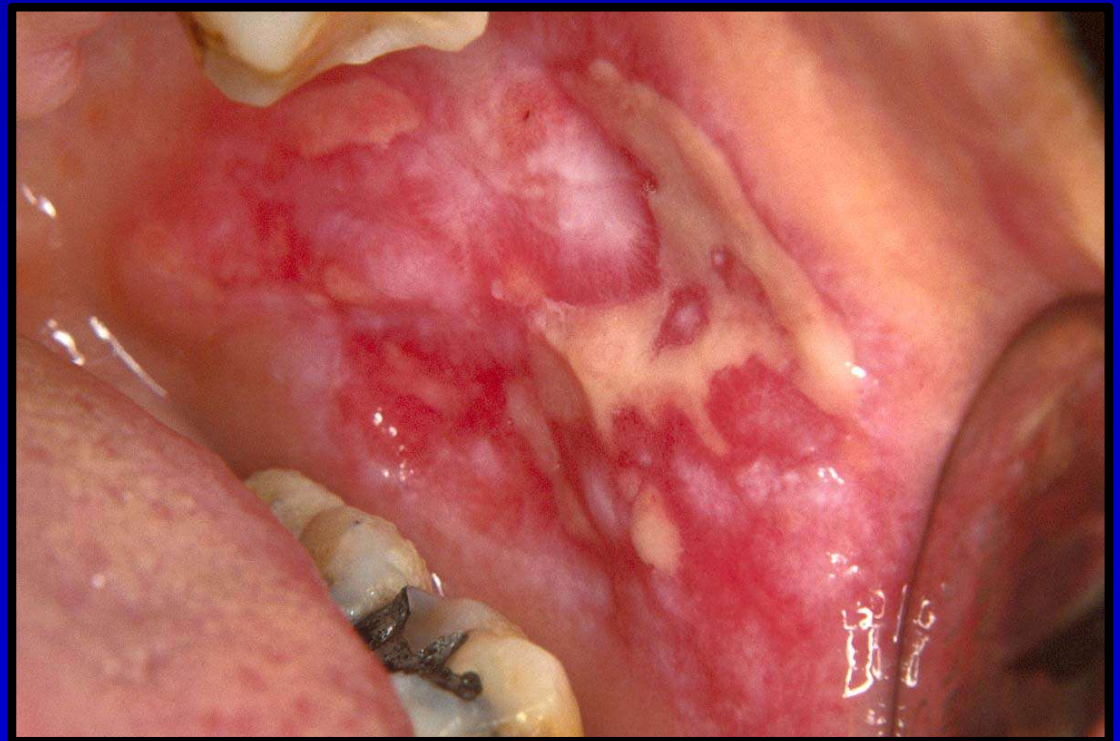
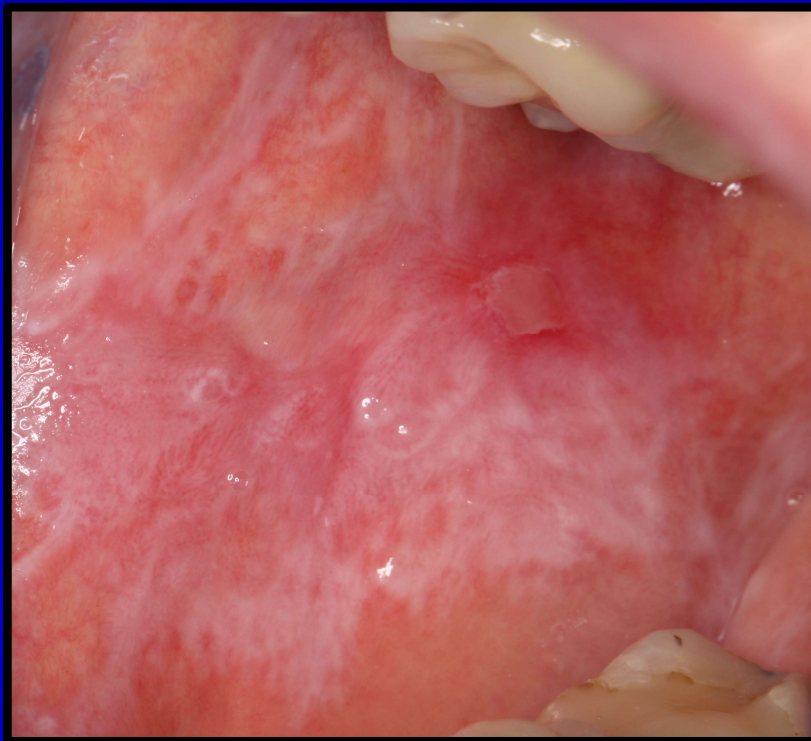


- Clinical patterns
 - Erythematous



Lichen Planus

- Clinical patterns
 - Erosive / ulcerative



Lichen Planus

- Clinical patterns
 - Papular



Lichen Planus

- Clinical patterns

→ Bullous



Lichen Planus

- OLP affects people of all ethnic groups (worldwide prevalence 2.2%).
- More frequently seen in women.
- Typical age of presentation is between 30-60 years of age.



Lichen Planus



- OLP can occur in children (prevalence 0.03%).



Photo: Gunashekhar M et al. Dermatology Online J. 2010;16:9.

Lichen Planus

- Commonly involves oral mucosa but can involve other sites:
 - Skin
 - Scalp
 - Nails
 - Genital mucosa
 - Anal mucosa
 - Oesophageal mucosa
 - Pharyngeal mucosa
 - Gastric mucosa
 - Conjunctiva



Lichen Planus



Lichen Planus



*Photos curtesy of Clinical Associate Professor
Kurt Gebauer, Dermatology West, Perth WA.*

Lichen Planus



Photo: Antonio JR et al. An Bras Dermatol 2014.

Lichen Planus



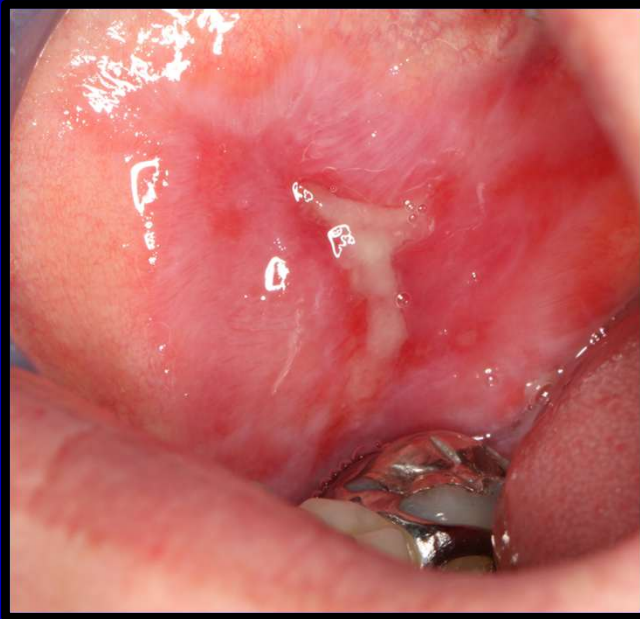
Photo: Podboy A et al. Aliment Pharmacol Ther 2017

OLP – Aetiology and Pathogenesis

- Aetiology unknown
 - ? *Local / systemic inducers of cell-mediated hypersensitivity*
 - ? *Stress*
 - ? *Autoimmune response to epithelial antigens*
 - ? *Microorganisms*
- Dominant type 1 (Th1) cell mediated immune response



OLP – Differential Diagnosis



OLP – Differential Diagnosis

- Lichenoid drug reactions
- Contact lichenoid reactions
- Chronic ulcerative stomatitis
- Linear IgA disease
- Mucous membrane pemphigoid
- Pemphigus vulgaris
- Lupus erythematosus
- Graft versus host disease
- Other



