White lesions of the oral mucosa

❖ Classification:

1 Hereditary
   • Oral Epithelial Naevus
   • Pachyonychia Congenita
   • Dyskeratosis Congenita
   • Tylosis
   • Hereditary Benign Intraepithelial Dyskeratosis
   • Follicular Keratosis
   • Leukoedema

2 Traumatic
   • Mechanical (Frictional Keratosis)
   • Chemical
   • Thermal

3 Infective
   • Candidosis
     ➢ Acute Pseudomembranous
     ➢ Chronic Hyperplastic
     ➢ Chronic Mucocutaneous
   • Syphilitic Leukoplakia
   • Hairy Leukoplakia

4 Idiopathic
   • Leukoplakia

5 Dermatological
   • Lichen Planus
   • Lupus Erythematosus

6 Neoplastic
   • Carcinoma-in-situ
   • Squamous cell carcinoma
Oral Epithelial Naevus (White Sponge Naevus):

- Autosomal D

- **Clin:**
  - Asymptomatic
  - Whitish, soft, translucent & irregularly thickened
  - Usually bilateral (all OM)
  - Border
  - Other sites

- **Hist:**
  - Acanthosis
  - Moderate-marked Hyperparakeratosis
  - Marked intracellular oedema (prickle & parakeratin)
  - × Dysplasia
  - × Inflammation in LP

Pachyonychia Congenita:

- AD

- Extreme thickening of nails (≈ birth)

- Palmoplantar hyperkeratosis & hyperhidrosis

- White patches on D or LB of tongue or buccal m

- Hist ≈ WSN
**Dyskeratosis Congenita:**

- ? Mode of inheritance
- Pigmentation of skin
- Dystrophic nails
- Destructive periodontitis
- Hyperkeratosis of oral & other MMS: premalignant

**Tylosis:**

- AD
- Palmoplantar hyperkeratosis
- Esophageal Ca in later life
- ± Oral hyperkeratosis

**Hereditary Benign Intraepithelial Dyskeratosis:**

- AD (North Carolina)
- Conjunctivitis
- Oral white folds and plaques
- **Hist:** acanthosis & premature keratinization

**Follicular Keratosis (Darier’s disease):**

- AD & sporadic
- Face, trunk, ears & scalp: heavily k papules (coalesce & infected)
- Orally: Small whitish papules on K mucosa
- **Hist:**
  - Hyperk
  - Suprabasal clefts
  - Corps ronds & grains
**Leukoedema:**

- Variation of normal
- 90% of blacks
- Site: BM bilaterally (LB of tongue)

**Clin:**

- Asymptomatic
- Diffuse, translucent, grayish-white, filmy appearance
- Stretching

**Hist:**

- Mild parak & acanthosis
- Intracytoplasmic fluid & glycogen
- Normal LP

**Traumatic Keratosis:**

A) **Mechanical:**

- Frictional Keratosis
- Prolonged mild abrasion
- Sharp tooth, restoration, biting, denture

- **Clin:**

  - Dense white patch w rough surface
  - Cheek biting

- **Dx:**

  - Cause
  - Size & shape
  - Resolve when cause removed
• **Hist:**
  - Hyperplasia & Hyperk
  - × Dysplasia
  - Scattered CICI in LP

**B) Chemical**

- Aspirin Burn
- Tobacco: either form (Hyperk & hyperplasia)

**C) Thermal:**

- Smoking ⇒ white plaques on ant BM, tongue & palate
- Cigarette: lip
- Pipe: tongue/palate

• **Nicotinic Stomatitis:**
  - Long-term pipe smokers
  - **Clin:**
    - Palate
    - White w multiple, small, round papules w red centers
  - **Hist:**
    - Surface epith: Hyperk & hyperplasia
    - Ducts: dilated w sq metaplasia & periductal CICI
Idiopathic white lesions:

Leukoplakia:

- **Definition**: a predominantly white patch that cannot be characterized as any other definable lesion.

