CLINICAL STOMATOLOGY CONFERENCE

DNSC D9910.00

September 26, 2007

Pigmented lesions

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

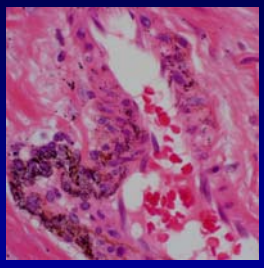
Amalgam tattoo

- Differential diagnosis: (cont'd)

  If diffuse, consider oral pigmentation related to:
  a) systemic exposure to heavy metals
  (e.g. lead, silver)
  b) drug-related discolorations of oral mucosa

Amalgam tattoo

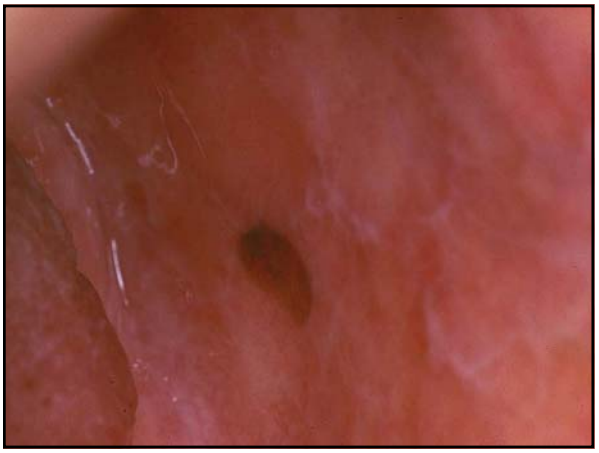
- Histology:
  - pigmented fragments, fibrils, or granules
  - ± inflammation
  - ± foreign body giant cell response



- Treatment: Biopsy if any doubt

Melanotic macule

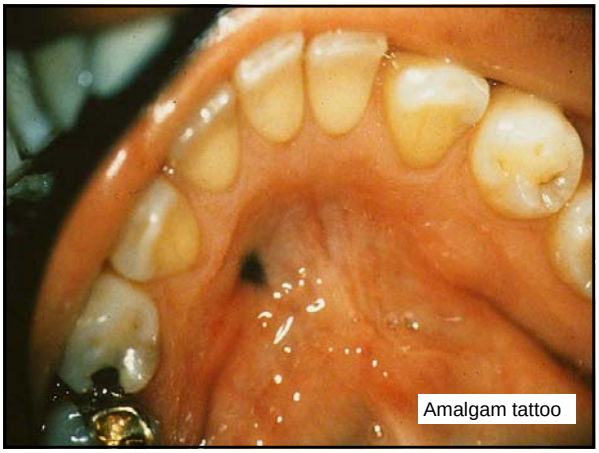
- Benign proliferation of *melanocytes*
- Etiology: Focal increase in melanin deposition and melanocytes
- Gender: Slight female predilection
- Age: Any
- Site: Any oral site
  Mostly vermillion of lip, buccal mucosa, gingiva, palate
- Clinical features:
  Tan-brown macule



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


Nevus

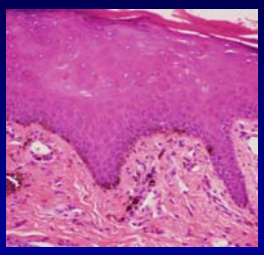

Amalgam tattoo


Peutz-Jeghers


Melanoma
- nodular, ulcerated

Melanotic macule

- Histology:
  - increase of melanin in basal layer
  - increase in # melanocytes
  - melanin in connective tissue



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

HIV medication

Plaquenil

Smoker's melanosis

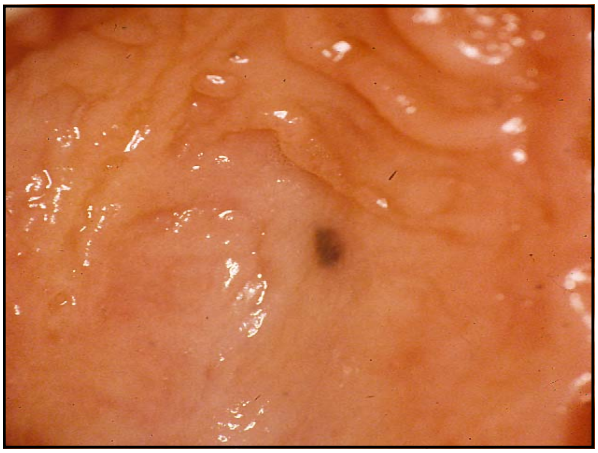
- *Tobacco use* can cause pigmentation
- Predilection for females
- Location: Anterior facial gingiva
- Histology:
  Same as melanotic macule