OLP – Differential Diagnosis

→ Lichenoid drug reactions



Photos: Dr. Jerry Bouquot, The Maxillofacial Center, Morgantown, West Virginia

OLP – Differential Diagnosis

→ Lichenoid drug reactions



OLP – Differential Diagnosis

Antibiotics

- Tetracycline

Anticonvulsants

- Carbamazepine
- Oxcarbazepine
- Phenytoin
- Valproate sodium

Antidiabetics

- Chlorpropamide
- Glipizide
- Tolbutamide

Antidiarrheals

- Bismuth

Antifungals

- Amphotericin B
- Ketoconazole

Antihypertensives

- Atenolol
- Enalapril
- Hydrochlorothiazide
- Methyldopa
- Metoprolol

Antimalarials

- Chloroquine
- Hydroxychloroquine
- Quinidine
- Quinine

Antimycobacterials

- Aminosalicylate sodium
- Isoniazid
- Rifampin
- Streptomycin

Antiretrovirals

- Zidovudine

Chemotherapeutics

- Dactinomycin
- Imatinib

Immunomodulatory drugs

- Gold salts
- Interferon-a
- Penicillamine

NSAIDs

- Aspirin
- Diflunisal
- Ibuprofen
- Indomethacin
- Naproxen
- Rofecoxib
- Sulindac

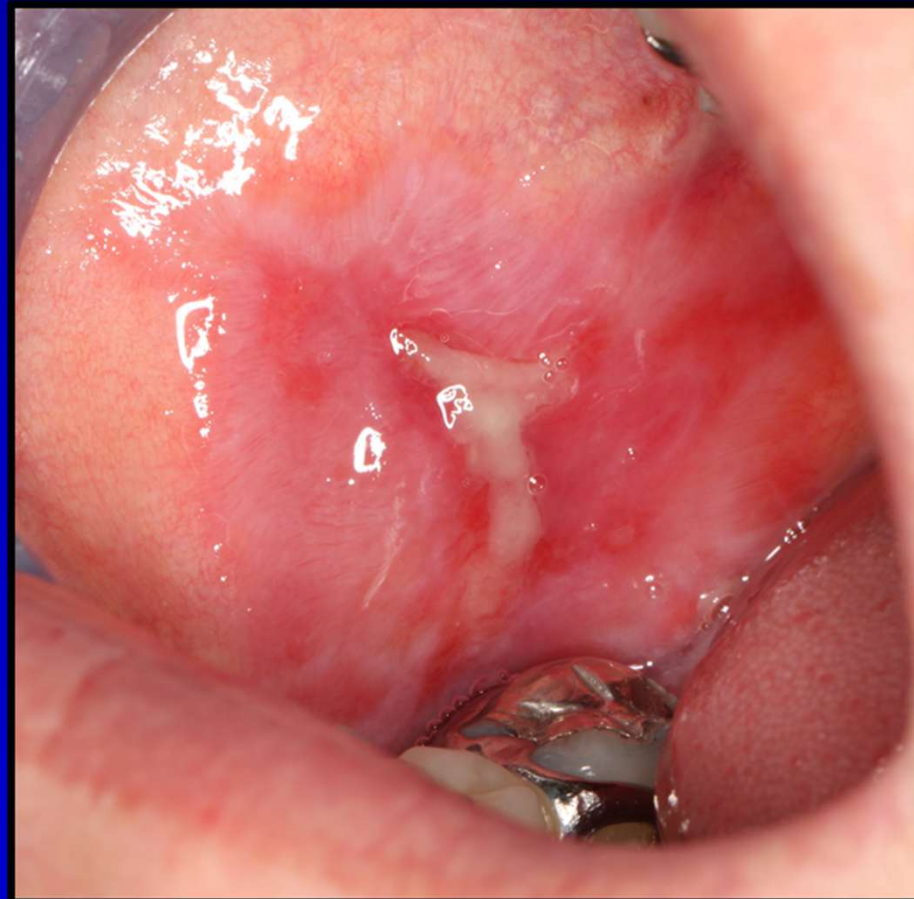
Psychiatric

- Benzodiazepines
- Tricyclic antidepressants
- Lithium



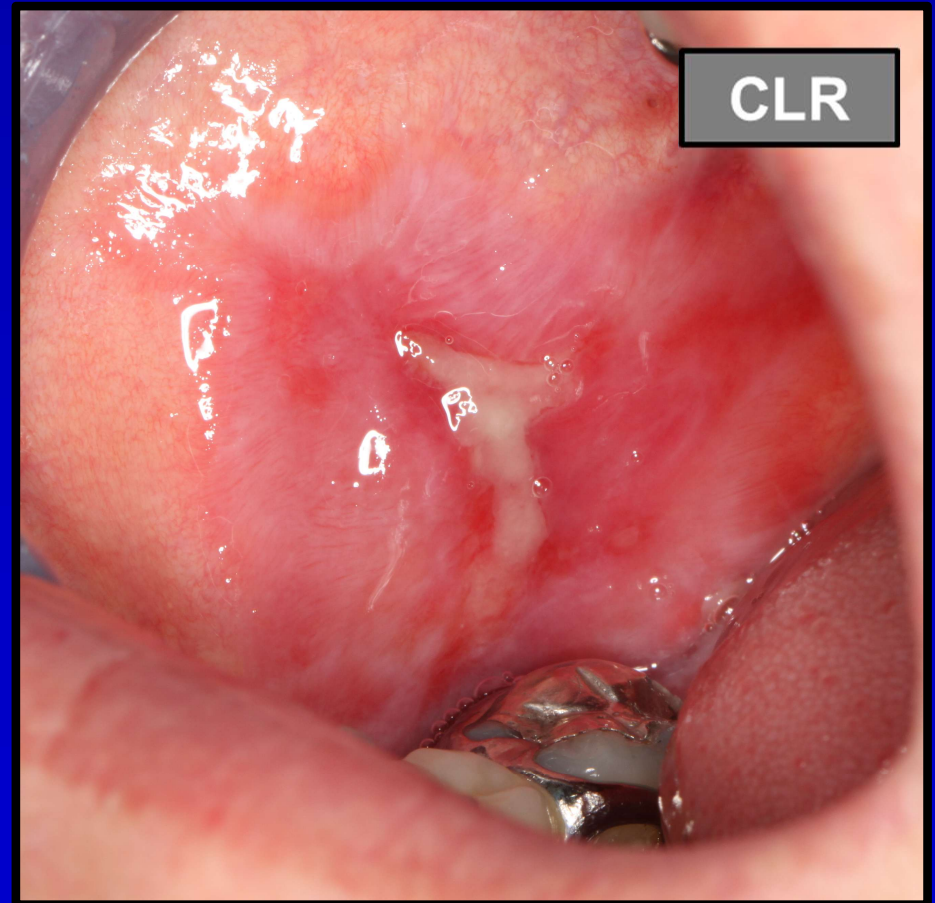
OLP – Differential Diagnosis

→ Contact lichenoid reactions (to mercury)



OLP – Differential Diagnosis

→ Contact lichenoid reactions (to mercury)



OLP – Differential Diagnosis

Dental adhesives

- Acrylate compounds
- Eugenol

Dental restorative materials

- Composite
- Glass ionomer
- Porcelain

Dental metals

- Beryllium
- Cobalt
- Copper
- Chromium
- Gold
- Mercury
- Nickel
- Palladium
- Silver
- Tin

Flavourings

- Balsam of Peru
- Cinnamon, cinnamic aldehyde
- Eugenol
- Menthol
- Peppermint
- Vanillin



