

Differential diagnosis – part I White lesions

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Differential diagnosis

Change of color

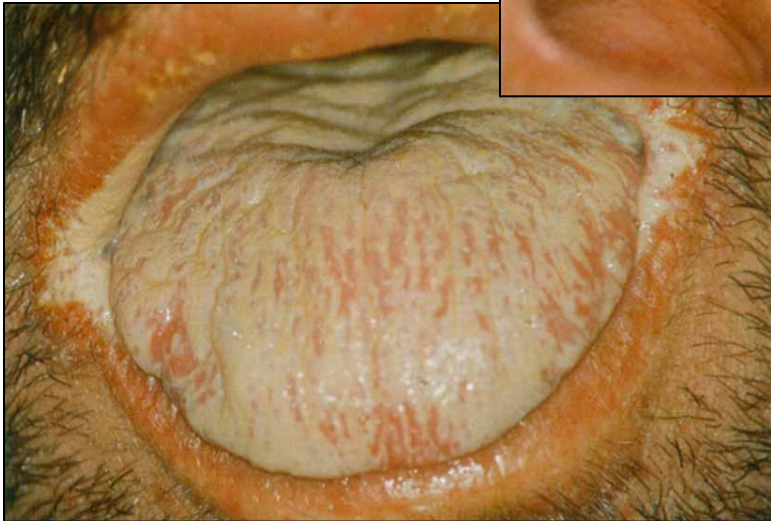
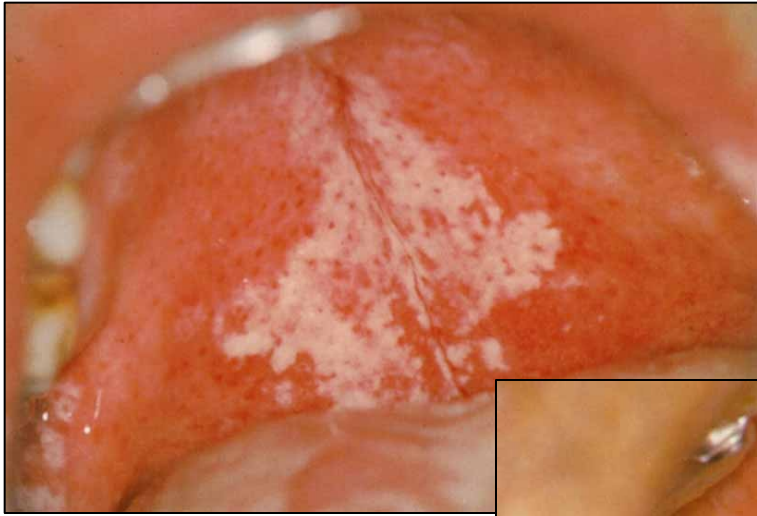
- White lesions
- Red lesions
- Pigmented lesions

Disruption of the mucosal surface

- Blisters
- Erosion
- Ulcer

Change in mucosal thickness

- Papillary lesions
- Soft tissue enlargement
- Atrophy



White lesions

- keratosis, hyperkeratosis
- acanthosis
- colonies of microbes



White lesion

- Is it **accumulation of debris** ? **Materia alba**
 - amorphous structure, epithelia, leukocytes, rests of food, removing by spray is possible

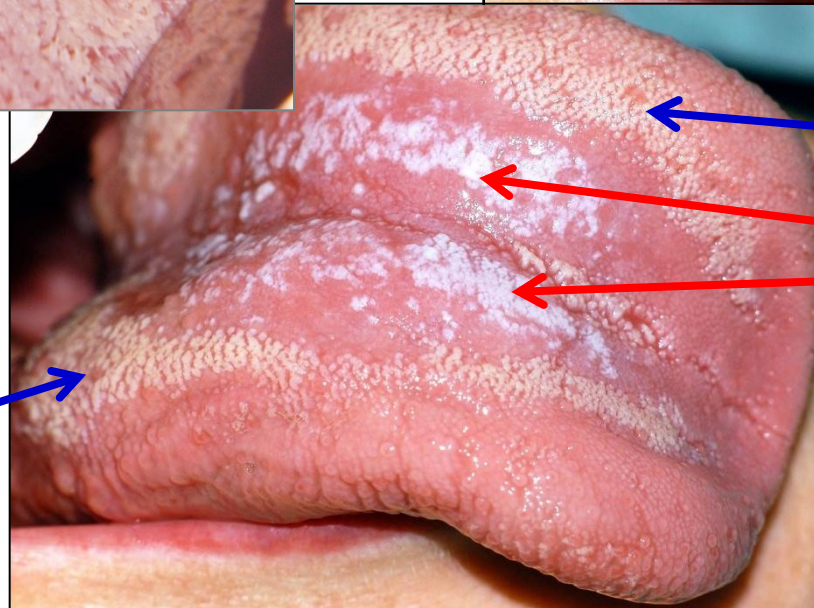
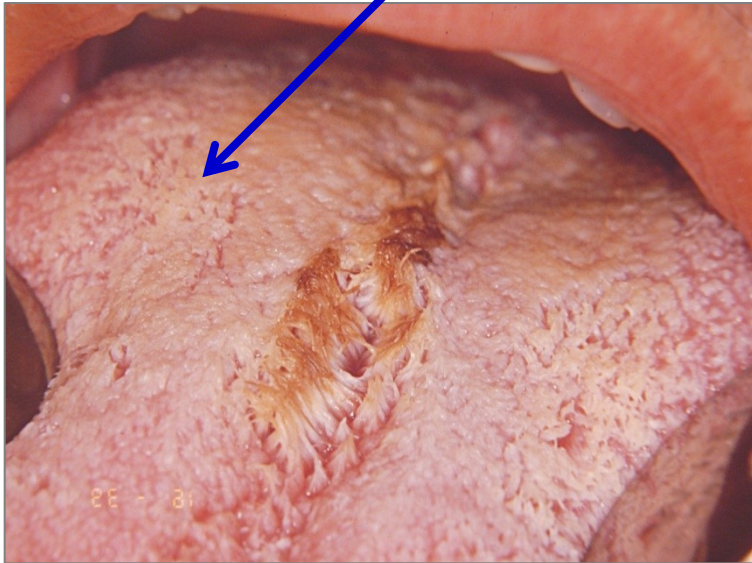




Is it really a "white surface" or it is erosion or ulceration covered by fibrin pseudomembrane?



Is it really a "white surface" or it is the multiplied coating of the tongue?



Differential diagnosis of white lesions

- Can you **wipe** it away ? - colonies of microorganisms
- Is it **localized** or diffused lesion ?
- Is their **symmetry** ? - oral lichen planus / leukoplakia
- **Subjective** complaints ? - candidiasis, lichen
- **Smoking** ? - leukoplakia

Differential diagnosis of the white lesions

Mechanical irritation

- linea alba
- morsicatio buccarum/labiorum
- frictional keratosis

Chemical irritation

- smoker's leukokeratosis (stomatitis nicotinic)
- local toxic reaction (over a long period of time)

Immunopathological reactions

- oral lichen planus – reticular, annular, plaque form
- lichenoid-like stomatitis (drug-induced, GvHD)
- lichenoid contact allergic reactions
- lupus
- psoriasis

Infectious diseases

- pseudomembranous oral candidosis
- EBV infections of the tongue (hairy leukoplakia)
- HPV infections (viral acantomias)
- 2nd stage of syphilis (plaques opalines)

Precancerous lesions

- leukoplakia (homogeneous/non-homogeneous)
- verrucous leukoplakia
- verrucous carcinoma
- abrasive cheilitis
- oral submucous fibrosis

Others

- materia alba
- lingua geographica
- leukoedema
- white sponge nevus
- Darier's disease

