

Odontogenic Cyst

Dr. Nilima Sharma
Associate Professor &
Head Deptt. Of Dentistry

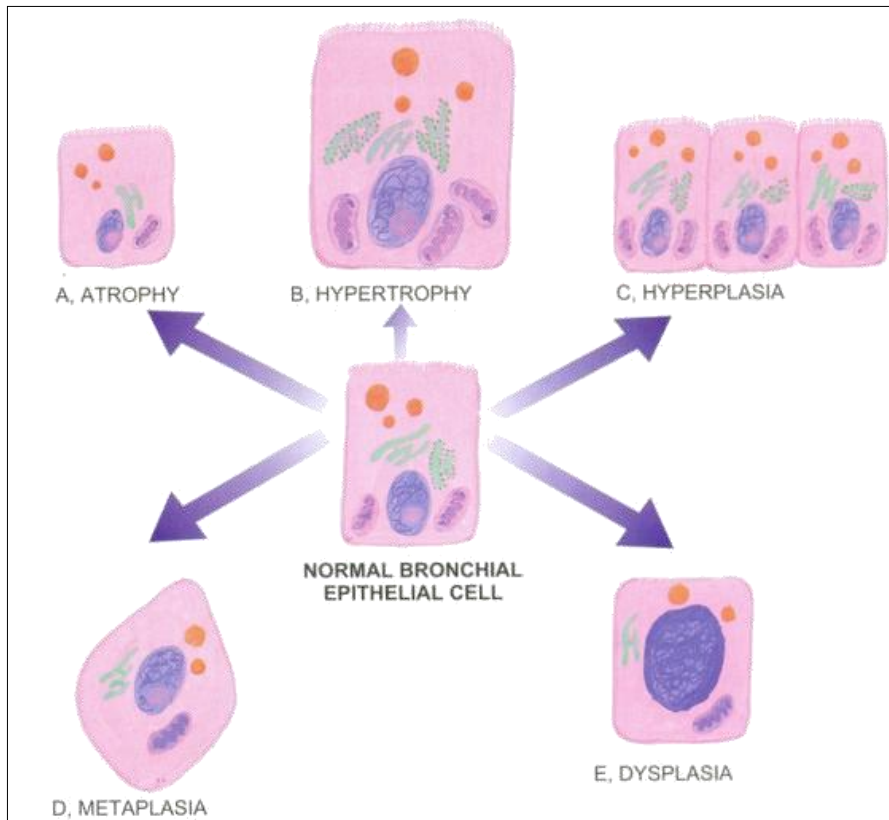
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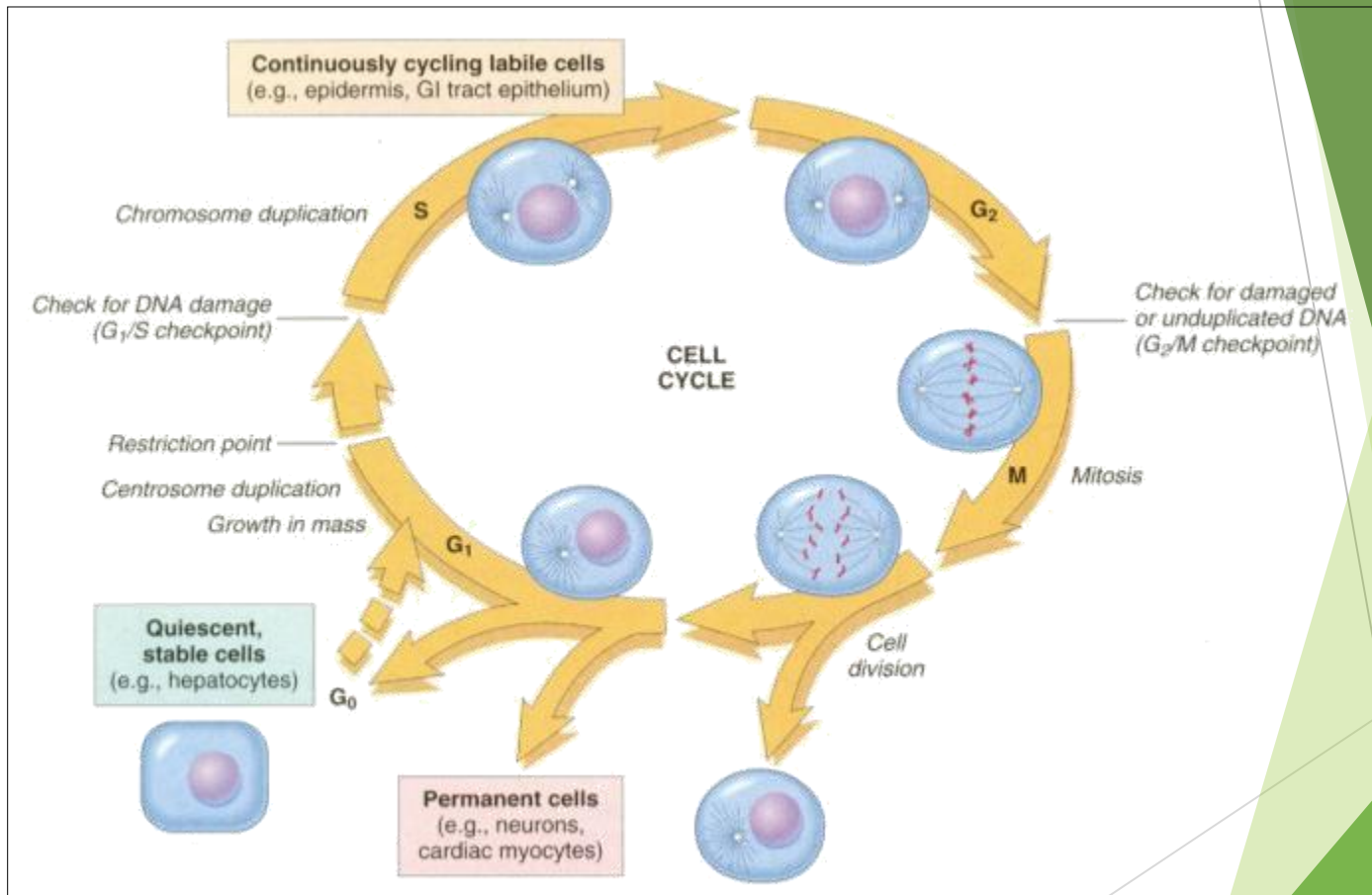
CONTENTS.