OLP – Differential Diagnosis

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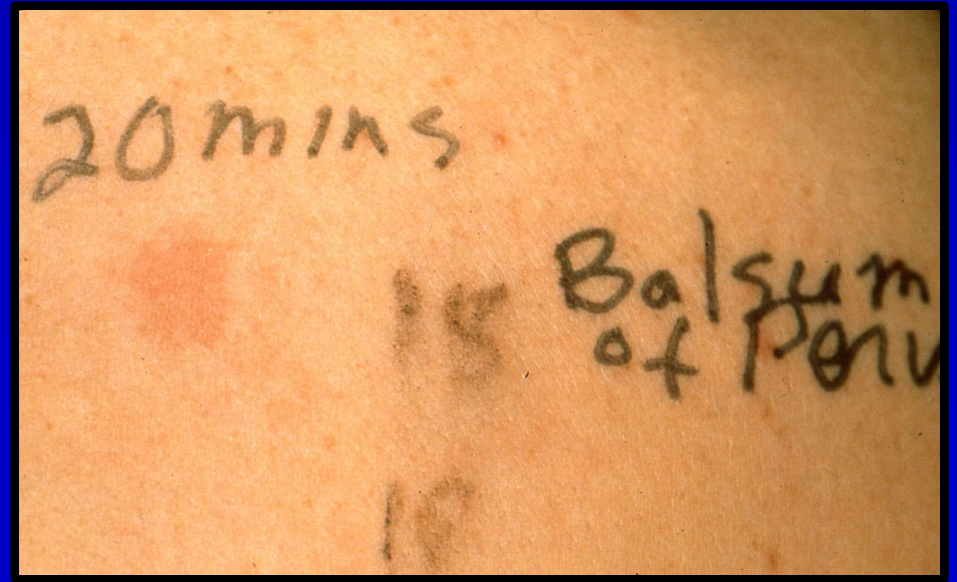
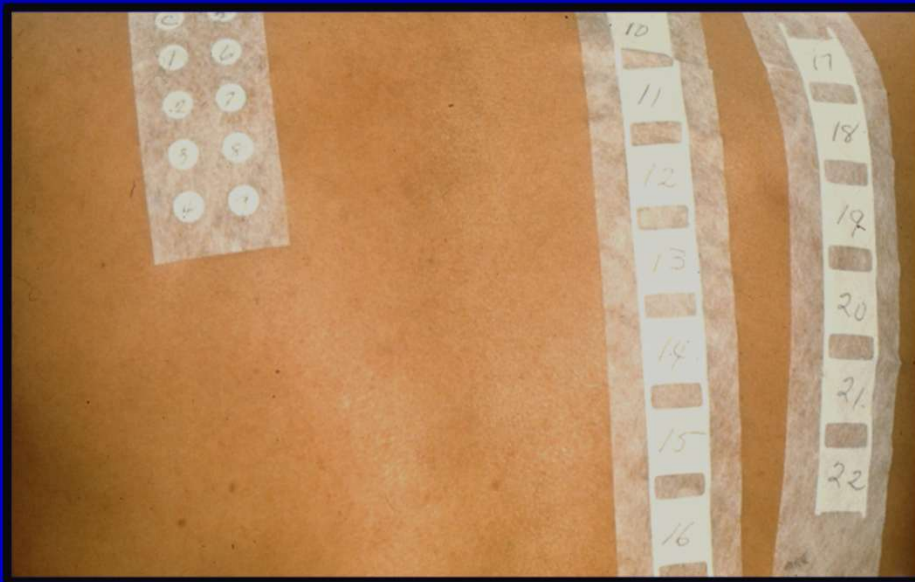
- Balsam of Peru
- Cinnamon, cinnamic aldehyde
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- Peppermint
- Vanillin



OLP – Differential Diagnosis

→ Contact lichenoid reactions

- Skin patch testing useful but not absolute



OLP – Differential Diagnosis

→ Chronic ulcerative stomatitis



Photo: Azzi L et al. Oral Dis 2019.

OLP – Differential Diagnosis

→ Chronic ulcerative stomatitis



Photo: Azzi L et al. Oral Dis 2019.

OLP – Differential Diagnosis

→ Linear IgA disease



OLP – Differential Diagnosis

→ Linear IgA disease



OLP – Differential Diagnosis

→ Mucous membrane pemphigoid



Photo: Dr. Jerry Bouquot, The Maxillofacial Center, Morgantown, West Virginia.

OLP – Differential Diagnosis

→ Mucous membrane pemphigoid



OLP – Differential Diagnosis

→ Mucous membrane pemphigoid



Photos: Dr. Jerry Bouquot, The Maxillofacial Center, Morgantown, West Virginia

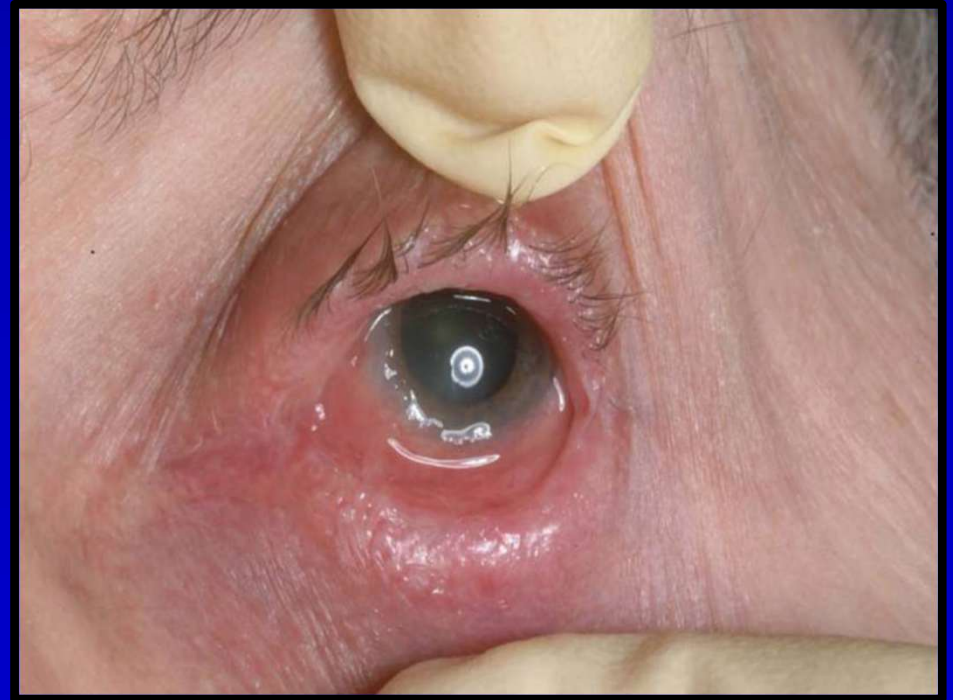
OLP – Differential Diagnosis

→ Mucous membrane pemphigoid



OLP – Differential Diagnosis

→ Mucous membrane pemphigoid



Photos: DaCosta J. Clin Ophthalmol 2012.