White lesions - etiology

- Leukoedema
- White sponge nevus congenital/developmental
- Fordyce's granules
- Linea alba
- Morsicatio buccarum at labiorum chronic irritation
- Frictional keratosis of low intensity

White lesions - etiology

- Leukoplakia
- Nicotinic stomatitis external factors
- Toxic - allergic reaction
- Actinic cheilitis

- Lichen planus – reticular and plaque type
- Lupus erythematoses
- Psoriasis immunopathological reactions

- Pseudomembranous candidiasis
- Chronic hyperplastic candidiasis
- Hairy leukoplakia
- HPV infections
- Syphilis

White lesions

Leukoedema

White sponge nevus

Fordyce's granules

congenital/developmental
disorders

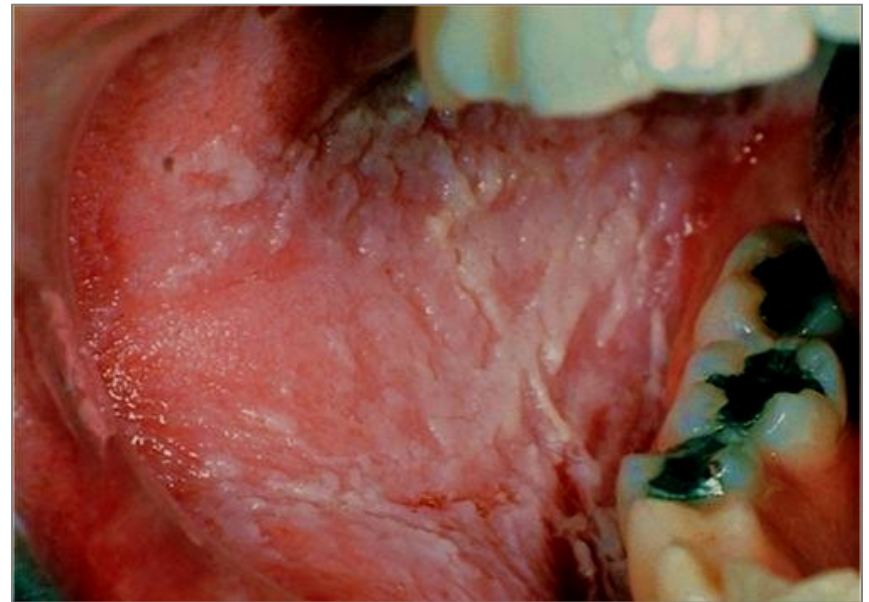
Leukoedema

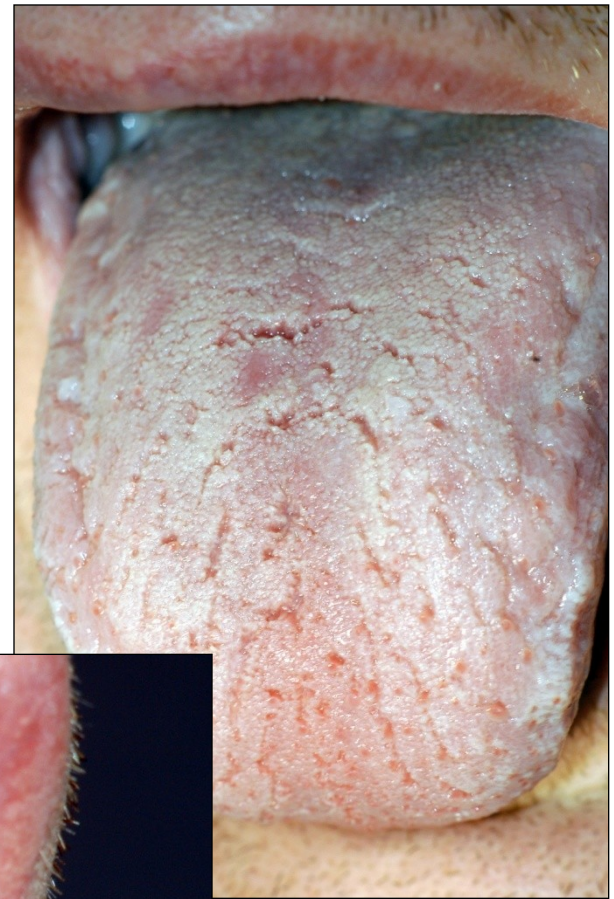
- anatomical variant of oral mucosa
- thickening of the epithelium, intracellular oedema
- occurs bilaterally on buccal mucosa



White spongy nevus

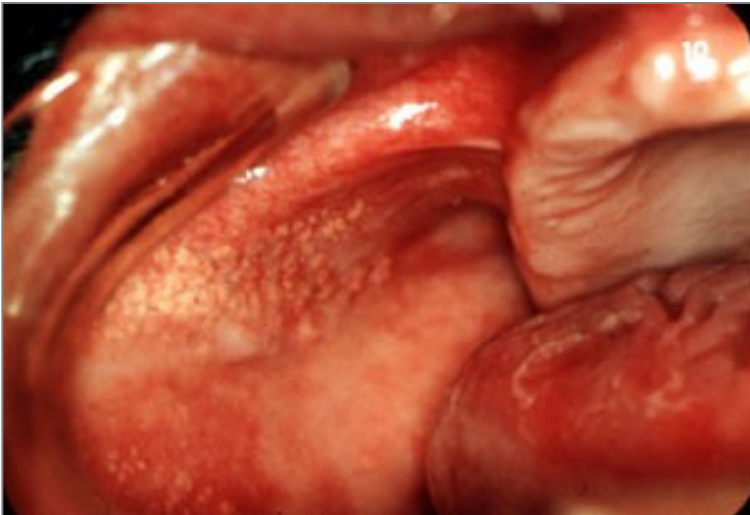
- inherited, congenital benign lesion, familial occurrence
- appears at birth or in infancy
- thickening of the oral mucosa, multiple furrows
- asymptomatic, occurs bilaterally on buccal mucosa,...





Morbus Fordyce – Fordyce granules

- developmental anomaly
- frequent finding
- heterotopic sebaceous glands
- men are affected more often



White lesions

Linea alba

Morsicatio buccarum at labiorum

Frictional keratosis

chronic mechanical irritation of low intensity that stimulates thickening of the epitelium



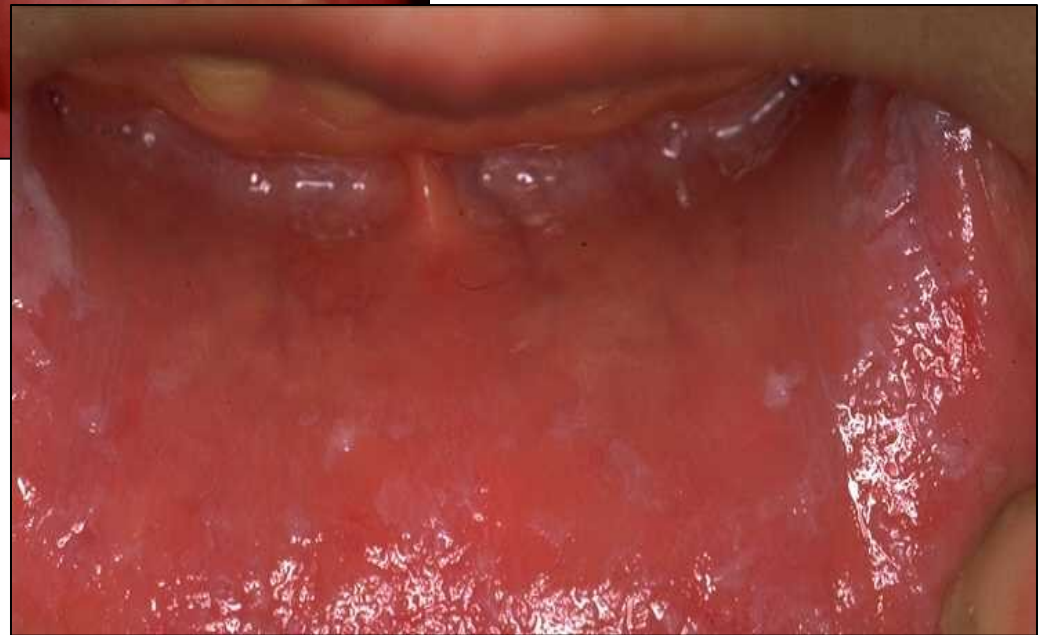
Linea alba

- bilateral linear elevation of oral mucosa at occlusal line (compression)