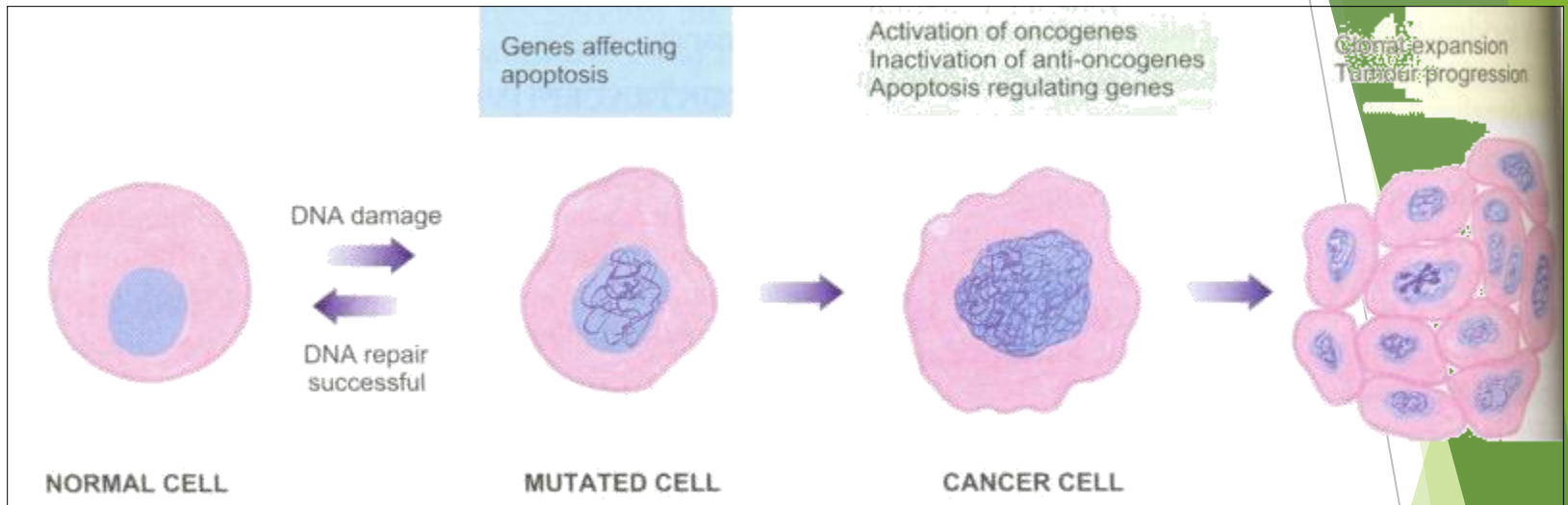
- ▶ **BASIC CONCEPTS.**
- ▶ **CLASSIFICATIONS.**
- ▶ **CYSTS OF THE JAWS.**
 - ▶ **ODONTOGENIC
CYSTS.**

- ▶ Cell is exposed to stress.
 - ▶ Internal factors.
 - ▶ External factors.
- ▶ How does the cell react?
 - ▶ Physiological adaptation.
 - ▶ Pathological adaptation.









