The University of Jordan

Oral Pathology-II

4th Year
2016/2017

Prof Faleh Sawair: BDS, FDS RCS (England), PhD
Professor of Oral Pathology
Bone Diseases
Osteogenesis Imperfecta:

- Excessive fragility of bone
- Type I collagen →
- Bone formation → generalized osteoporosis
Slender bones and fracture tendency
- Dwarfism
- Thin skull and **bulge over ears**
- Thin sclera → **blue**
- ± Deafness,
  - joint hyper-mobility,
  - heart valves defects
Other causes of blue sclera
• 4 main types:
  - **Type I:** AD, BS, ± DI
  - **Type II:** AR, lethal
  - **Type III:** AD or AR, BS, progressive deformity, +DI
  - **Type IV:** AD, WS, ± DI

**Dental aspects:**
  - DI
  - Extractions
  - Class III malocclusion
  - Impactions of 6s and 7s
  - Difficult intubation
Osteopetrosis:

- Solid dense but brittle bones
- Inactivity of osteoclasts
- Excessive bone formation
- Anemia and hepato-splenomegally
- **Fracture**

**Rx:**

- Generalized ↑ in bone density
- Cortical = medullary
- Marked radio-opacity of skull base
- Greatly **reduced sinuses & skull foramina**
• Dental aspects:
  ▪ Unerupted teeth
  ▪ Invisible roots
  ▪ Osteomyelitis
Cleidocranial dysplasia:

- AD/Sporadic
- Face, skull & clavicles
- Open fontanells & sutures
- Frontal & occipital bossing

- ↓ developed midface, depressed maxilla & nasal bridge

- Normal size mandible
- Partial or complete absence of clavicles
• Dental aspects:
  ▪ Retention of primary teeth
  ▪ Multiple unerupted permanent teeth
  ▪ Multiple supernumerary teeth & dentigerous cysts
  ▪ Thin roots
Achondroplasia:

- AD, sporadic
- Most common genetic skeletal disorder
- Short-limbed dwarfs
- Head & trunk of normal size
- Defective middle 1/3 of face
- Malocclusion
Fibro-osseous lesions
Fibro-osseous lesions:

Definition:

Classification:

A. Osseous dysplasia

- Fibrous dysplasia
  - Monostotic
  - Polyostotic

- Cemento-osseous dysplasia
  - Periapical cemental dysplasia
  - Focal cemento-osseous dysplasia
  - Florid cemento-osseous dysplasia

B. Benign neoplasia

- Ossifying fibroma
Fibrous dysplasia:

Monostotic FD:

- 80% of cases
- One bone
- Max > Mand
- Craniofacial FD
- Childhood
- Arrest in adulthood
- Clinically:
  - Not w-d smooth, round, **painless** bony swelling
  - Disturbs function & causes malocclusion
  - Extension
  - Mand
• **Rx:**
  - Radiolucent → radio-opaque
  - “Ground glass” or “Orange peel” “Thumbprint” pattern
- Border
- Displacement of roots, obscured lamina dura, thin PL space

Superior displacement of mandibular canal
Polyostotic FD:

- Expansion in multiple bones
- Segmental or one side
- F > M
- **Albright syndrome**: FD + café-au-lait spots + endocrine abnorm.s
Hist:

- **Initially:** cellular CT replacing normal bone
- **Gradually:** irregular, delicate woven bone (Chinese characters)

- Border
- Osteoblasts

- **Late stage:** ↓ in FCT and change of woven to lamellar bone

- Spherical calcification

- Osteoclasts-like giant Cs
**Blood chemistry:** $\pm \uparrow$ in ALP in PFD

**Aetiology:**
- Defect in gene controlling growth and differentiation of osteoblasts
- Developmental
- MFD $\neq$ PFD

**Prognosis**
- Cosmetic surgery
- Fibrosarcoma (1%)
Periapical cemento-osseous dysplasia:

- **Definition:**
  - Middle-age F, African-Americans
  - Below apices of mandibular incisors
  - Vital

- **Dx:** incidental

Occasional cases of bone expansion

Root resorption is rare
• **Rx:**

  - W-d radcy below apices separated by normal PL
  - Increasing radio-opacity
  - Thin radiolucent margin
Focal cemental dysplasia

- White
- Posterior mandible
Idiopathic osteosclerosis
Florid cemento-osseous dysplasia

- Extensive PCD (≥ 3 quadrants)

- Clinically:
  - Same group of pts
  - Asymptomatic unless infected
  - Expansion
• **Rx:**
  - Radio-opaque, irregular masses
  - Frequently symmetrical
  - May involve 4 quadrants
• **Hist:**
  - Cellular CT & then gradual calcification
Cemento-ossifying fibroma:

- Clinically:
  - Similar to FD histologically
  - Mand molar & premolar region
  - Slowly growing, painless swelling
  - 20-40ys
• **Rx:**
  - W-D radcy
  - Gradual calcification
  - Radiolucent rim
- **Hist:**
  - Cellular FCT
  - Trabeculae of bone & numerous cementicles
  - Outer zone of FCT
Juvenile ossifying fibroma:

- Rapidly growing
- < 15 ys
- ↑ cellular & mitotically active FCT w trabeculae of woven bone
- ↑ LRR