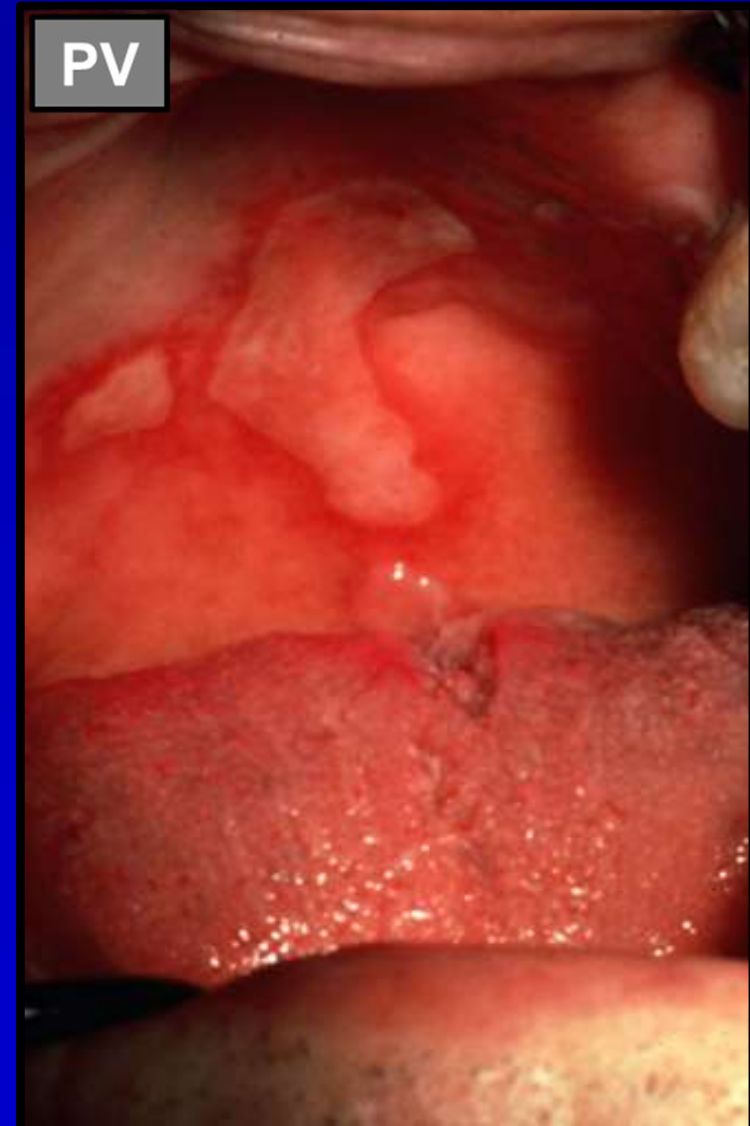
OLP – Differential Diagnosis

→ Pemphigus vulgaris



OLP – Differential Diagnosis

→ Pemphigus vulgaris



OLP – Differential Diagnosis

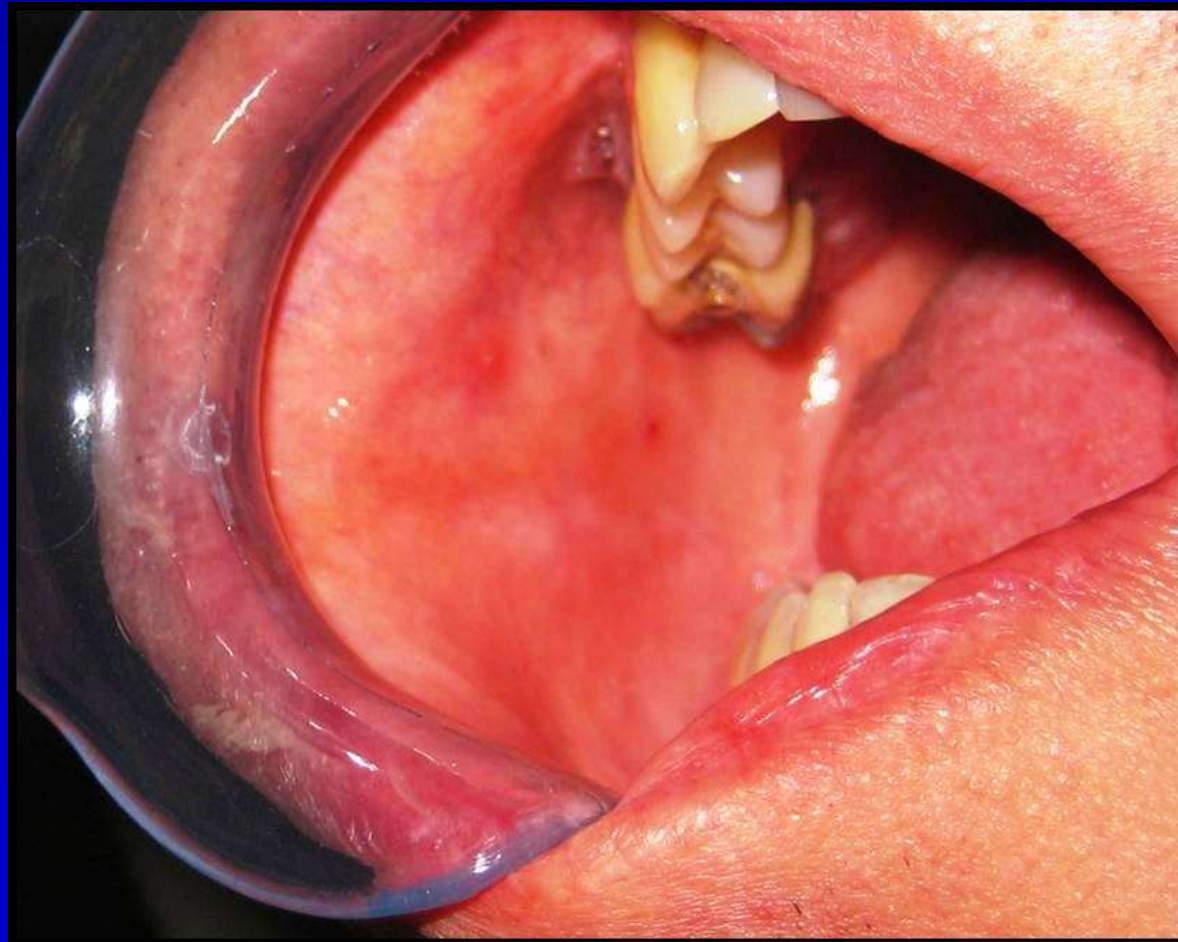
→ Lupus erythematosus



Photo: Lourenco SV et al. J Cutan Pathol 2007

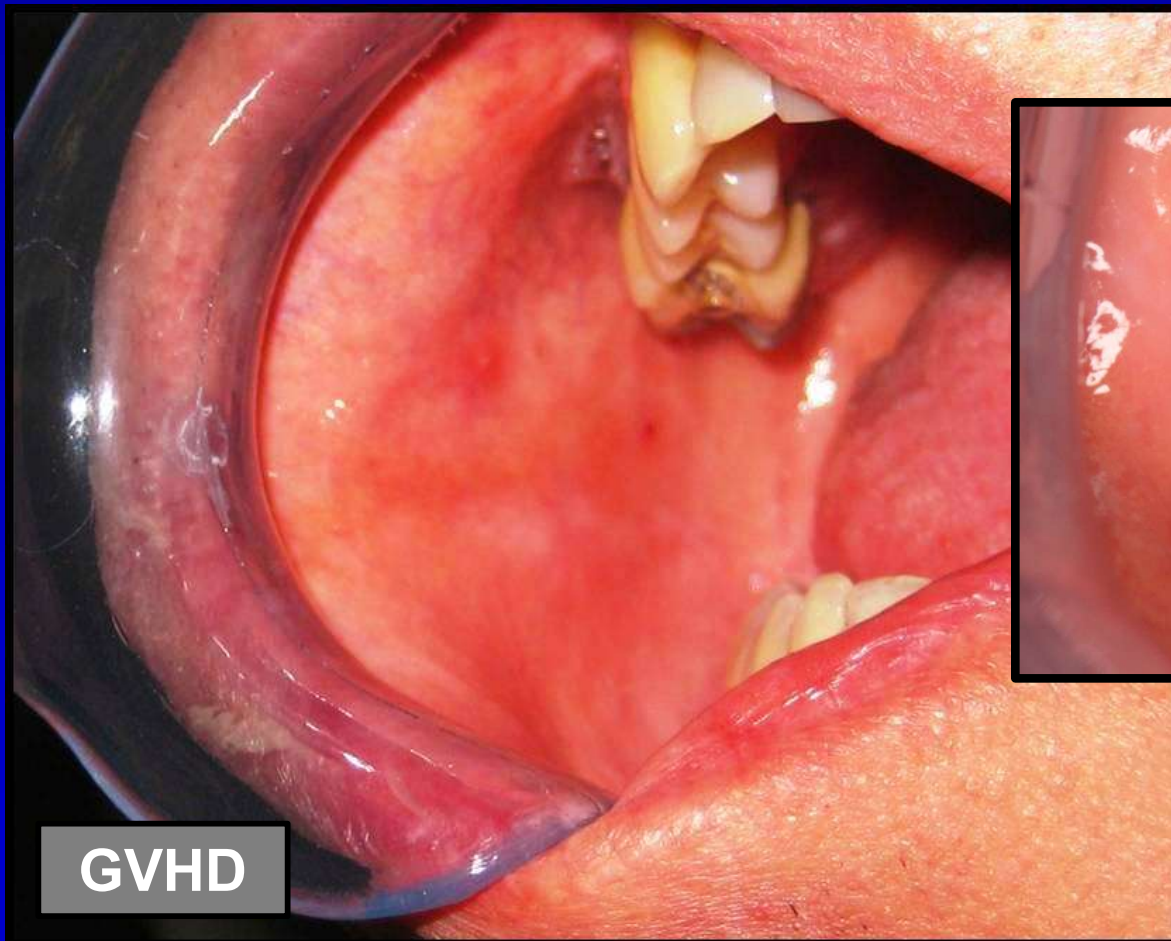
OLP – Differential Diagnosis

→ Graft versus host disease

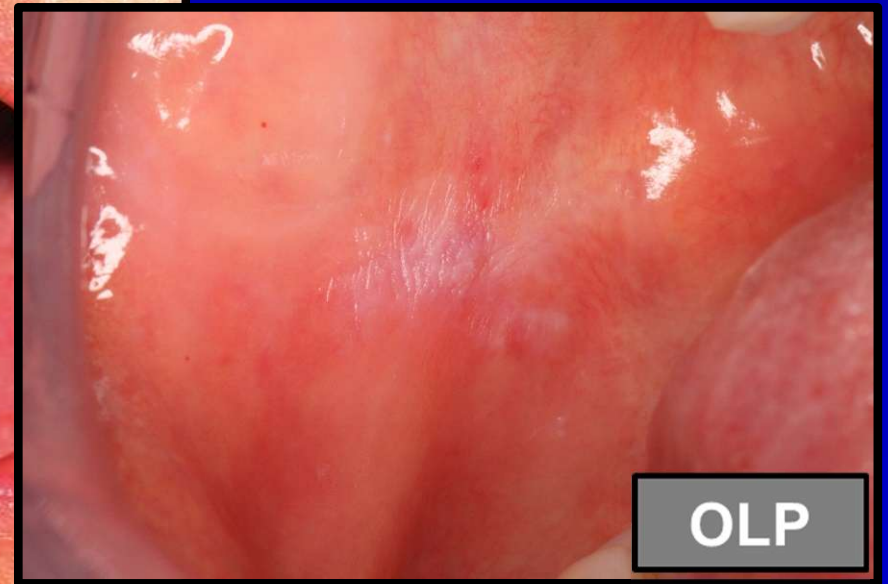


OLP – Differential Diagnosis

→ Graft versus host disease



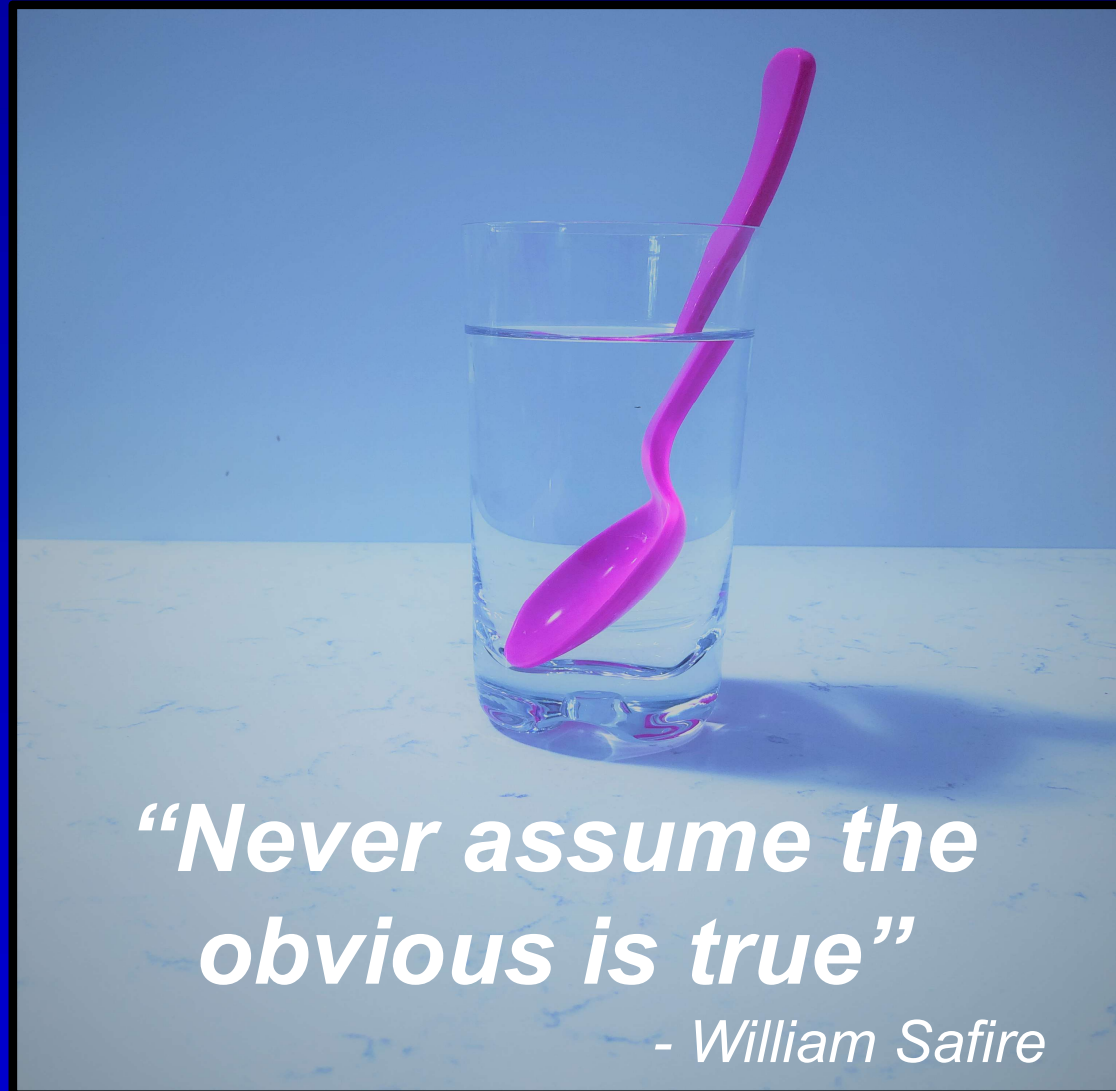
GVHD



OLP



OLP - Diagnosis



*“Never assume the
obvious is true”*

- William Safire



OLP - Diagnosis

Clinical criteria

- * Presence of bilateral, more or less symmetric lesions
- * Presence of a lacelike network of slightly raised grey-white lines (reticular pattern)
- * Erosive, atrophic, bullous, and plaque-type lesions are only accepted as a subtype in the presence of reticular lesions elsewhere in the oral mucosa

In all other lesions that resemble OLP but do not complete the aforementioned criteria, the term "clinically compatible with" should be used.

Histopathologic criteria

- * Presence of a well-defined, band like zone of cellular infiltration that is confined to the superficial part of the connective tissue, consisting mainly of lymphocytes
- * Signs of liquefaction degeneration in the basal cell layer
- * Absence of epithelial dysplasia

When the histopathologic features are less obvious, the term "histopathologically compatible with" should be used.

To achieve a final diagnosis, clinical as well as histopathologic criteria should be included.