► Genes controlling normal cell growth:

- Proto-oncogenes.
- Anti-oncogenes.
- Apoptosis regulatory genes.
- DNA repair genes.

- ▶ **Neoplasia** : “New growth”.
- ▶ New growth “Neoplasm” or “Tumor”.
- ▶ **Definition:** a mass of tissue formed as a result of abnormal, uncoordinated, autonomous & purposeless proliferation of cells.
- ▶ **Hamartoma:** benign tumor made of mature but disorganized cells of tissues indigenous to that particular organ.
- ▶ **Choristoma:** ectopic islands of normal tissue.

CHARACTERISTICS OF TUMORS.

- ▶ Rate of growth:
 - ▶ Rate of division and destruction of tumor cells.
 - ▶ Degree of differentiation.
 - ▶ Growth factors.
- ▶ Clinical features and gross appearance.
- ▶ Microscopic features:
 - ▶ Proliferating tumor cells.
 - ▶ Supporting stroma: fibrous connective tissue and blood vessels.
- ▶ Spread:
 - ▶ Local invasion.
 - ▶ Metastasis.

CYST.

- ▶ Definition:

- ▶ It is a pathologic cavity lined by epithelium containing liquids, semisolids or gas but do not arise due to accumulation of pus.

PATHOGENESIS.

- ▶ Cyst initiation.
 - ▶ Cells of odontogenic epithelium are predetermined. Eg:
 - ▶ Remnants of dental lamina.
 - ▶ Reduced enamel organ.
 - ▶ Cell rests of malassez.
 - ▶ Extension of basal cells from overlying epithelium.
 - ▶ Irritants from the tooth.
- ▶ Epithelial proliferation.
- ▶ Cyst enlargement.

- ▶ Increase in the volume of cystic contents.
 - ▶ Secretions of the cystic cells.
 - ▶ Transduction & exudation.
 - ▶ Inflammatory cells present in the cystic capsule release:
 - ▶ Lymphokines.
 - ▶ Osteoclast activating factor.
 - ▶ Interleukins.
 - ▶ Prostaglandins.
 - ▶ Resulting in hyperosmolarity.
- ▶ Bone resorption.
 - ▶ Bone resorbing factors released by the connective tissue capsule.

ODONTOGENIC TISSUE.



CLASSIFICATION OF JAW CYSTS. (WHO 1992)

▶ **Developmental cysts:**

▶ *Odontogenic:*

- ▶ Dentigerous cyst.
- ▶ Eruption cyst.
- ▶ Odontogenic keratocyst.
- ▶ Gingival cyst of new born.
- ▶ Lateral periodontal cyst.
- ▶ Gingival cyst of adults.
- ▶ Glandular odontogenic cyst.
- ▶ Calcifying odontogenic cyst.

▶ *Non odontogenic cyst:*

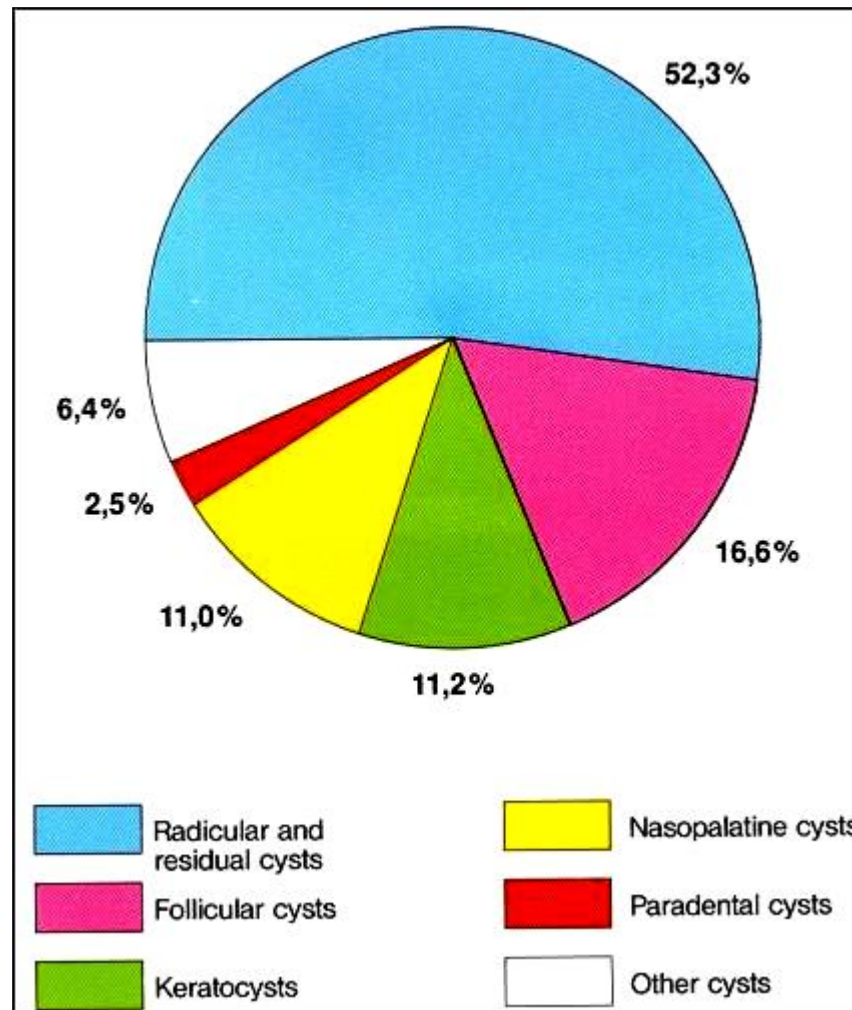
- ▶ Median mandibular cyst.
- ▶ Nasopalatine duct cyst.
- ▶ Nasolabial cyst.
- ▶ Globulomaxillary cyst.