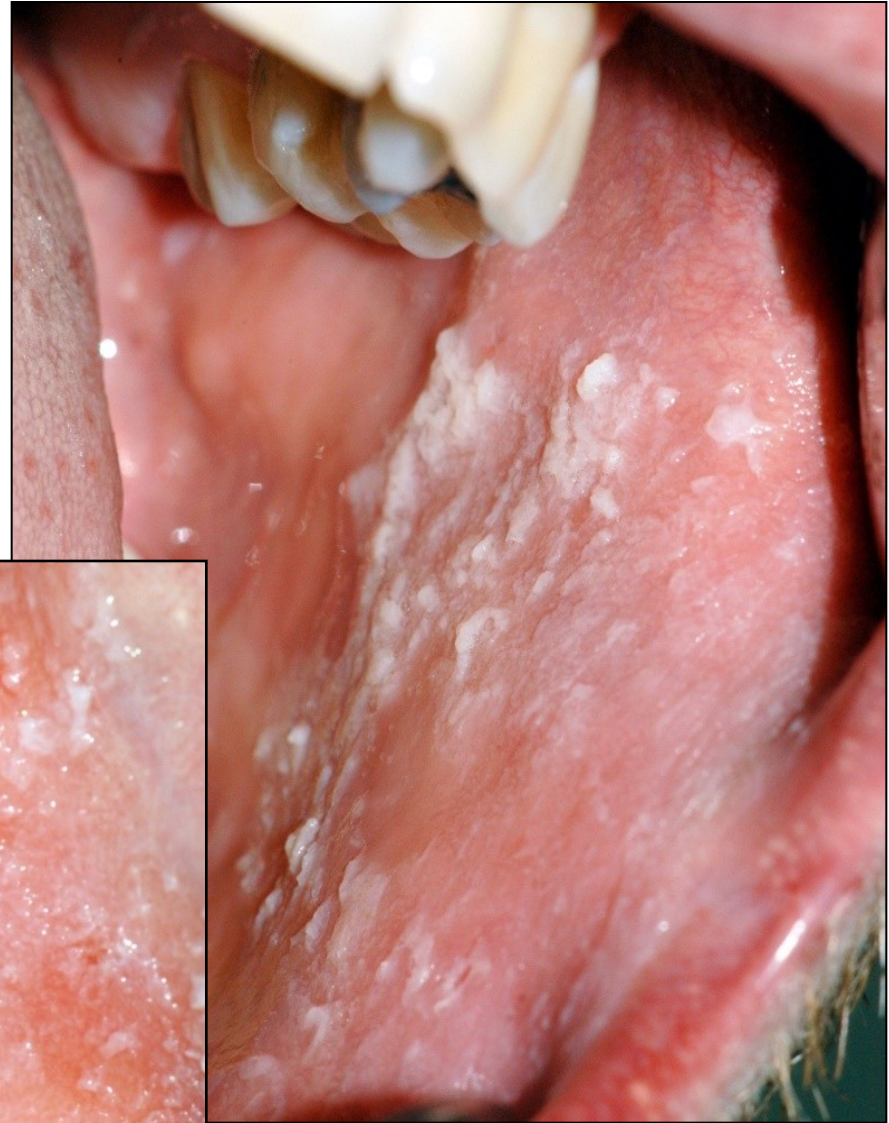




Cheek-lip bite stomatitis
Morsicatio
buccarum at labiorum



- Morsicatio buccarum/labiorum



Frictional keratosis

- benign hyperkeratosis
- chronic irritation of low intensity that stimulates thickening of the epithelium (inadequate OH, ill-fitting dentures)
- history of chronic trauma
- gingiva, alveolus, palate
- painless, persistent
- removing of irritation
- observation - biopsy



White lesions

Leukoplakia

Nicotinic stomatitis

Actinic cheilitis

Toxic - allergic reaction

external factors

Leukoplakia

- Clinical description - **white patch or plaque, firmly attached to the oral mucosa**, that cannot be classified in any other disease entity



