Overview

Localized
- Epulis
  a. Fibroma
  b. Pyogenic granuloma
  c. Peripheral giant cell granuloma (PGCG)
  d. Peripheral ossifying fibroma (POF)
- Metastatic lesions

Generalized
- Drug-induced gingival hyperplasia
- Leukemic infiltrate

Epulis
- Definition: Growth of the gingiva or alveolar mucosa
- Includes: Fibroma, Pyogenic granuloma, Peripheral giant cell granuloma, Peripheral ossifying fibroma, Epulis fissuratum, Congenital epulis of the newborn, Gingival cyst of the adult, Gingival cyst of the newborn

Fibroma
- Etiology: Likely reactive hyperplasia of fibrous tissue in response to local irritation or trauma
- Gender: F>M
- Age: Most common in 4th-6th decade
- Site: Gingiva; any oral site
- Clinical features:
  - Pink-white, firm nodule
  - Sessile or pedunculated
Fibroma

• Differential diagnosis:
  1) Peripheral ossifying fibroma
  2) Pyogenic granuloma – red/purple
     ** NOTE: Many fibromas may be maturing PGs
  3) Peripheral giant cell granuloma – bluish
  4) Neural lesion (e.g. neurofibroma, schwannoma)

• Histology:
  - mass of fibrous connective tissue
  - covered by stratified squamous epithelium
  - + hyperkeratosis
  - + inflammation

• Treatment: Conservative surgical excision
Pyogenic granuloma

- **Etiology**: Exuberant tissue response to local irritation or trauma
- **Gender**: F>>M  
  May be related to effects of female hormone
- **Age**: Children, young adults 
  Pregnant women
- **Site**: Gingiva (75% of cases), facial>lingual 
  Any site
- **Clinical features**: 
  Smooth or lobulated 
  Red, purple; ulcerated 
  Mostly pedunculated

**Differential diagnosis**:
1) Vascular neoplasm (e.g. hemangioma, KS)  
   ** Hemangiomas and PGs are likely related entities
2) Peripheral giant cell granuloma 
3) Peripheral ossifying fibroma 
4) Fibroma 
5) Metastatic lesion

**Histology**:
- vascular proliferation 
  (granulation tissue) 
- mixed inflammatory infiltrate 
- stratified squamous epithelium + ulceration 
- **Older lesions**: Fibrous  
  ** many fibromas may be matured PGs**
Pyogenic granuloma

- **Treatment:**
  - Conservative surgical excision
  - Scale adjacent teeth
  - Multiple recurrences

Peripheral giant cell granuloma

- **Etiology:** Likely reactive to irritation/trauma
- **Gender:** F>M
- **Age:** Prevalence in 5th-6th decades
- **Site:** Gingiva, edentulous alveolar ridge
  - Maxilla>mandible
- **Clinical features:**
  - Bluish-purple nodule
  - Sessile or pedunculated
  - May be ulcerated

Peripheral giant cell granuloma

- **Differential diagnosis:**
  1) Pyogenic granuloma – red/purple
  2) Vascular neoplasm (e.g. hemangioma, KS)
  3) Peripheral ossifying fibroma
  4) Fibroma
  5) Metastatic lesion

Peripheral giant cell granuloma

- **Histology:**
  - Proliferation of multinucleated giant cells
  - Ovoid-spindle stromal cells
  - RBCs and hemosiderin
  - Reactive bone
  - Stratified squamous epithelium + ulceration
Peripheral giant cell granuloma

- **Treatment:**
  - Conservative surgical excision
  - Scale adjacent teeth
  - 10% recur

Peripheral ossifying fibroma

- **Etiology:** Likely reactive in nature
  - Origin from cells of periosteum/pdl
- **Gender:** F>M
- **Age:** Young adults
- **Site:** Exclusively on gingiva
  - Maxilla>mandible
  - >50% in incisor-canine region
- **Clinical features:**
  - Red to pink nodule
  - Sessile or pedunculated

Peripheral ossifying fibroma

- **Differential diagnosis:**
  1) Fibroma
  2) Pyogenic granuloma
  **NOTE:** Many POFs may be matured and calcified PGs
  3) Peripheral giant cell granuloma
  4) Bony exostosis
Peripheral ossifying fibroma