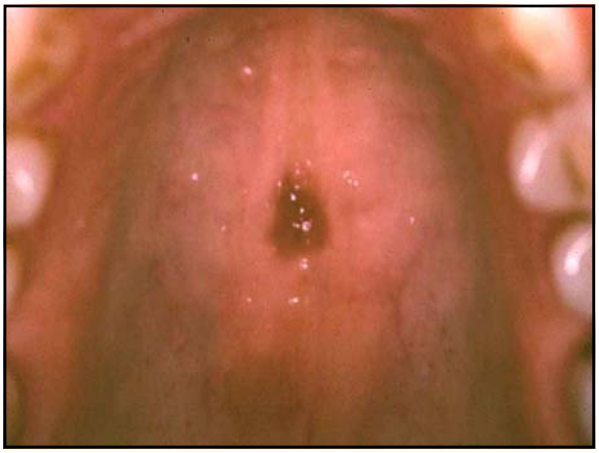
Medication-induced melanosis
Smoker's melanosis

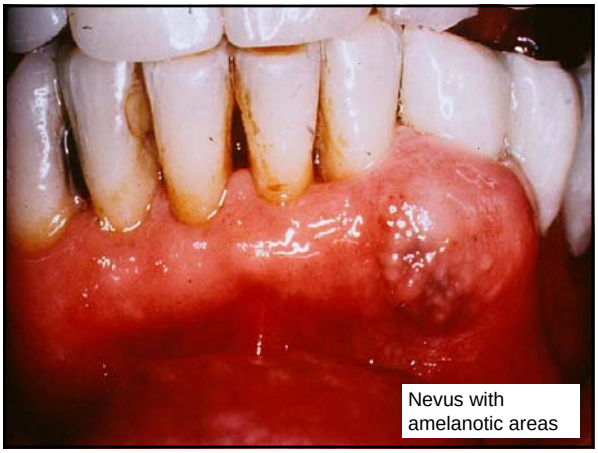
- Differential diagnosis
  1) Nevus
  2) Melanotic macule
  3) Implanted exogenous materials, including amalgam tattoo
  4) Melanoma
- Treatment
  None required

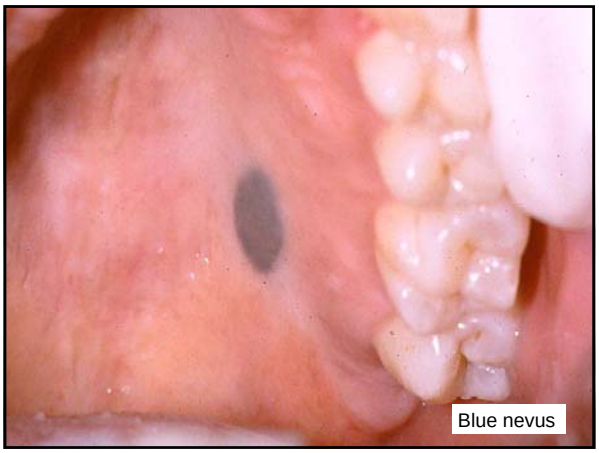
Intraoral nevus

- 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)

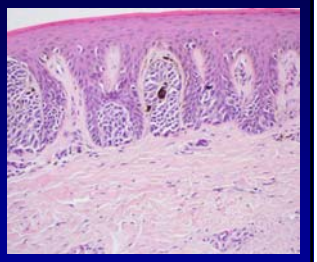
  1) Melanotic macule
  2) Amalgam tattoo

  Older nevi (papular/nodular)