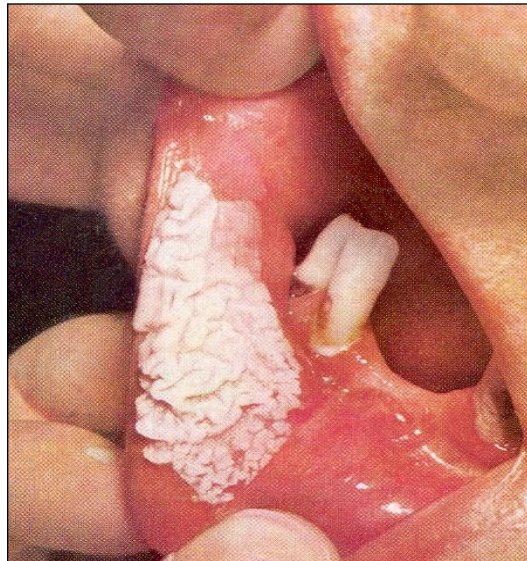
Leukoplakia - clinical appearance

- Homogenous
- Non-homogenous

Leukoplakia plana
- simplex



- verrucous

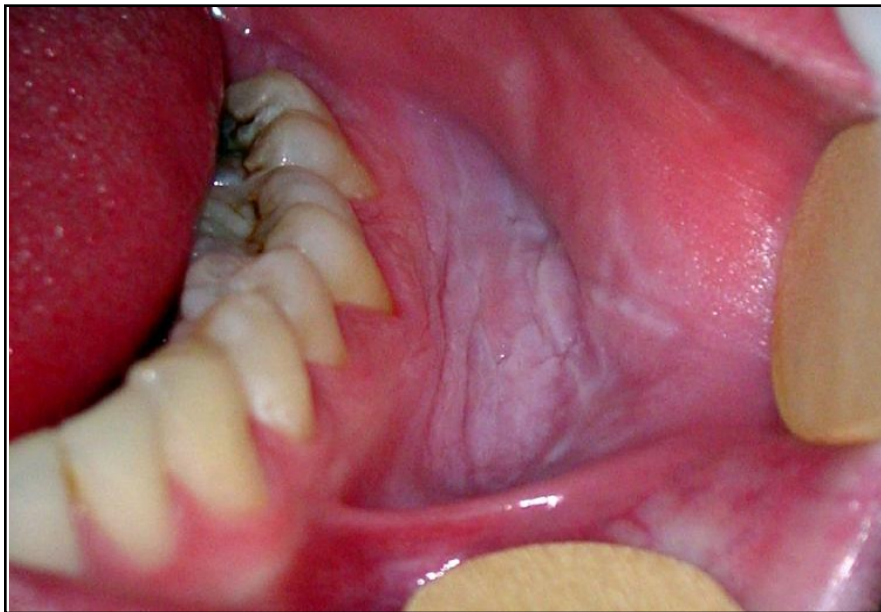


- erythroplakia



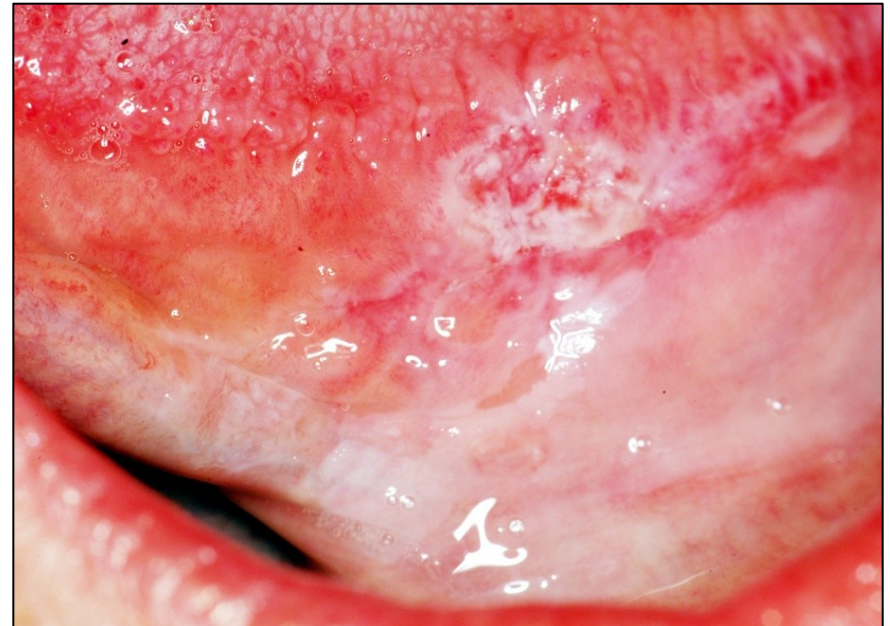
Homogenous leukoplakia

- Circumscribed adherent white homogenous plaque with a smooth or wrinkled surface
- Asymptomatic, painless, persistent

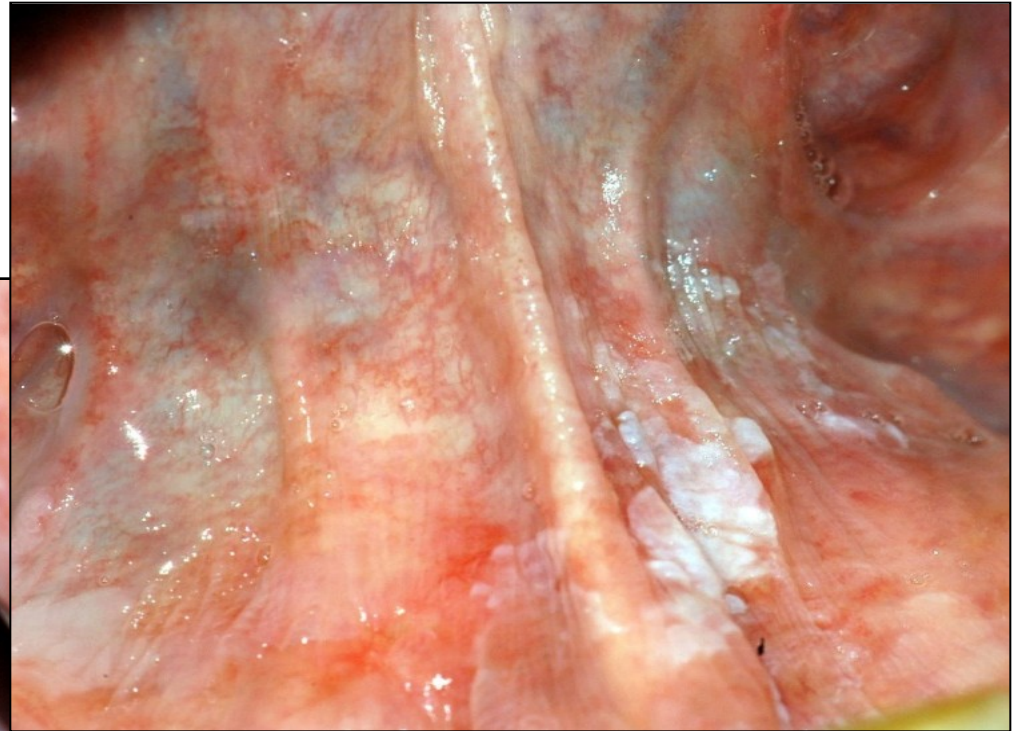


Non - Homogenous

- Is not uniform (colour, surface, textura)
- Changing of white/red patches, multiple small white nodules, proliferation



Non - Homogenous



Non - Homogenous

- **Verrucous leukoplakia**

Dysplastic changes of the epithelium - Ca in situ

Higher probability of malignancy

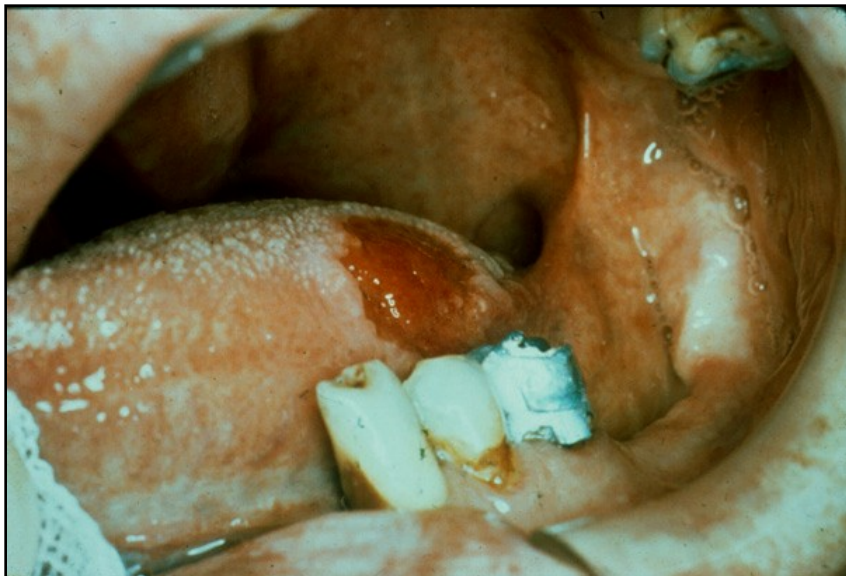


- **Erythroplakia**

Tongue erythroplakia
malignize in 96%

Matte appearance

Leukoplakie nearby



Histological examination

WHO classification 2017	Binary classification
Mild dysplasia	Low-grade dysplasia
Moderate dysplasia	High-grade dysplasia
Severe dysplasia	

Risk of malignant transformation

Type: **non-homogeneous** (redness, bleeding, induration)

Localization - **root** (up to 70%), **base and edges of the tongue, oral base, retromolar area**

Size

- idiopathic leukoplakia, (non) smoking women
- the **accumulation of factors** is risky
- **epithelial dysplasia**
- **candida** colonization (15 % leukoplakia)

Leukoplakia - treatment

Elimination of irritating effects

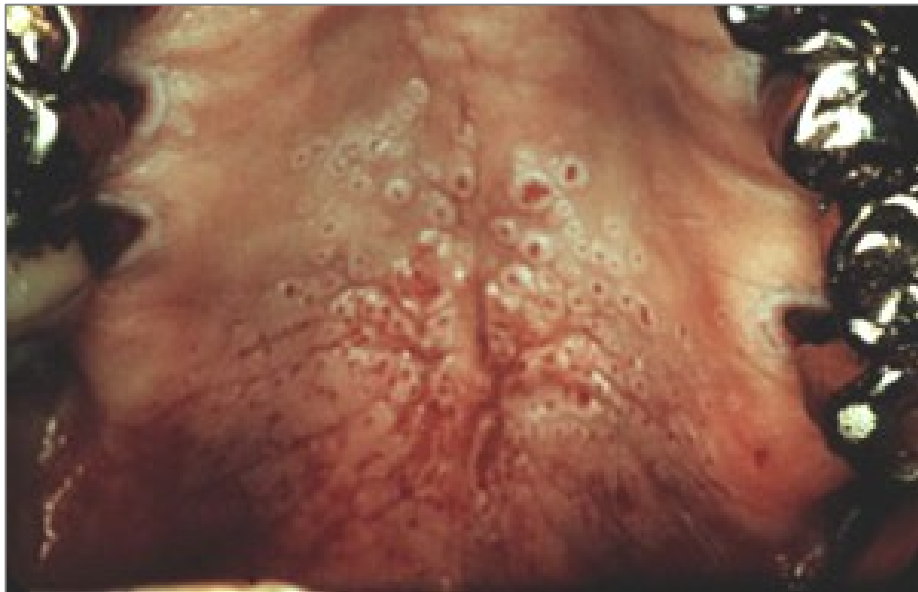
- radices, caries, teeth in supraocclusion
- prosthetic dentures
- SMOKING, hard alcohol