▶ **Inflammatory odontogenic cysts:**

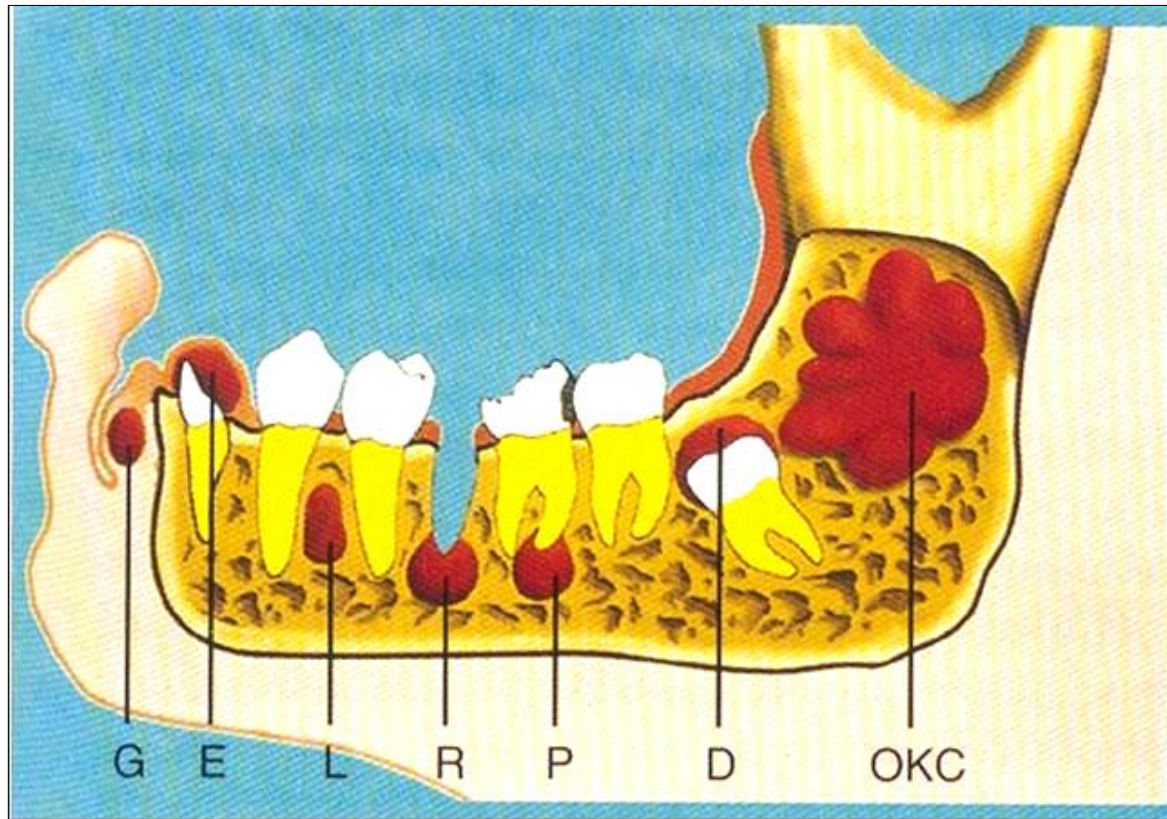
- ▶ Radicular cysts.
 - ▶ Apical cyst.
 - ▶ Lateral cyst.
- ▶ Residual cyst.

ODONTOGENIC CYSTS.

DISTRIBUTION OF CYSTS IN JAWS.



POSITION OF VARIOUS CYSTS IN JAW.



