Overview

- Amalgam tattoo
- Melanotic macule
- Medication-induced melanosis
- Smoker’s melanosis
- Nevi
- Melanoma

Amalgam tattoo

- **Etiology:** Implantation of dental amalgam
- **Gender:** No predilection
- **Age:** Any
- **Site:** Any
  - Gingiva, alveolar mucosa
  - especially related to apicoectomy
  - Buccal mucosa

Amalgam tattoo

- **Clinical features:**
  - Blue, black, or gray
  - Flat, macular
  - Well defined; irregular, or diffuse
- **Radiographic features:**
  - Mostly negative
  - May show radiopaque fragments
Amalgam tattoo

- **Differential diagnosis:**
  1) Nevus
  2) Melanotic macule
  3) Other implanted exogenous materials
     - lead, graphite
     - coal and metal dust
     - intentional tattoos (cultural, landmarking)
  4) Melanoma

**If diffuse,** consider oral pigmentation related to:

- systemic exposure to heavy metals
  (e.g., lead, silver)
- drug-related discolorations of oral mucosa
**Drug-induced pigmentation**
- Plaquenil

**Amalgam tattoo**
- **Histology:**
  - pigmented fragments, fibrils, or granules
  - + inflammation
  - + foreign body giant cell response
- **Treatment:** Biopsy if any doubt

**Melanotic macule**
- Benign proliferation of *melanocytes*
- **Etiology:** Focal increase in melanin deposition and melanocytes
- **Gender:** Slight female predilection
- **Age:** Any
- **Site:** Any oral site
  - Mostly vermillion of lip, buccal mucosa, gingiva, palate
- **Clinical features:**
  - Tan-brown macule
Melanotic macule

• **Differential diagnosis:**
  1) Nevus
  2) Amalgam tattoo
  3) Peutz-Jeghers syndrome
     - multiple macules in periorificial, oral, and cutaneous distribution
     - benign intestinal polyps
  4) Melanoma

• **Histology:**
  - increase of melanin in basal layer
  - increase in number of melanocytes
  - melanin in connective tissue

Melanotic macule

Nevus

Amalgam tattoo

Peutz-Jeghers

Melanoma

- nodular, ulcerated
Melanotic macule

- **Treatment:**
  - No treatment if classic appearance
  - Biopsy if any doubt
  - Excise if recent onset, large size, irregular pigmentation, recent enlargement

Medication-induced melanosis

- **Several medications** can cause pigmentation
- **Examples:** Minocin, Medications for HIV, Medications for lupus erythematosus
- **Location:** Skin, Oral mucosa, bone
- **Histology:** Same as melanotic macule

Smoker’s melanosis

- **Tobacco use** can cause pigmentation
- **Predilection for females**
- **Location:** Anterior facial gingiva
- **Histology:** Same as melanotic macule
Medication-induced melanosis
Smoker’s melanosis

• **Differential diagnosis**
  1) Nevus
  2) Melanotic macule
  3) Implanted exogenous materials, including amalgam tattoo
  4) Melanoma

• **Treatment**
  None required

Intraoral nevus

• **Etiology:** Proliferation of *nevus cells*
• **Gender:** Female predilection
• **Age:** Average 35 yo
• **Site:** Mostly palate, gingiva
• **Clinical features:**
  - Brown or black macule
  - Older lesions become tan, raised, papular
  - May be non-pigmented (amelanotic)
**Intraoral nevus**

- **Differential diagnosis:**
  - Early nevi (macular)
    1. Melanotic macule
    2. Amalgam tattoo
  - Older nevi (papular/nodular)
    1. Vascular lesions – hemangioma, varix, pyogenic granuloma
    2. Melanoma

**Intraoral melanoma**

- **Histology:**
  - nests of nevus cells at different levels of epithelium
  - Blue nevus: spindle-shaped melanocytes in deep lamina propria

- **Treatment:**
  - Biopsy if any doubt
  - If clinically indicated, surgical excision

- **Malignant neoplasm of melanocytes or nevus cells**

- **Incidence:** Rare
  - <1% of all melanomas

- **Etiology / Risk factors:**
  - On skin – ultraviolet radiation exposure
  - On skin – light complexion, outdoor occupation, acute sun damage
  - Intraoral – unknown
    - most preceded by pigmented lesion
Intraoral melanoma

- **Gender**: M>F
- **Age**: 6th to 7th decade
- **Site**: Hard palate, maxillary alveolus
- **Clinical features**:
  - Brown, black, blue; rarely, may have little pigment
  - Irregular borders
  - Spreads laterally; advanced, nodular and exophytic
  - May be ulcerated
  - A = asymmetry, B = irregular borders, C = color variegation

Intraoral melanoma

- **Differential diagnosis**:
  1) Nevus
  2) Amalgam tattoo
  3) Melanotic macule
  4) Kaposi sarcoma
  5) Lymphoma
Intraoral melanoma

- **Histology:**
  - atypical melanocytes, pigment
  - Melanoma-in-situ: melanocytes limited to epithelium
  - Invasive melanoma: melanocytes invade connective tissue and epithelium

- **Treatment:**
  - Wide surgical excision – only treatment
  - Questionable role for chemotherapy, radiation therapy, and immunotherapy
  - Prognosis for intraoral melanoma very poor
  - Poorer prognosis – older age, amelanotic variant
  - 5-year survival rates: <20-45%
  - 80-85% die within 2-3 years of diagnosis