Surgery (histological examination)

- 1 / **small** - excision of the whole lesion, control
- 2 / **extensive without dysplasia** - dg. excision, than regular observation
- 3 / **epithelial dysplasia** - radical surgery

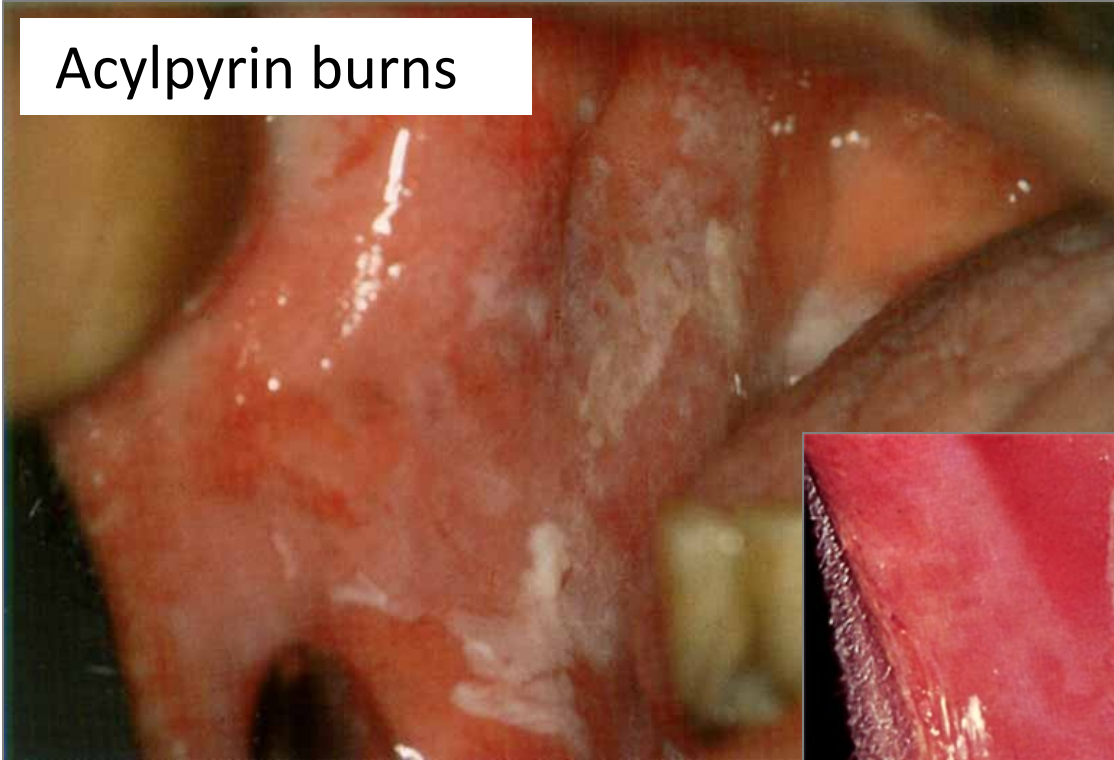
Nicotinic stomatitis – Smoker's palate

- chronic exposure to the thermal and chemical irritation at smokers (regression is possible)
- redness on the palate, grayish – white multinodular appearance (keratinization)
- multiple red dots (minor salivary glands)

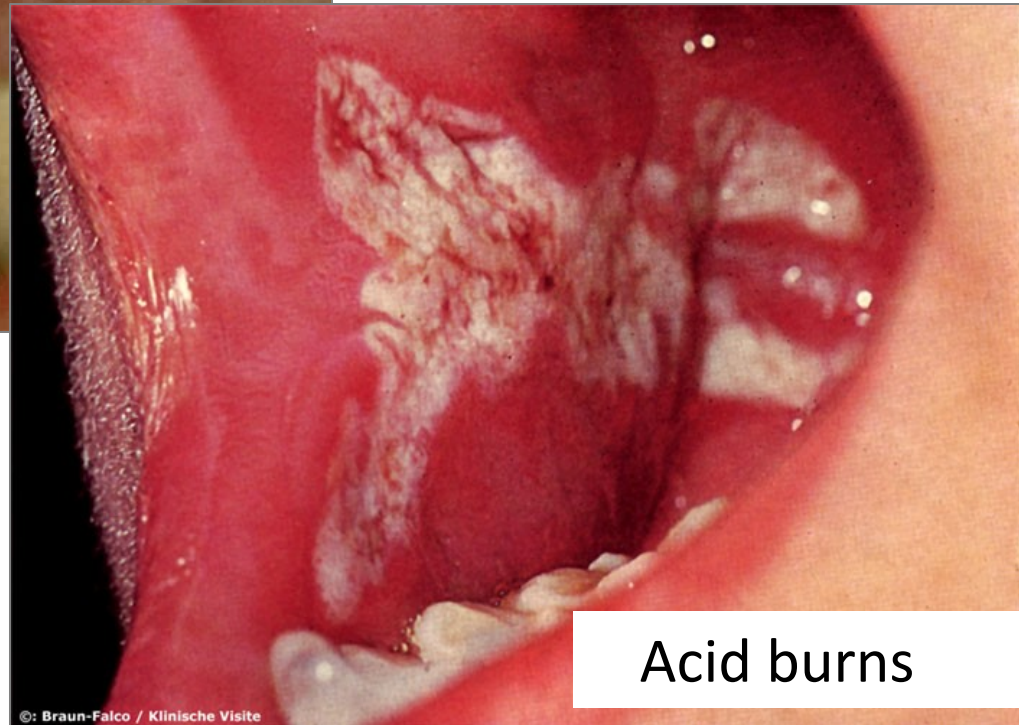


Toxic - allergic reaction

Acylpyrin burns



- white plaques
at the site of
contact



Acid burns

Actinic/abrasive cheilitis

- in older persons as a result of long-standing exposure to **sunlight**
- lower lip, mild oedema, slight erythema, dryness, fine scaling, atrophic area, erosions