COMMON FEATURES.

C/F:

- ▶ Slow growing.
- ▶ Asymptomatic lesions are discovered on routine radiographic examination.
- ▶ Reason for taking radiograph would be the clinical absence of a tooth which is normal for that dental arch or a non vital tooth.
- ▶ When they are large they cause painless swelling of the jaws.
- ▶ Cause displacement of adjacent teeth.

R/F:

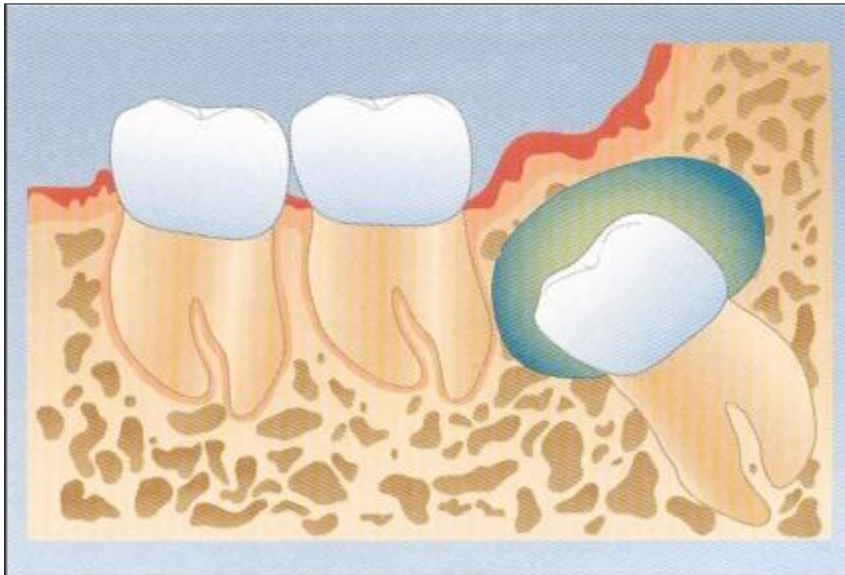
- ▶ Small asymptomatic lesion are unilocular.
- ▶ Large lesions are multilocular.
- ▶ Well defined radiolucency.
- ▶ Associated with unerupted tooth.

H/F:

- ▶ Cystic lining which is a stratified squamous epithelium.
- ▶ Conective tissue capsule.

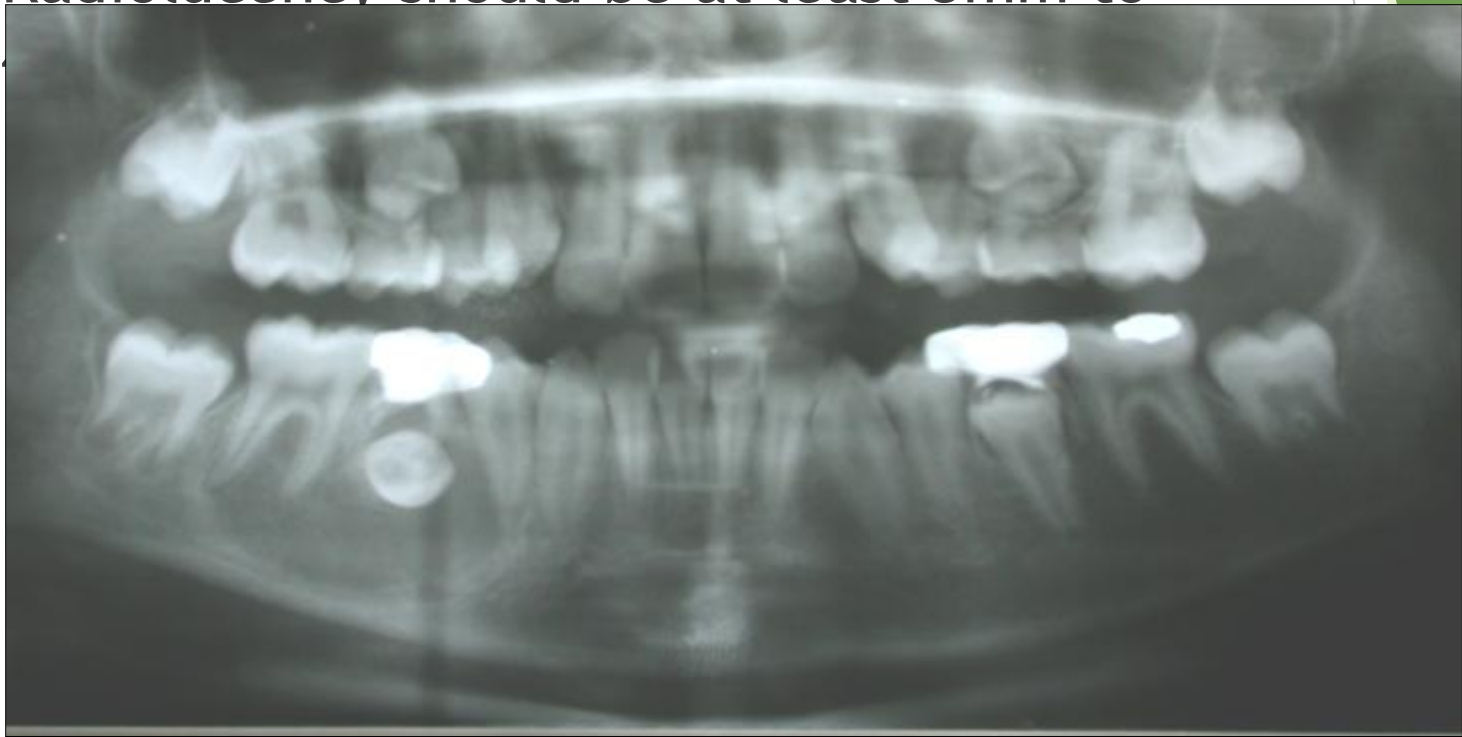
DENTIGEROUS CYST.