A diagnosis of OLP requires fulfilment of clinical and histopathologic criteria.

The term OLL will be used in the following conditions:

1. Clinically typical of OLP but histopathologically only compatible with OLP
2. Histopathologically typical of OLP but clinically only compatible with OLP
3. Clinically compatible with OLP and histopathologically compatible with OLP



OLP - Diagnosis

Modified WHO criteria	Proposed criteria
Bilateral, more or less symmetric lesions	Multifocal symmetric distribution
- Erosive, atrophic, bullous, and plaque-type lesions are only accepted as a subtype in the presence of reticular lesions elsewhere in the oral mucosa	White and red lesions exhibiting one or more of the following forms:
- Lace-like network of slightly raised gray-white lines (reticular pattern)	- Reticular/papular
	- Atrophic (erythematous)
	- Erosive (ulcerative)
	- Plaque
	- Bullous
	Lesions are not localized exclusively to the sites of smokeless tobacco placement
	Lesions are not localized exclusively adjacent to and in contact with dental restorations
	Lesion onset does not correlate with the start of a medication
	Lesion onset does not correlate with the use of cinnamon-containing products
Well-defined, band-like zone of cellular infiltration consisting mainly of lymphocytes and confined to the superficial lamina propria	Band-like or patchy, predominately lymphocytic infiltrate in the lamina propria confined to the epithelium-lamina propria interface
Liquefaction degeneration in the basal cell layer	Basal cell liquefactive (hydropic) degeneration
	Lymphocytic exocytosis
Absence of epithelial dysplasia	Absence of epithelial dysplasia
	Absence of verrucous epithelial architectural change



OLP - Diagnosis

- Should every case of OLP be biopsied?



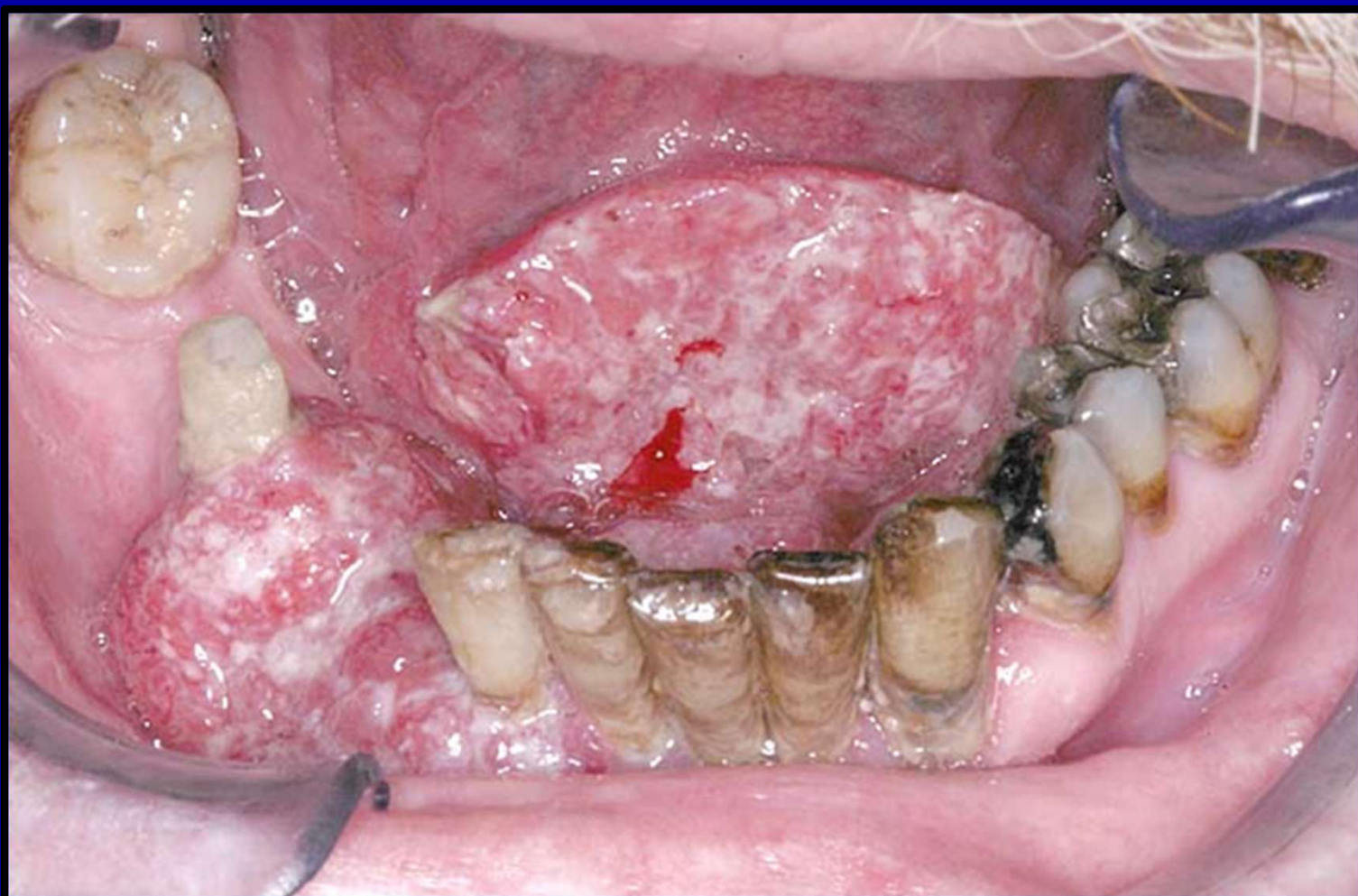
OLP - Diagnosis



OLP - Diagnosis



OLP - Diagnosis



OLP - Diagnosis



OLP - Diagnosis



Verrucous carcinoma



OLP



OLP - Diagnosis

- Routine investigations:
 - FBC
 - B12
 - Folate
 - Iron studies
 - other



OLP - Diagnosis



Photos: Dr. Jerry Bouquot, The Maxillofacial Center, Morgantown, West Virginia

OLP - Diagnosis

- Routine investigations:
 - FBC
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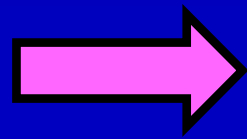
OLP - Management

- No cure available.
- Treatment is supportive and palliative only.
- Can be associated with reduced QOL.



OLP - Management

- Smooth sharp cusps.
- Eliminate ill-fitting dental prosthesis.
- Maintain meticulous oral hygiene.

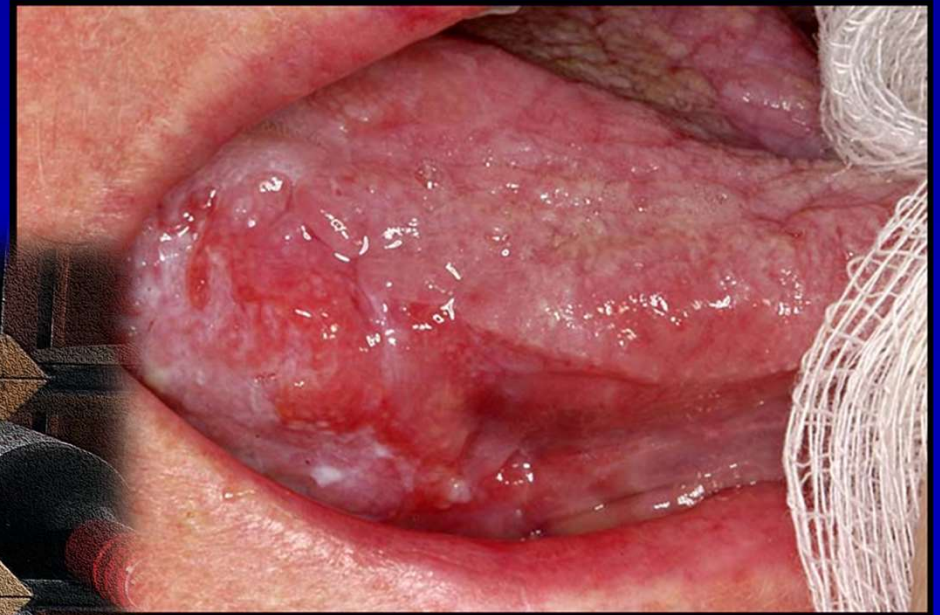


Koebner phenomenon



OLP - Management

**DID YOU KNOW THAT
DRINKING AS LITTLE
AS ONE STANDARD
DRINK A DAY
INCREASES YOUR RISK
OF MOUTH CANCER?**



OLP - Management

 BUILDING A HEALTHY AUSTRALIA

Alcohol Guidelines

Australian guidelines to reduce health risks from drinking alcohol

1: HEALTHY ADULTS

Drink no more than 10 standard drinks a **week**



AND

no more than 4 standard drinks on **any one day**



to reduce the risk of harm from alcohol.