  1) Vascular lesions – hemangioma, varix, pyogenic granuloma
  2) Melanoma

Intraoral nevus

- 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

Intraoral melanoma

- 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

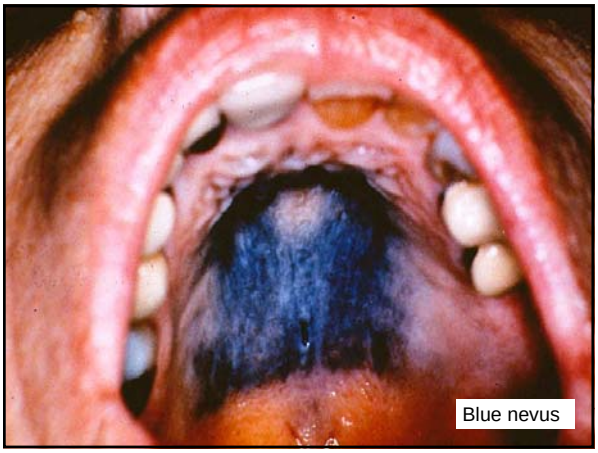
  – most preceded by pigmented lesion

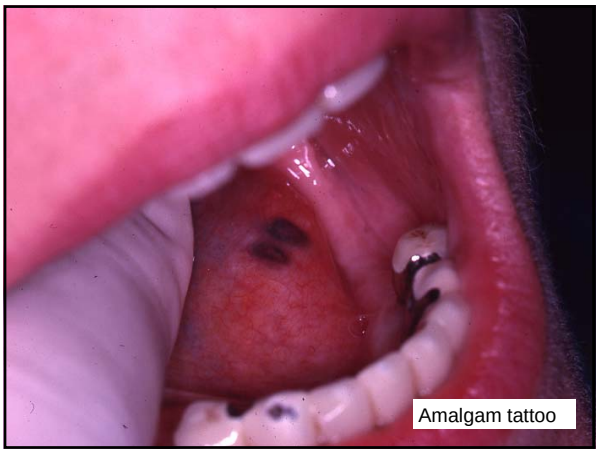
Intraoral melanoma

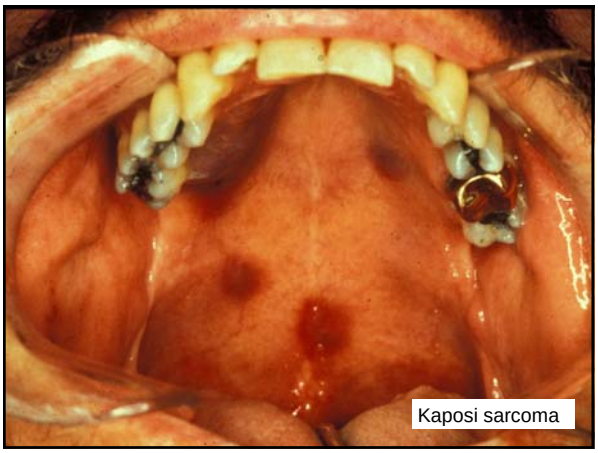
- Gender: M>F
- Age: 6th to 7th decade
- Site: Hard palate, maxillary alveolus
- Clinical features:
  Brown, black, blue; rarely, may have little pigment
  Irregular borders
  Spreads laterally; advanced, nodular and exophytic
  May be ulcerated
  A = asymmetry, **B** = irregular borders, **C** = color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

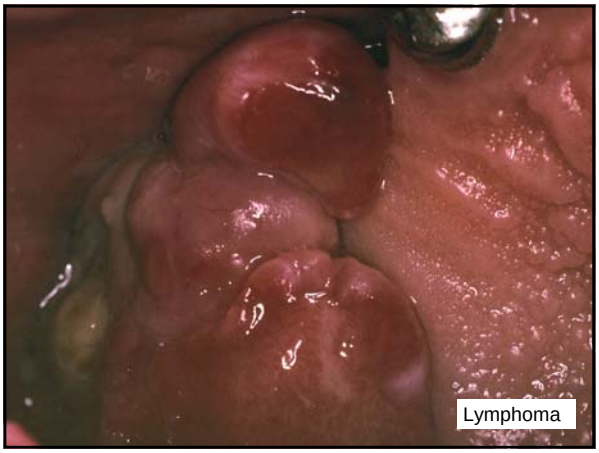
Intraoral melanoma

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




Amalgam tattoo


Kaposi sarcoma

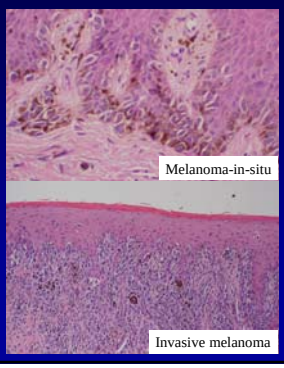

Lymphoma

Intraoral melanoma

- Histology:
  - atypical melanocytes, ± pigment

Melanoma-in-situ
- melanocytes limited to epithelium

Invasive melanoma
- melanocytes invade connective tissue and epithelium


Melanoma-in-situ

Invasive melanoma

Intraoral melanoma

- 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