- ▶ PAGET 1863 coined the term.
- ▶ Pathogenesis:
- ▶ Age: 1st & 2nd.
- ▶ Sex: females.
- ▶ Site: mandible. L molar, U cuspids, U molars, L cuspids.



- ▶ Swelling which produces facial asymmetry.
- ▶ Pain may be present if it is secondarily infected.
- ▶ Adjacent teeth fail to erupt or they may be tilted.
- ▶ Excessive enlargement causes thinning of cortical plate.
- ▶ On palpation Egg Shell Crackling.

- ▶ Radiolucency should be at least 3mm to



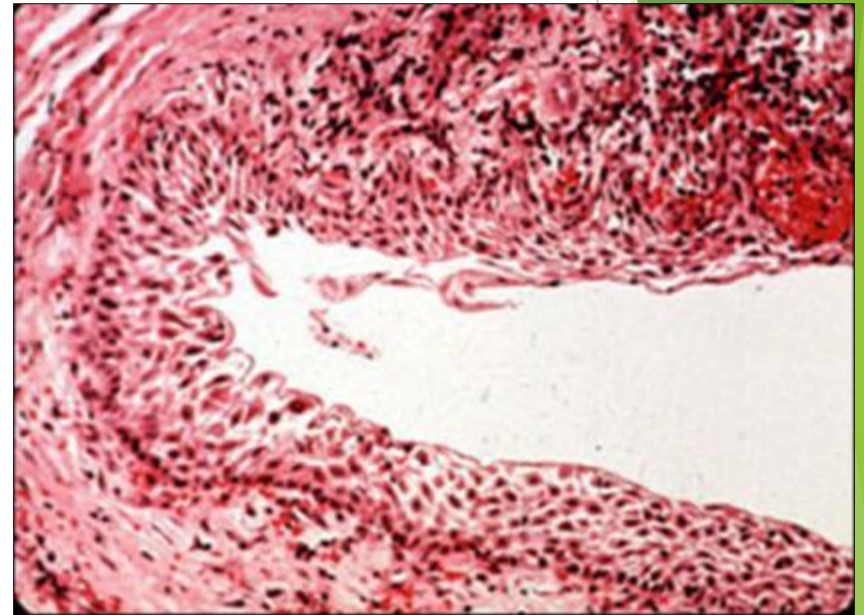




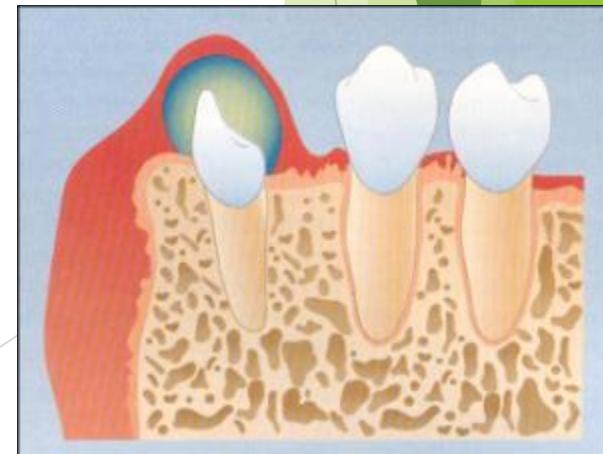
- ▶ Dental follicle may expand around the unerupted tooth in 3 variations:
 - ▶ **Central:** surrounds the neck of the crown with the crown projecting into the cystic cavity.
 - ▶ **Lateral:** on the lateral surface of the root and the crown.
 - ▶ **Circumferential:** surrounds the crown and extends to some distance along the root.