The less you drink, the lower your risk of harm.

2: CHILDREN AND PEOPLE UNDER 18 YEARS OF AGE

Should not drink alcohol



to reduce the risk of harm from alcohol.

3: WOMEN WHO ARE PREGNANT OR BREASTFEEDING

Should not drink alcohol



to prevent harm from alcohol to their unborn child or baby.

www.nhmrc.gov.au/alcohol



OLP - Management

What is a standard drink?



**LIGHT
BEER**

425 ml | 2.7% alc/vol



**MID STRENGTH
BEER**

375 ml | 3.5% alc/vol



**FULL STRENGTH
BEER**

285 ml | 4.9% alc/vol



**REGULAR
CIDER**

285 ml | 4.9% alc/vol



SPARKLING WINE

100 ml | 13% alc/vol



WINE

100 ml | 13% alc/vol



FORTIFIED WINE

(e.g. sherry, port)
60 ml | 20% alc/vol



SPIRITS

(e.g. vodka, gin, rum, whiskey)
30 ml | 40% alc/vol

The standard drink is defined in the Australia and New Zealand Food Standards Code.



www.nhmrc.gov.au/alcohol

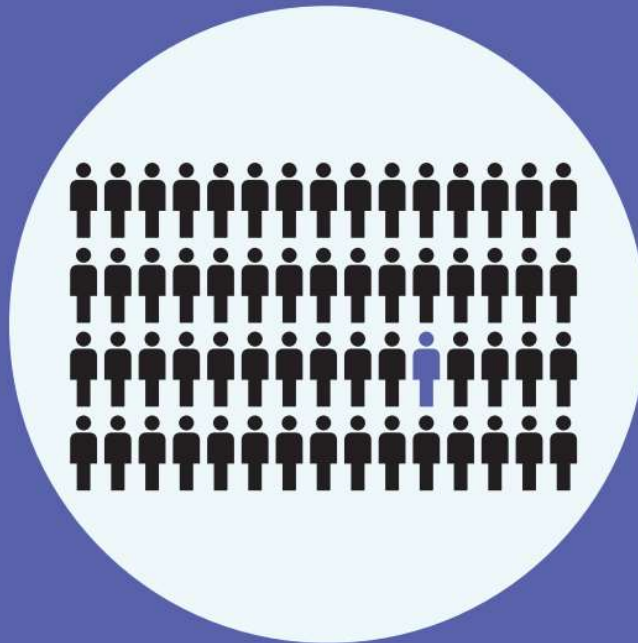
BUILDING
A HEALTHY
AUSTRALIA



OLP - Management

**1 in
100**

Healthy adults drinking within the guideline recommendation have less than a 1 in 100 chance of dying from an alcohol-related condition.



BUILDING
A HEALTHY
AUSTRALIA

www.nhmrc.gov.au/alcohol



OLP - Management

- Associations with periodontal disease?



OLP - Management

- Plaque control is important in the management of OLP.



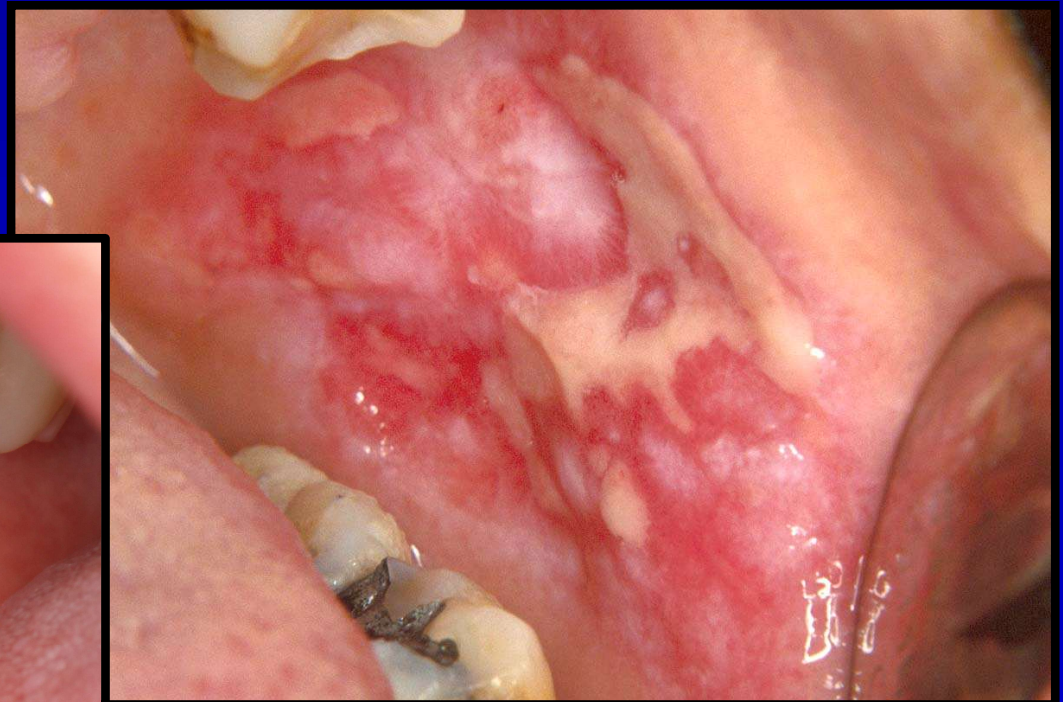
OLP - Management

- ? Implants – implant loss does not appear to be directly related to OLP



OLP - Management

- Medication



OLP - Management

- Corticosteroids

- **Topical**

- Systemic

- Intralesional

- Calcineurin inhibitors

- Cyclosporine

- Tacrolimus

- Other



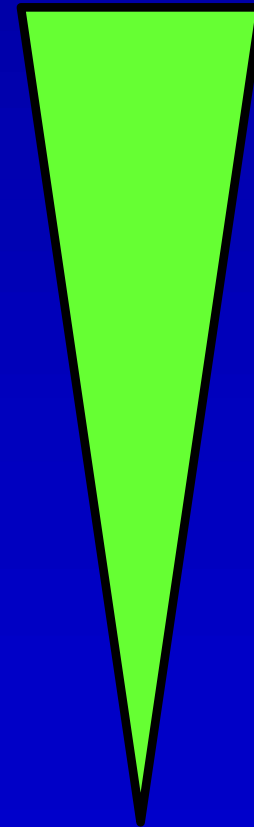
OLP - Management

- Topical corticosteroids
 - Clobetasol propionate
 - Fluocinonide
 - Betamethasone dipropionate
 - Beclomethasone dipropionate
 - Fluocinonide acetonide
 - Betamethasone valerate
 - Triamcinolone acetonide
 - Hydrocortisone