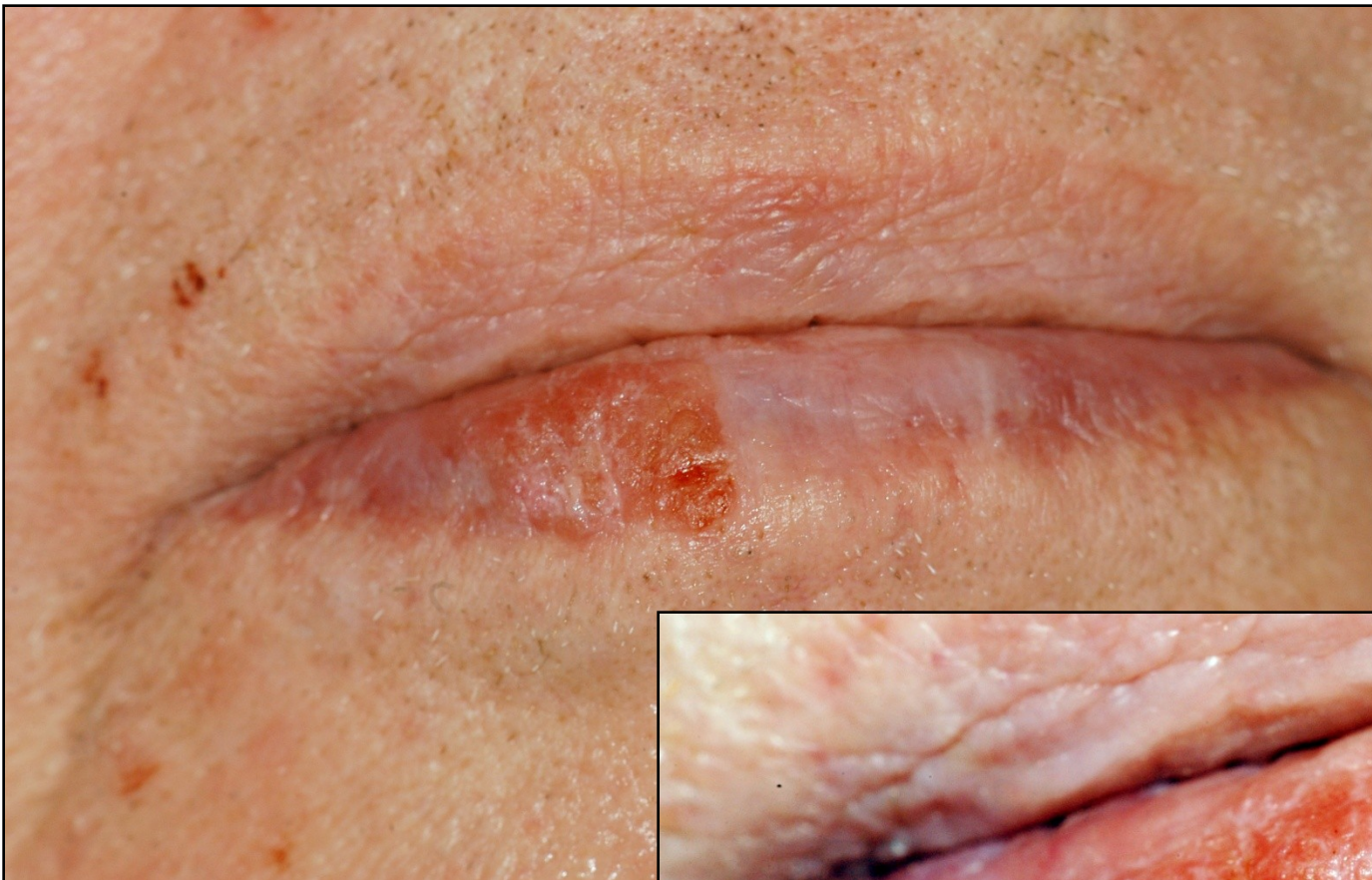
Actinic/abrasive cheilitis

Diff. dg .: oral lichen planus, lupus erythematosus

OLP - inflammatory changes dominate

ACH - degenerative to dysplastic changes





Man, 69 years old

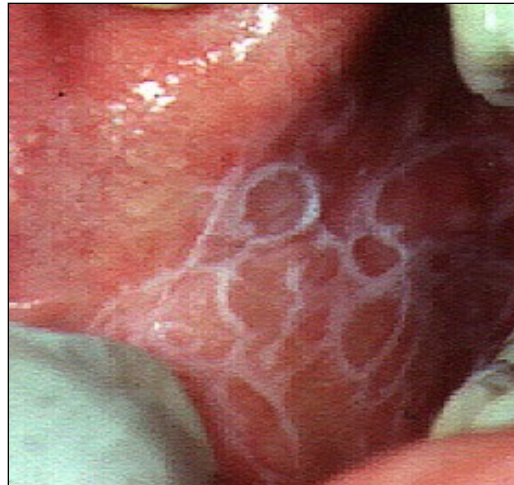
White lesions

- Lichen planus – reticular and plaque type
- Lupus erythematoses
- Psoriasis

immunopathological
reactions

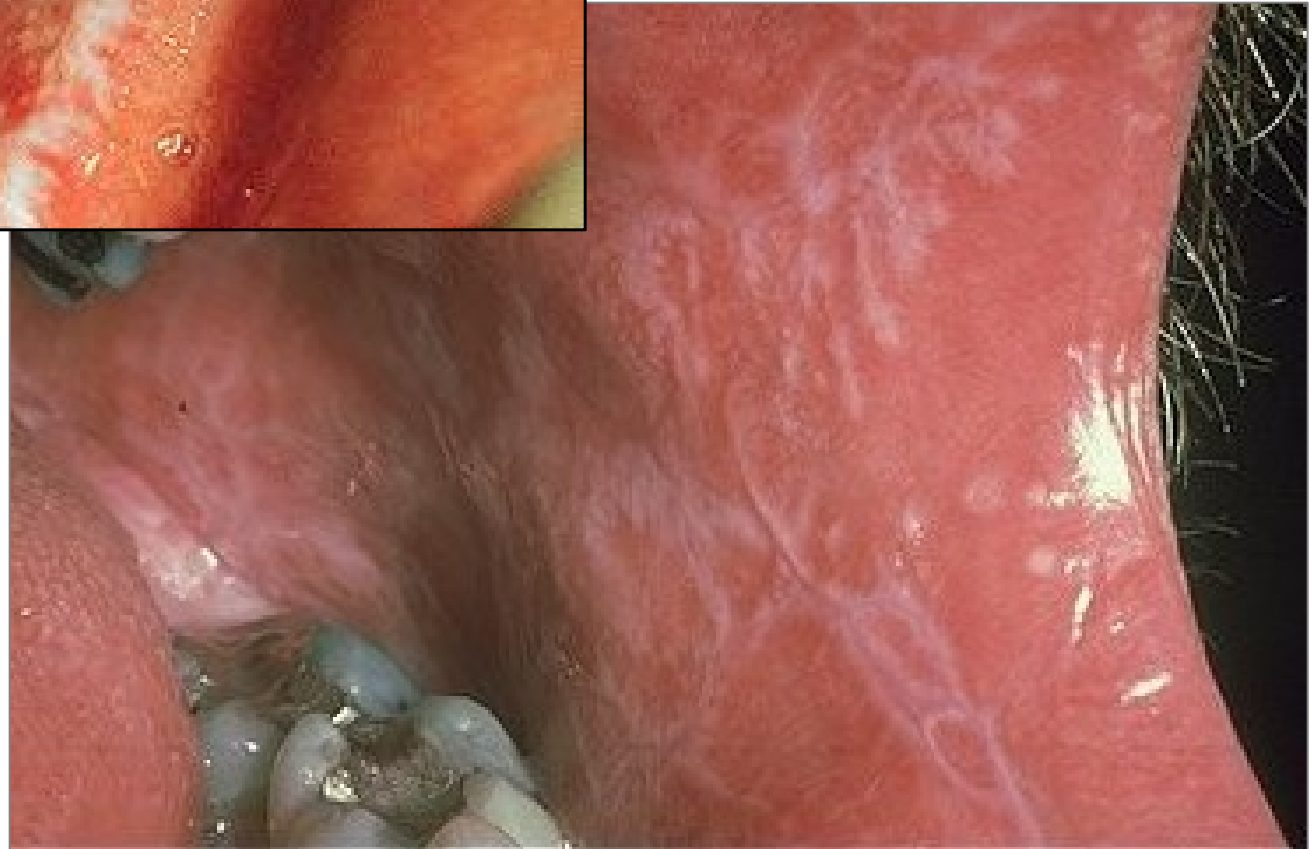
Oral lichen planus

- Chronic inflammatory disease
- Etiology - probably immune mechanisms
- 2% of the population; 40 - 60 years; more common in women