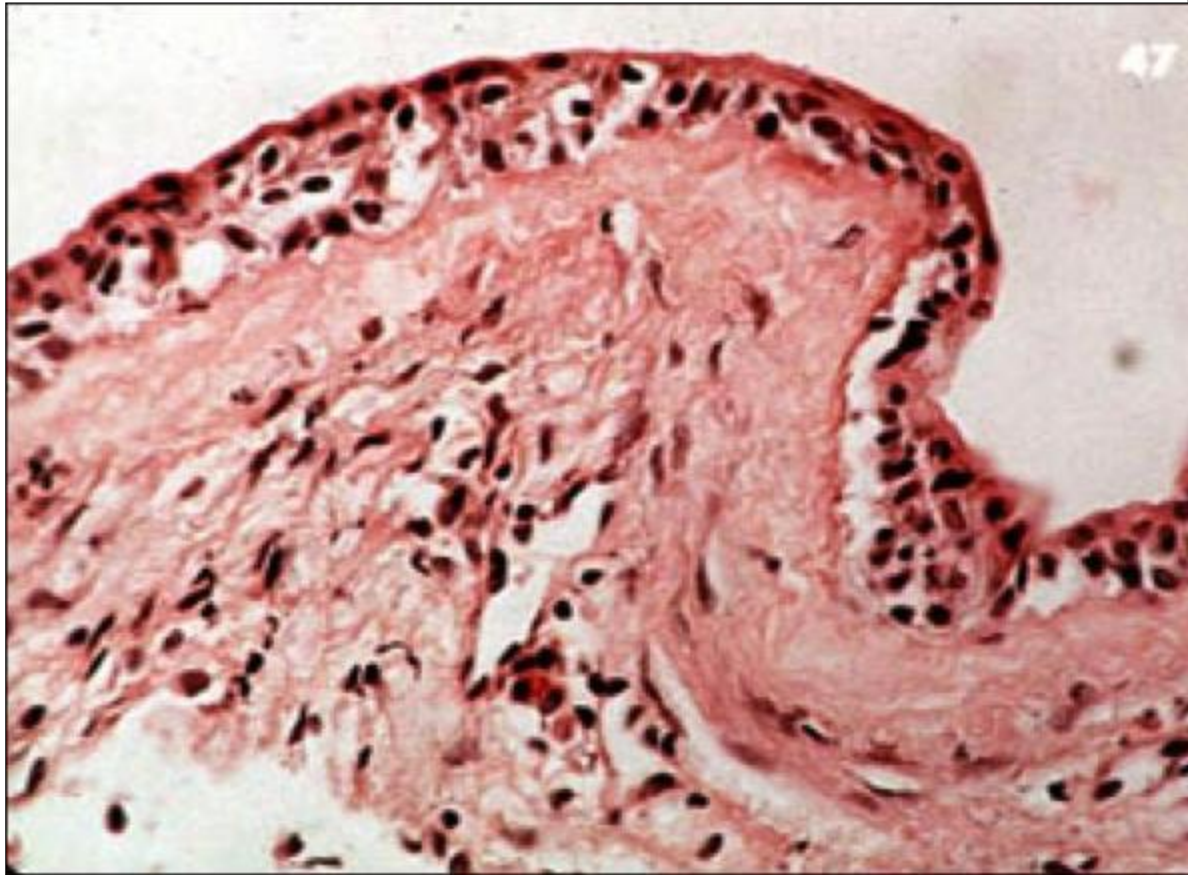
H/F:

- ▶ Cholesterol clefts
- ▶ About 5 cell thick cuboidal epithelium.
- ▶ Connective tissue capsule with inflammatory infiltrate.



ERUPTION CYST.