- **Epidemiology**: < 4%, M>F, older, site

- **Clinically**:
  - Size
  - Colour

  - **Homogenous**: plaque-like ± surface variations
  - **Non-homogenous**: speckled, ulcerated, nodular, warty

  - **Erythroplakia**: A bright-red patch on the OM which cannot be characterized clinically or pathologically as being due to any other condition. Homogenous or speckled

- **Aetiology**: Unknown, incriminated factors
  1. Tobacco
  2. Alcohol
  3. Candida
  4. Viruses: HPV 16
5. **Epithelial atrophy:**

- Iron ↓ (Sideropenic dysphagia, Patterson-Kelly, Plummer-Vinson Syndrome)
- Oral submucous fibrosis
- Tertiary Syphilis
- Vit ↓

- **Hist:** no specific histological features
  - Hyperk or hyperparak or both
  - Hyperplasia or atrophy
  - Melanin pigment in basal epithelium ± melanin incontinence
  - CICI in LP
  - ± **Dysplasia:**
    - Nuclear & cellular pleomorphism
    - Nuclear hyperchromatism
    - Disturbed polarity of basal cells
    - Drop-shaped rete pegs
    - Deep cell keratinization
    - N/C ratio
    - & abnormal mitosis
    - Basal cell hyperplasia
    - Disturbed maturation
    - Loss of intercellular adherence

- **Dysplasia:** mild, moderate, severe
- **Homogenous leukoplakia:** 10%
- **Non- homogenous leukoplakia:** 50%
- **Erythroplakia:** 50% Ca or Ca-in-situ, majority of the rest: severe dysplasia
**Prognosis:**

- Unpredictable (0.3-18%) over prolonged periods

**Risk factors:**

- Non-smokers
- Family history
- Advanced age
- F
- Non-homogenous
- Sublingual area
- Duration
- Enlargement or ∆ in character
- Dysplasia

**Dermatological:**

**Lichen Planus:**

- CID of skin & mms affecting ≈ 1%
- 30-60 years of age, 60% F
- 40% skin & oral; 35% skin; 25% oral

**Clin:**

- **Skin:**
  - Clusters of raised purplish papules pruritic papules 2-3 m
  - Wickham’s Striae
  - Koebner phenomenon
  - Location
  - Nails
  - Duration

- **Oral lesions:**
  - Most frequent site
  - Other sites
  - Least frequent
Distribution

Clinically:

- **Reticular:**
  - Lacework, Striae of Wickham
  - Asymptomatic
  - Site

- **Plaque-like:**
  - ≈ Leukoplakia
  - Asymptomatic
  - Site

- **Papular:**
  - Small white papules that may coalesce, asymptomatic

- **Atrophic:**
  - ≈ Erythroplakia often with striae
  - Gingiva, desquamative gingivitis, symptomatic
**Erosive:**

- Shallow irregular areas of epithelial loss
- Smooth, raised yellowish membrane
- Can be very persistent
- Striae
- Symptomatic
- Hyperpigmentation

**Bullous:**

- Up to 2 cm
- Brief
- Posterior BM

**Hist:**

- Focal Acanthosis w hyperparak/orthokeratosis
- Sawtooth rete pegs
- A dense, w-d band of T-lymph in superficial LP
- Involvement of the basal and parabasal cell layers by inflammation
- Liquefactive degeneration
- Civatte bodies
- **Prognosis:**
  - 0.5-2.5 % over 5-year period, erosive

- **Aetiology:** unknown
  - Genetic predisposition
  - Infective agents
  - Systemic disease: DM, Hypertension, U colitis, liver disease & GVHD

- **Lichenoid reaction:** Drugs (antimalarial, gold, methyldopa, NSAI) & amalgam
  - Tobacco
  - Vitamin ↓
  - Psychiatric disorders
  - Immunopathogenesis

- **Pathogenesis:**
  - Langerhan’s cells
  - ? Ag similar to antigens on keratinocytes of pts w certain MHC Ags
  - Processed by Langerhan’s cells and presented activate production of CD8

- **Lupus Erythromatosus:**
  - A C.T disease with two main forms:

1. **Chronic discoid LE:**
  - Face, scalp & ears
  - Scaly red patches ± butterfly pattern
  - Oral lesions in ≈ 50%
    - Cheeks
    - Vermillion border
    - Discoid area of erythema
w white keratotic border ± radiating striae

- **Hist:**
  - Ortho/parak epith
  - Hyperplasia/atrophy
  - Keratin plugging
  - Subepith & deep perivascular lymphocytes
  - ± Liquefactive degeneration
  - DIF: granular linear deposits of IgG, C3 & fibrinogen in BM (Lupus band)

2. **Systemic LE:**
   - Most common
   - Kidney
     - Arthritis, heart & lung involvement, anemia, vasculitis, rash
     - Fatigue, malaise, fever, psychosis, lymphadenopathy
   - Oral lesions in ≈ 20%, more severe erythematous patches/BM
   - **Aetiology:** genetic, autoimmune