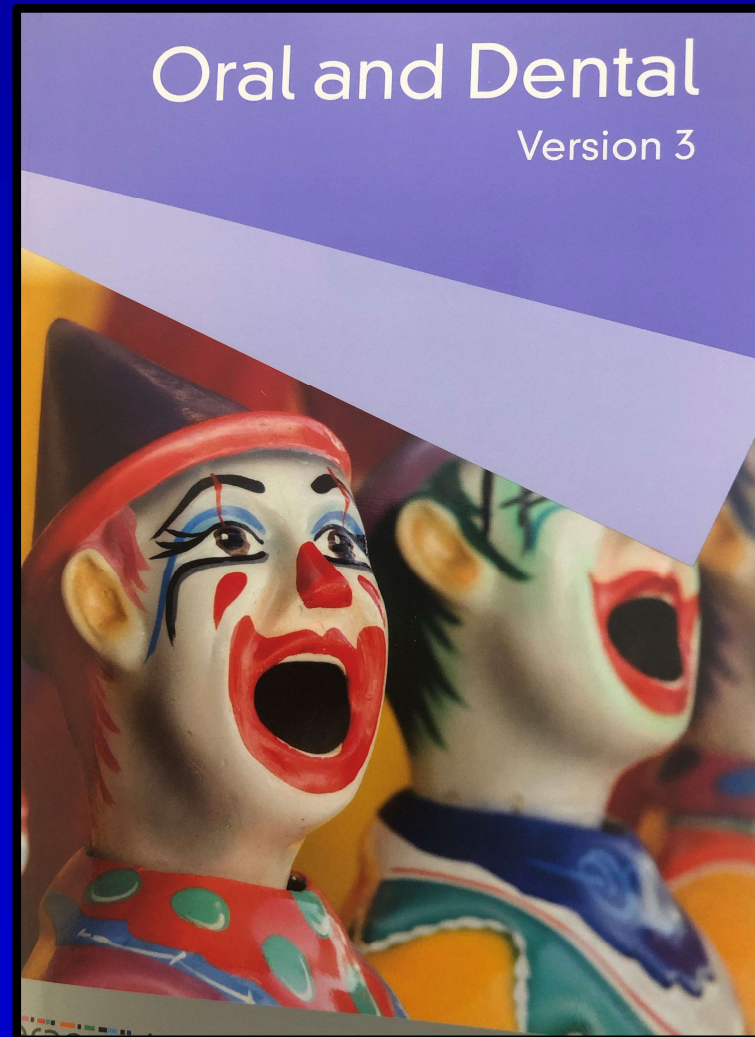
OLP - Management

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 - Betamethasone dipropionate
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 - Betamethasone valerate
 - Triamcinolone acetonide
 - Hydrocortisone



OLP - Management

- For biopsy proven symptomatic OLP:
 - Betamethasone dipropionate 0.05% ointment (Diprosone) 2/day.



OLP - Management

- Beclomethasone dipropionate inhaler 50-100mcg/dose up to 2 sprays, 4/day.



OLP - Management

- Dexamethasone mouthwash
0.5-1mg/5ml, up to 4/day.



OLP - Management



OLP - Management

- Factors influencing effectiveness of TC:
 - Drug potency
 - Contact time
 - Vehicle / formulation



OLP - Management

- Causes of treatment failure:
 - Incorrect diagnosis.
 - Superimposed candidal infection.
 - TC of inadequate potency.
 - Poor patient compliance.



OLP - Management

- Local complications:
 - Oral candidiasis



OLP - Management

- Local complications:
 - Oral candidosis



OLP - Management

- Local complications:
 - Oral candidiasis



OLP - Management

→ Oral candidiasis



OLP - Management

→ Oral candidiasis



OLP - Management

- Local complications:
 - Oral candidosis
 - Stomatopyrosis
 - Hypogeusia
 - Oral hairy leukoplakia



OLP - Management

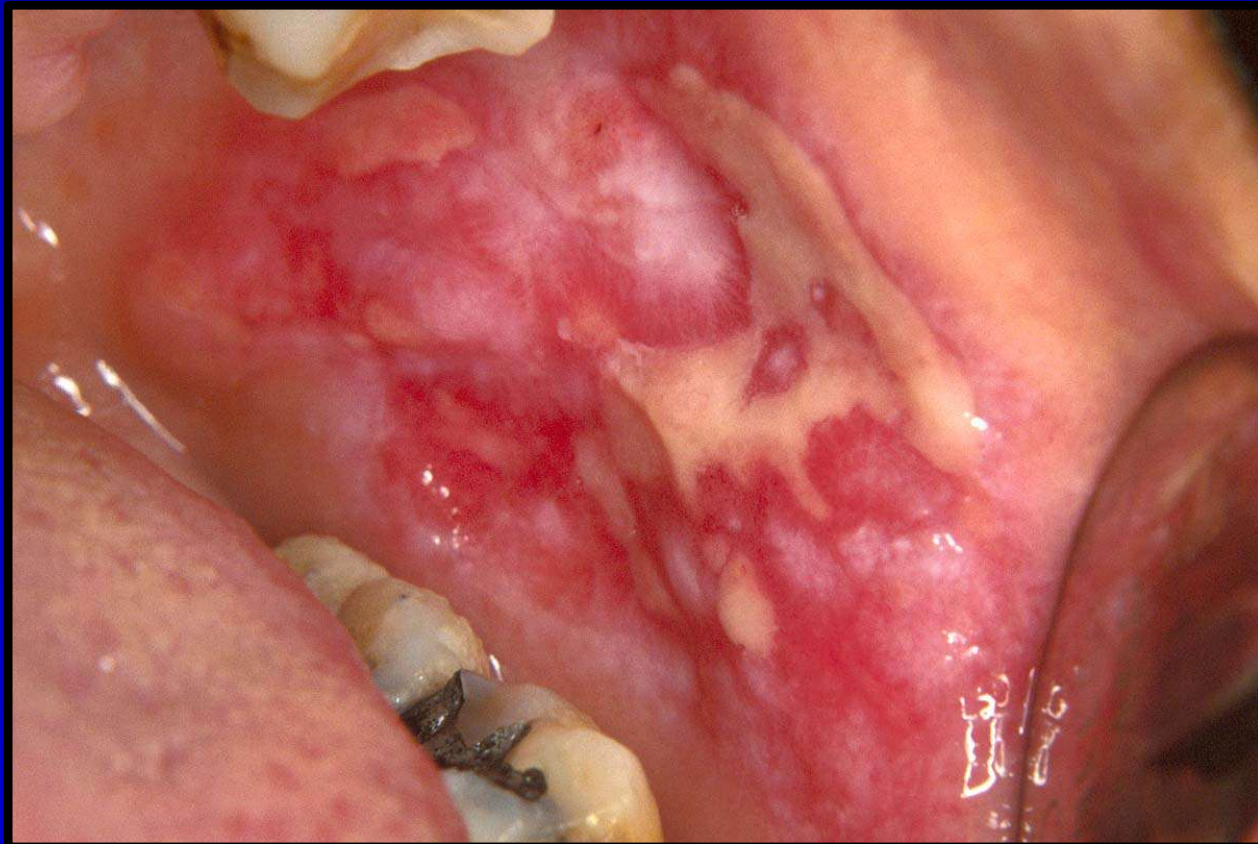
- Systemic adverse effects:

- ▶ *Changes in:*
 - *Mood*
 - *Weight*
 - *Blood pressure*
 - *Blood glucose*
 - *Plasma cortisol*
- ▶ *Insomnia*
- ▶ *Moon face*
- ▶ *Hirsutism*



OLP - Management

- Systemic prednisolone 0.5-1.0mg/kg/d.



OLP - Management

- Regular follow-up - at least annual.



OLP - Management



OLP - Summary

- Common, chronic, systemic, immunologically mediated disease.
- Aetiology unknown.
- Diagnosis is based on fulfilment of clinical and histopathological criteria.
- Topical corticosteroids are the first line of treatment.
- Regular follow-up is recommended.

