CYST & CYST-LIKE LESIONS OF ORAL & MAXILLOFACIAL REGION
MAGED LOTFY

Class Name: Fifth Year Medical Students
Definition of Cyst

What is a CYST

Cyst is a pathological sac which contain fluid or semifluid material and usually, but not always, lined with epithelial lining.
Classification of Cysts

I. Cysts of Jaws

- Epithelial
  - Developmental
    - Odontogenic
    - Nonodontogenic
  - Inflammatory

- Nonepithelial

II. Cysts Related to Jaws

- Dermoid & epidermoid cyst
- Branchial cleft cyst
- Thyroglossal duct cyst
- Salivary glands cysts

III. Cysts Related to Max S

- Benign Mucosal Cyst
Developmental Odontogenic Cysts

- Dentigerous Cyst
- Gingival Cyst
- Primordial Cyst
- Periodontal Cyst
Dentigerous Cyst

Occur < 30

Common 3/8

Ameloblastoma may develop in its lining

It envelops the whole crown of unerupted tooth or only part of it.

Facial asymmetry - Teeth displacement - Root Resorption - Painful if infected or presses on nerve
Fissural Cysts

- Nasolabial Cysts
- Globulomaxillary Cyst
- Incisive Canal Cyst
- Incisive Papillal Cyst
- Median Palatine Cyst
Diagnosis of Cysts

A. Signs & Symptoms
B. Radiographic Examination & imaging
C. Aspiration Biopsy
A. Signs & Symptoms

- **Signs**
  - Bony expansion
  - Fluctuation
  - Site predilection
  - Teeth related

- **Symptoms**
  - Pain and swelling
  - Bade Taste
  - Irregularities in dentition
  - Discomfort under denture
Bony Expansion (Swelling)

Small Cyst

- No Expansion
- Curved smooth hard painless expansion
- Table-Tennis Ball
- Egg-Shell Craking

Fluctuation
Slight swelling causing some expansion at the vestibule, no pain, teeth tilted

Chronically Infected cyst may develop a fistulous tract which some time open at some distance from the lesion and present some difficulties in diagnosis. Fine Pd probe is used to detect the orifice
Cysts can occur in where on the oral cavity:

- **Periodontal cyst**: Upper lateral incisor
- **Dentigerous Cyst**: Lower 8 & Upper 3
- **Fissural Cysts**: Almost confined to the Maxilla
- **Solitary Bone Cyst**: Only in the mandible
- **Odontogenic KeratoCyst**: Usually lower 8 region
Teeth Related to The Cyst

- **Periodontal cyst** → **Nonvital Tooth**
- **Dentigerous cyst** → **Vital Unerupted Tooth**
- **Fissural cysts** → **Vital Teeth**
- **Solitary bone cyst** → **Vital Teeth**
Teeth Related

• Benign cyst rarely cause loosening of adjacent teeth until the cyst attain a very huge size

• Large maxillary cysts usually cause displacement of the roots of the adjacent teeth labially so that the crowns are inclined palatally
Paraesthesia of Inferior Alveolar Nerve

Large Mandibular Cysts

\[ \downarrow \]

Deflect the NVB or involve it

\[ \downarrow \]

NO

Paraesthesia Of Lower Lip

\[ \downarrow \]

Infected Cyst Becomes Infected

\[ \leftarrow \]

Inflammatory Exudate

\[ \leftarrow \]

Increase Cystic Pressure
B. Aspiration Biopsy

Wide pore needle is used to aspirate the fluid in the lesion

Light straw-colored fluid + cholesterol crystals

Benign Cyst
Aspiration

Maxillary Sinus
- Air
- Inject saline which will run out the nostrils

Mucous Cyst
- Pale straw colored fluid with very few CC

Solid Lesion
- Nothing will be aspirated

C Haemangioma
- Blood

Anurysmal Cyst
C. Radiographic & Imaging Examination

- **Periapical films**
  - Small cysts

- **Panoramic View**
  - Survey of the mandible and the maxilla

- **Extra-oral Films**
  - Extent of the lesion
  - Displacement of the teeth
  - Encroachment on vital structures
Precise information can be obtained from CT

- The use of radio-opaque media to demonstrate the extent and relation of the lesion has been diminished

- The extent of the cyst can be determined. A cyst within the maxillary sinus can be clearly demonstrated
Interpretation

Shape of the lesion

- Shape of the lesion
- Peroration of cortical plates
- Relation to mandibular canal
- Multilocularity

Radiolucent With Radio-opaque margin
When infected no radio-opaque margin is seen
Multilocularity

The presence of unerupted tooth
Globulomaxillary Cyst
Inverted bear shape

Nasoplatine Cyst
Heart Shape Appearance
Traumatic Bone Cyst

Scalloped margin between the roots of the teeth

Static Bone Cyst

Small Round Radiolucency That Do Not Change Shape or Position
Basic Surgical Treatment

1. Remove the lining to enable the body to rearrange the position of the abnormal tissues
2. Restoration of normal form and function
3. Preservation of the adjacent teeth and other important structures
4. Minimal trauma to the surrounding tissue
5. Rapid healing
Marsupilization (Cyst Decompression)

Increase Interacystic pressure
Large Maxillary Cyst

Opening For Decompression
Indications of Marsupilization

- When general condition of Pt limit the extent of surgery
- Cysts with friable lining difficult to remove
- When primary closure is not recommended (Large size - Gross infection)
- When surgery endanger a nearby important structure.
- When surgery carry the risk of pathological fracture
Advantages & Disadvantages

**Advantages**
- Preservation of tissues and teeth
- No risk for pathological fracture or injury to important structure
- In maxilla no risk of OAF

**Disadvantages**
- Pathological tissue is left behind
- Healing is slow and take very long time
- A cyst plug may be needed
Enucleation
Enucleation

**Indications**

- Accessible cysts
- Cyst which do not extensively involve vital important structure or large number of teeth
- Cysts with little or no soft tissue involvement

**Contraindications**

- Large cysts in the mandible which carry the risk of pathological fracture
- Cysts which involve the roots of healthy teeth that must be preserved
Enucleation

**Advantages**
- No pathological tissue is left behind
- Healing is more rapid

**Disadvantages**
- May cause damage to vital structure
- Not suitable for very large cysts
- Difficult when the cyst extend to the soft tissue
A. Periapical cyst with Skin Fistula
B. Maxillary periapical cyst
C. Dentigerous cyst (marsupialization)
D. Nasopalatine (Incisive canal) cyst
A. Periapical Cyst with Skin Fistula
Gaining Access (The Flap) – Exposing the Cyst
Removal of lining

Treatment of causative teeth
Wound Management & Closure

Treatment of Fistula
Follow-Up
B. Maxillary Periapical Cyst
Treatment of the causative teeth and cavity obliteration
Wound Closure & Follow-Up
C. Dentigerous Cyst (Marsupialization)

Preoperative Radiograph
Exposing the Cyst

Exposing the Teeth and Removal of tooth
Maintaining open site, wound management & Packing
Follow-Up – 6 M PO
Second Surgery – Third Molar Removal

Follow-up – 18 MPO
Follow-Up & Comparison – 18 MPO
C. Maxillary Dentigerous Cyst