Reticular type of OLP -
white adherent striations



Plaque type of OLP- white adherent circumscribed plaques



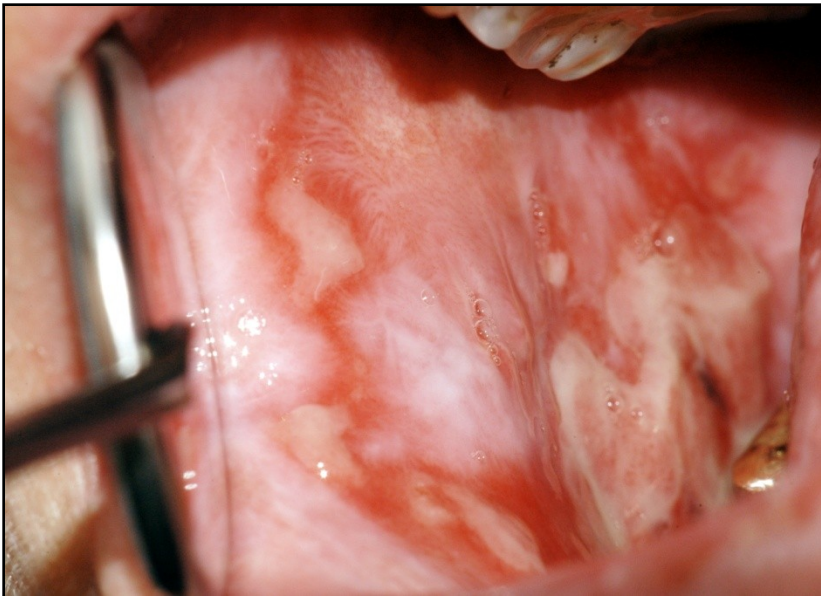
Annular type of OLP - white adherent rings

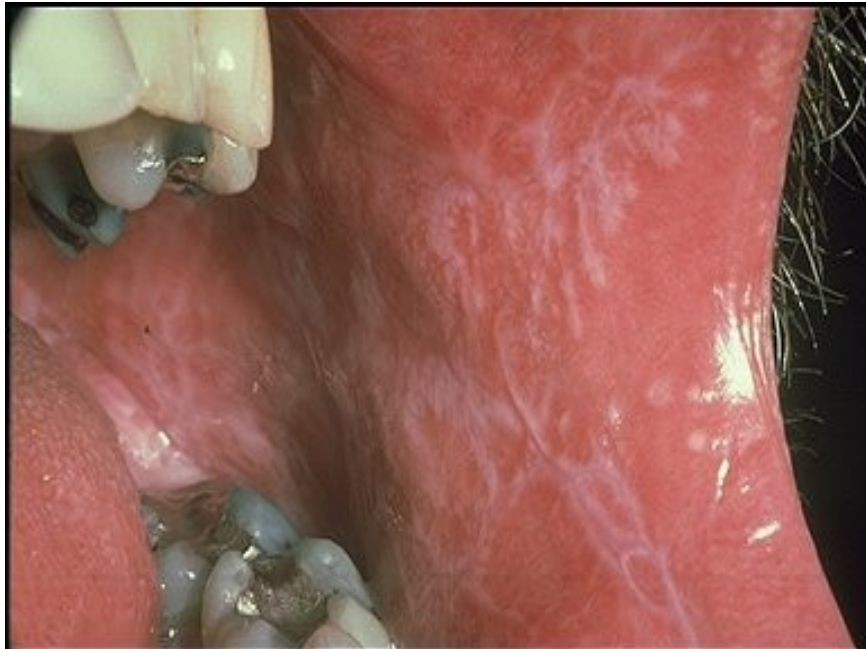
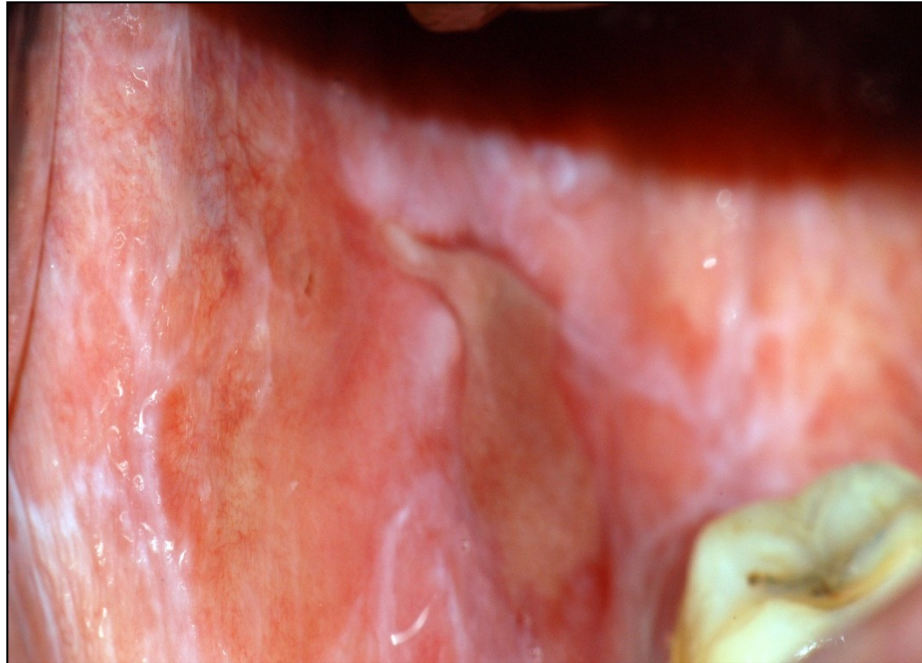
Oral lichen planus

atrophic

erosive

bullous











Desquamative gingivitis

- Sensitivity to soreness, burning
- More common in women
- 10 % OLP only desquamative gingivitis

