The University of Jordan

Oral Pathology-II

4th Year
2016/2017

Prof Faleh Sawair: BDS, FDS RCS (England), PhD
Professor of Oral Pathology
Adenomatoid odontogenic tumor:

Clinically:
- 2nd decade
- Swelling over un-erupted tooth (Canine)
- Rarely extra-osseous

Rx:
- Unilocular radiolucency containing a tooth
- ± Faint flecks of radio-opacities

DDx:

Prognosis:
Hist:

- FCT capsule
- Solid or cystic
- Sheets, whorls/rosettes w central spaces
- Homogenous eosinophilic material
- Spherical calcifications
Squamous Odontogenic tumor:

Clinically:

- Young adults
- Anterior to molars
- Painless swelling
- ± Tenderness & loosening of teeth
Rx:
- Unilocular, semilunar
- V-shaped radiolucency
Hist:

- Rounded & elongated islands
- Normal-appearing sqe
- Fibrous CT stroma
- Keratin, microcysts, calcified structures

Origin: RC of Malassez
Calcifying epithelial odontogenic tumor (Pindborg tumor):

Clinically:
- Rare (1%), Adults
- Slowly enlarging painless mass
- 2/3 Mand, molar & premolar
- Peripheral CEOT (6%)

Prognosis: infiltrative but LRR <20%
Rx:

- Irregular radiolucent area
- Radio-opaque bodies
- Unerupted teeth

“Driven-snow”
Hist:

- Sheets of polyhedral epithelial Cs w abundant eosinophilic cytoplasm
- Prominent intercellular bridges
- Pleomorphism, multinucleation, hyperchromatism
Spherical calcifications

Amyloid-like material

Congo Red Stain

Spherical calcifications
Ameloblastic fibroma:

- Both components are neoplastic

Clinically:

- Young pts (14ys)
- Slow growing, painless
- Mand molar region

Rx: w-d, uni/multilocular, unerupted teeth
Hist:

- Thin strands & cords of odontogenic epith
- Loose but cellular fibromyxoid CT ≈ Dental papilla
- St. R Cs less abundant
Peripheral layer of cuboidal or columnar Cs enclosing St. R Cs

Rosette
Poorly formed dentine/odontome:

A. Fibro-odontoma

Prognosis: not invasive

A. Fibrodentinoma

A. Fibro-odontoma

Prognosis: not invasive
Odontoameloblastoma:

- Ameloblastoma + E & D

- **Behavior** = Ameloblastoma
Calcifying cystic odontogenic tumor (Calcifying odontogenic cyst):

- Solid (Dentinogenic Ghost cell tumor)

Clinically:

- Usually < 40
- Anterior to 6
- Slowly enlarging painless swelling
- 25% extraosseous

Prognosis: solid more aggressive
Rx:

- W-d uni/multilocular radcy containing radiopaque flecks
- ± Unerupted tooth
- Hist:
  - Cystic cavity
  - Lined by basal ameloblast-like Cs & StR
- "Ghost" Cs
- ± D-like matrix
- Rare: + odontome (younger)
Odontogenic fibroma & myxoma:

- **Origin:** PL, DF, DP

**Odontogenic fibroma:**

- **Clinically:**
  - Slowly enlarging, painless
  - Mand
  - **Extra-osseous**
- **Rx:** w-d radcy
• Hist:
  - Mature collagen & spindle-shaped fibroblasts
  - Strands of odontogenic epith
  - ± Foci of C & D-like matrix
- Odontogenic myxoma:
  - Clinically:
    - More common
    - Mand = Max
    - Slowly enlarging but may be rapid, painless
    - ± Tooth displacement
- Rx:
  - W-d “soap bubble” radiolucency
  - ± Root resorption
**Hist:**
- No capsule & infiltrative
- Widely separated angular Cs
- Long anastomosing processes
- Mucoid ground substance
- ± Islands of odontogenic epith
- ± Focal calcifications

**Fibromyxoma & myxofibroma**

**Prognosis:** benign but locally invasive, ↑ LRR (25%).
Benign Cementoblastoma:

- Only true neoplasm of cementum

Clinically:

- < 25, M
- Mand first molar (50% of cases) & premolar
- Slowly enlarging
- 2/3 of cases associated with swelling and pain
- Tooth vital
- **Rx:**
  - W-d mottled or radio-opaque mass
  - Thin radiolucent margin
  - Attached to the roots of a tooth
  - Resorption of related roots
- Hist:
  - Capsule
  - Cementum with many reversal lines
  - Scattered Cs lying in lacunae
  - Peripheral zone of un-mineralized tissue containing cementoblasts
Malignant odontogenic tumors:

- Ameloblastic Ca:
  - Ameloblastoma → loss of differentiation
  - Spreads to LNs

- Malignant ameloblastoma:
  - Typical histology
  - Pulmonary metastasis
  - Aspiration

Ameloblastic Ca:

- Ameloblastoma → loss of differentiation
- Spreads to LNs
Primary intraosseous squamous cell Ca:

- Odontogenic epith
- Signs of malignancy

Clear cell odontogenic Ca:

- Poorly circumscribed sheets of Cs w clear, glycogen-rich cytoplasm

DDx:
Malignant change in odontogenic cysts:

- Clinically & Rxly Cyst
- **Hist:** SCCa, some cyst lining shows dysplasia
- **Pathogenesis:**
  - Ca change in a cyst
  - Cystic degeneration in a Ca
  - Ca invading the cyst

Odontogenic Sarcomas:

- Fibrosarcomas +
- Non-neoplastic odontogenic epith
- ± dental hard tissue
- E.g: Ameloblastic Fibrosarcoma
Tumors of debatable origin:

- Congenital gingival granular cell tumor (Congenital epulis):
  - Origin: ?
  - Clinically:
    - Newborn
    - Ant Max
    - 10 F: 1 M
    - Pedunculated swelling from crest of alveolar ridge
    - Up to several cms
• Hist:
  • GCT
  • Atrophy of overlying epith
  • Negative S-100 protein
Melanotic neuroectodermal tumor of infancy

- **Origin**: neural crest (↑ Urinary vanillylmandelic acid).

- **Clinically**:
  - < 6 months
  - Brown or black pigmented swelling
  - Ant Max
  - Extra-oral sites (Brain, skull, testis).
• **Rx:**
  - Radcy w tooth buds displacement

• **Hist:**
  - Two cell types & dense FCT stroma
  - Large w open nucleus & melanin granules in cytoplasm
  - Small w dark dense nucleus & scant cytoplasm