- **Histology:**
  - fibroblastic proliferation
  - mineralized component: bone, cementum-like, dystrophic calcifications
  - stratified squamous epithelium + ulceration

- **Treatment:**
  - Conservative surgical excision
  - Scale adjacent teeth
  - 16% recur

Metastasis to oral soft tissues

- **Etiology:** Lymphatic or **hematogenous (blood-borne)** spread of malignancies
- **Incidence:** Rare; 1% of all oral malignancies
- **Gender:** M>F
- **Age:** Middle-aged, older adults
- **Site:** Gingiva
  - Tongue

- **Primary malignancy:**
  - **Males:** Lung (prostate typically metastasizes to bone)
  - **Females:** Breast; lung will likely increase

- **Clinical features:**
  - Nodule or mass; may be ulcerated
  - Extrude from extraction socket

Metastatic lesion

- Primary: Colon

Metastatic lesion

- Primary: Lung
Metastatic lesion - Primary: Kidney

Metastasis to oral soft tissues

- **Differential diagnosis:**
  1. Pyogenic granuloma
  2. Vascular neoplasm (e.g. hemangioma, KS)
  3. Lymphoma; leukemia
  4. Squamous cell carcinoma
  5. Other epulides (PGCG, POF, fibroma)

- **Histology:**
  - histology similar to primary malignancy
  - most are carcinomas

- **Treatment:** Sign of disseminated disease
  Poor prognosis

Drug-induced gingival hyperplasia

- **Etiology:** Abnormal gingival response to use of certain systemic medications

- **Medications:**
  - Strongest association with:
    1. Phenytoin
    2. Cyclosporine
    3. Nifedipine

- **Incidence:**
  - Phenytoin = 50%
  - Cyclosporine and Nifedipine = 25%

- **Degree of enlargement dependent on patient’s level of oral hygiene**

- **Gender:** Any

- **Age:**
  - Phenytoin - young patients (<25 yo)
  - Nifedipine – older patients

- **Site:** Anterior/facial gingiva

- **Clinical features:**
  - Typically begins 1-3 months after start rx
  - Pink and firm
  - If inflamed, red and edematous
  - May completely cover crowns of teeth
Drug-induced gingival hyperplasia

- **Differential diagnosis:**
  1) Gingivitis associated with local factors
  2) Gingivitis associated with hormonal imbalance (e.g. pregnancy, puberty)
  3) Gingival fibromatosis
  4) Leukemic infiltrate
Drug-induced gingival hyperplasia

- **Histology:**
  - stratified squamous epithelium
  - elongated rete ridges
  - generally, increased collagen
  - inflammation – lymphocytes and plasma cells

- **Treatment:**
  - Consult with physician
  - possible change of medications
  - Professional prophylaxis
  - Gingivectomy
  - Periodic re-evaluation

Leukemic infiltrate

- **Etiology:** Malignant proliferation of hematopoetic stem cell derivatives
- May be component of syndrome (e.g. Down, Bloom, Neurofibromatosis, Klinefelter, etc.)
- Increased risk associated with exposure to certain environmental agents (e.g. pesticides, benzene, etc.)
- Many types of leukemia
  - Gingival infiltrate assoc with myelomonocytic type
  - Generally bone marrow involvement

Leukemic infiltrate

- **Age and gender:** No predilection for acute myelomonocytic leukemia (AML)
- **Site:** Gingiva
- **Clinical features:**
  - Diffuse swelling/enlargement
  - Boggy
  - Non-tender
  - Ulceration of gingiva and adjacent oral mucosa due to neutropenia
  - Fatigue, fever, infection, bleeding
Leukemic infiltrate

**Differential diagnosis:**
1) Gingivitis associated with local factors
2) Gingivitis associated with hormonal imbalance
3) Drug-induced gingival hyperplasia
4) Gingival fibromatosis

**Histology:**
- sheets of malignant hematopoietic cells

**Diagnosis:**
1) Order a complete blood count (CBC)  
   - typically, *elevated WBC count*
2) Refer to an oncologist  
   - peripheral blood smear  
   - bone marrow aspiration

**Treatment:** Chemotherapy + radiation therapy