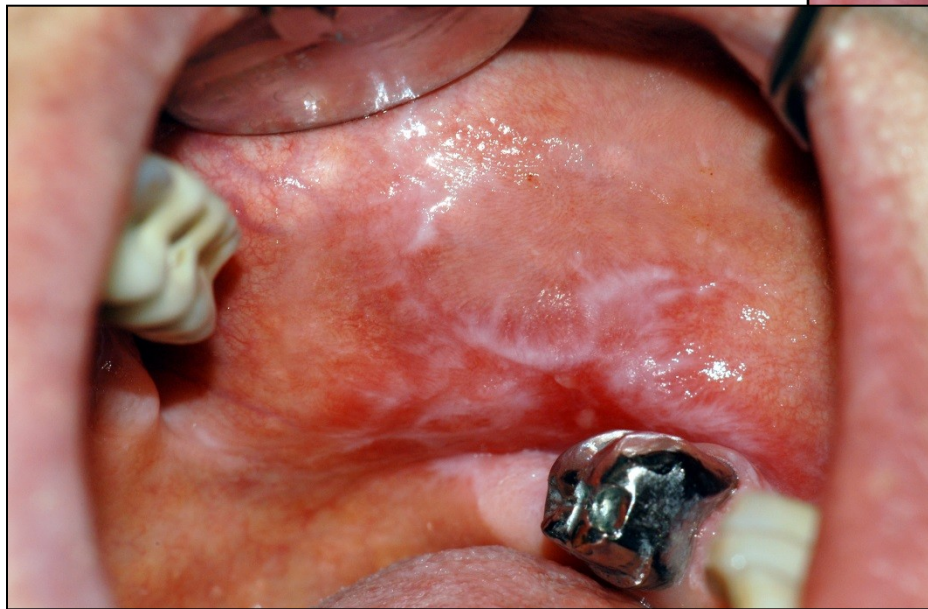
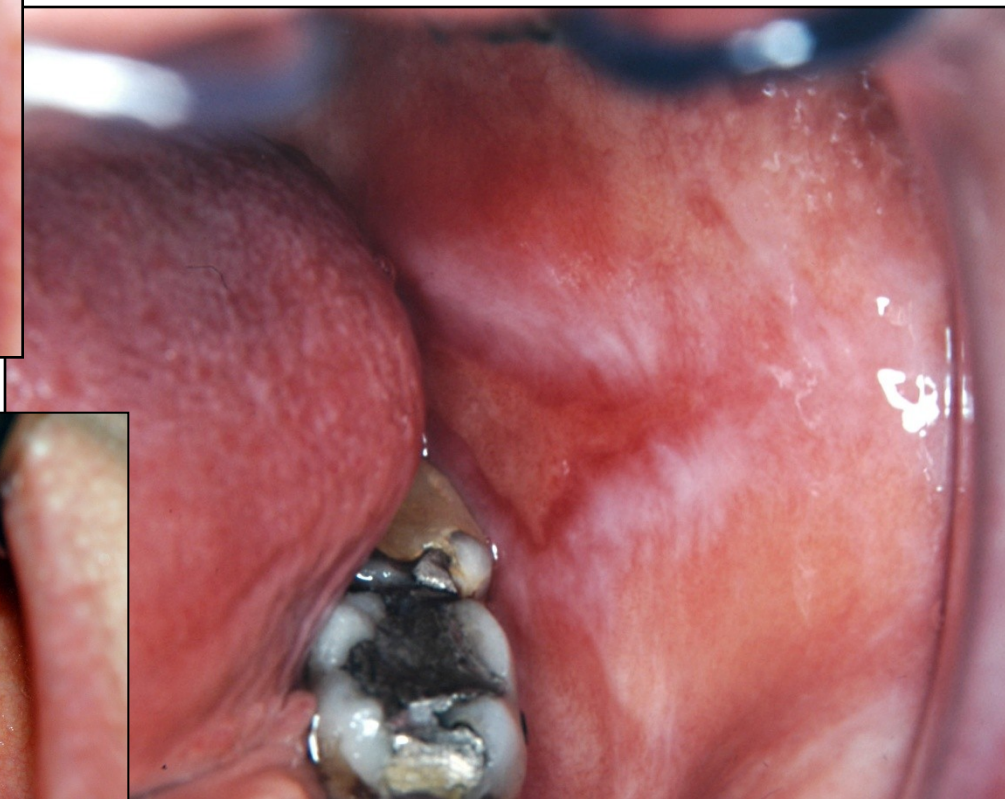






Lichenoid reaction
to amalgam

Lichenoid reaction to amalgam

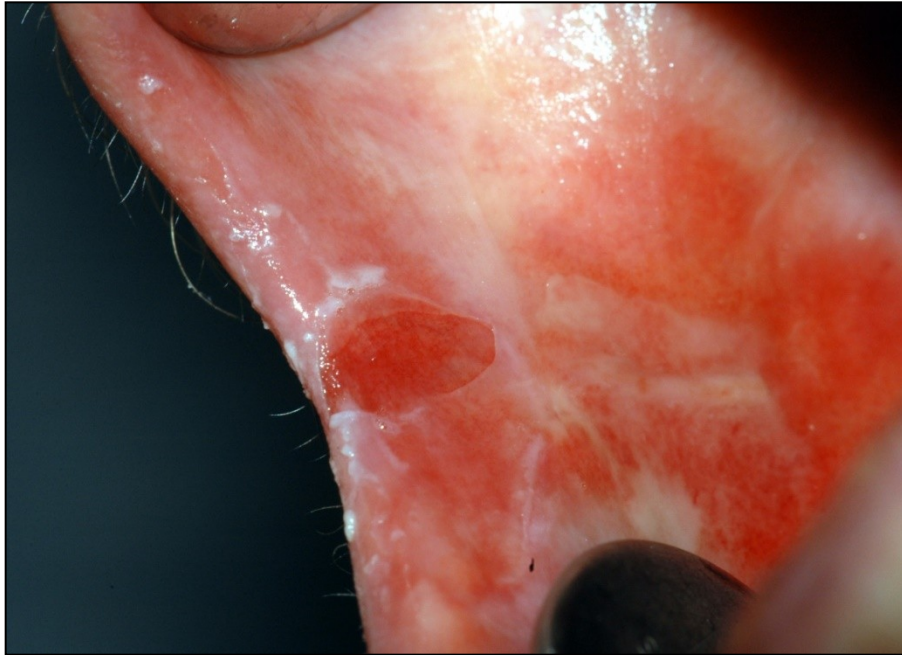


Lichenoid reaction to amalgam



Oral lichenoid lesion / lichenoid reaction

contact allergy to gold





Diff. Dg.

Lichenoid reaction

Leukoplakia



White lesions

- Pseudomembranous candidiasis
 - Chronic hyperplastic candidiasis
 - HPV
 - Hairy leukoplakia
 - Syphilis
- infections



Acute pseudomembranous candidiasis

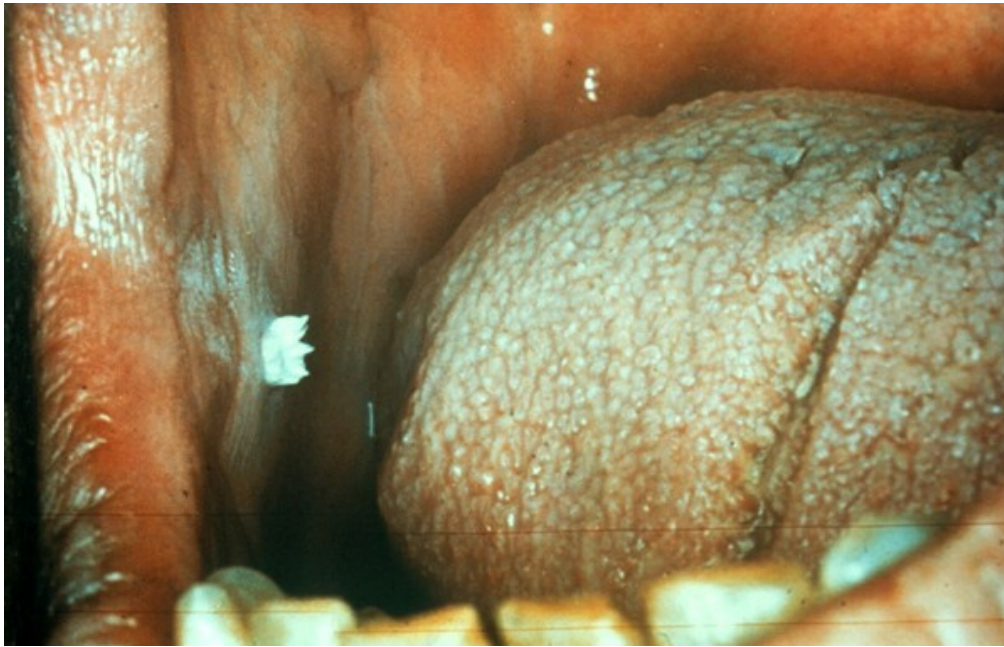
- *C. albicans* primarily grows on the epithelial surface
- multiple nonadherent plaques
- removal of the plaques reveals erythematous surface



Chronic hyperplastic candidiasis

- circumscribed, adherent white plaque
- infected epithelium becomes hyperplastic with formation of excess surface keratin





HPV infection



- exophytic
- well circumscribed
- pedunculated or sessile growth
- solitary or multiple lesions
- white or grayish colour

Hairy leukoplakia

- hyperplasia of oral epithelium with production of excess keratin
- caused by **EB virus infection**
- the surface of the lesion is frequently infested with *C. albicans*
- in individuals with compromised immunity



Syphilis – 2. stage



White lesions

White lesions - differencial dignosis



