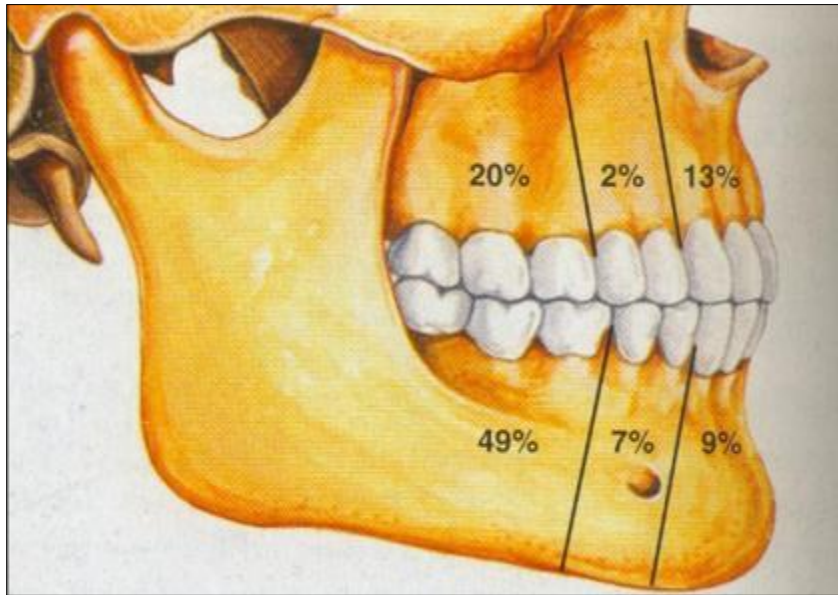




GINGIVAL CYST OF NEW BORN



ODONTOGENIC KERATOCYST.



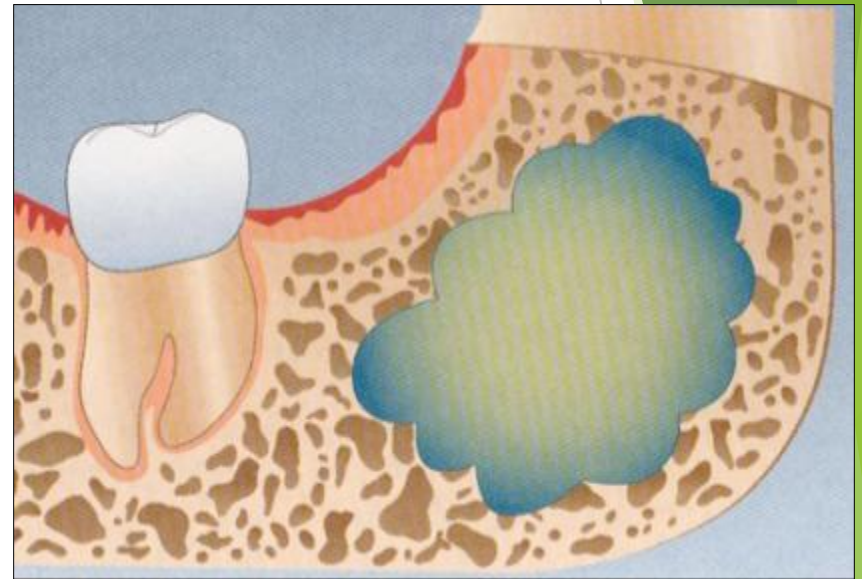
- ▶ Robinson 1945 popularized term “Primordial cyst”
- ▶ Philipsen 1956 coined “Keratocyst”
- ▶ 60% of cases diagnosed b/w 10-40yrs.

Pathogenesis:

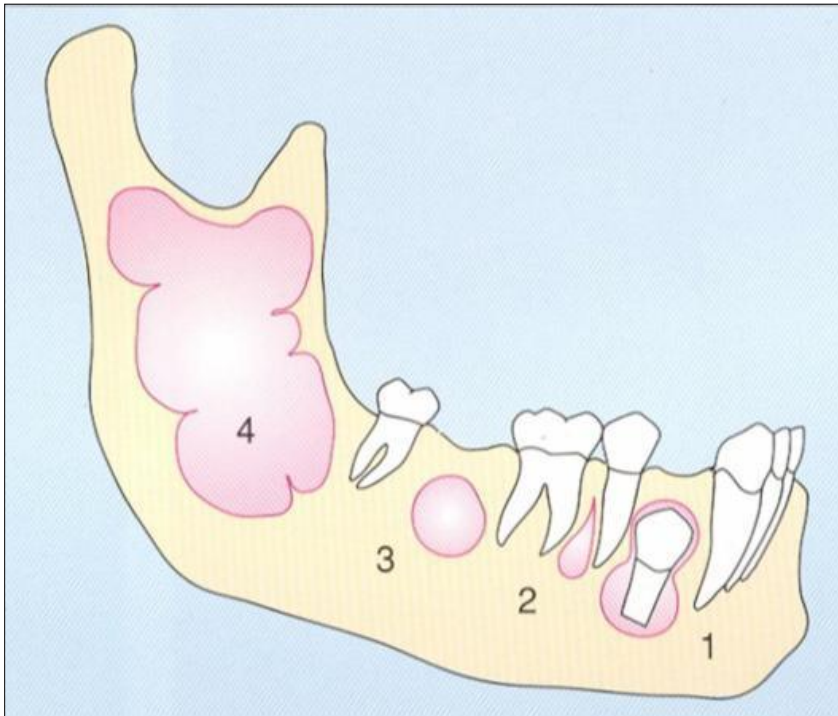
- ▶ Cyst arises from.
 - ▶ Dental lamina. Prior to formation of calcified structures.
 - ▶ Remnants of dental lamina.

▶ R/F:

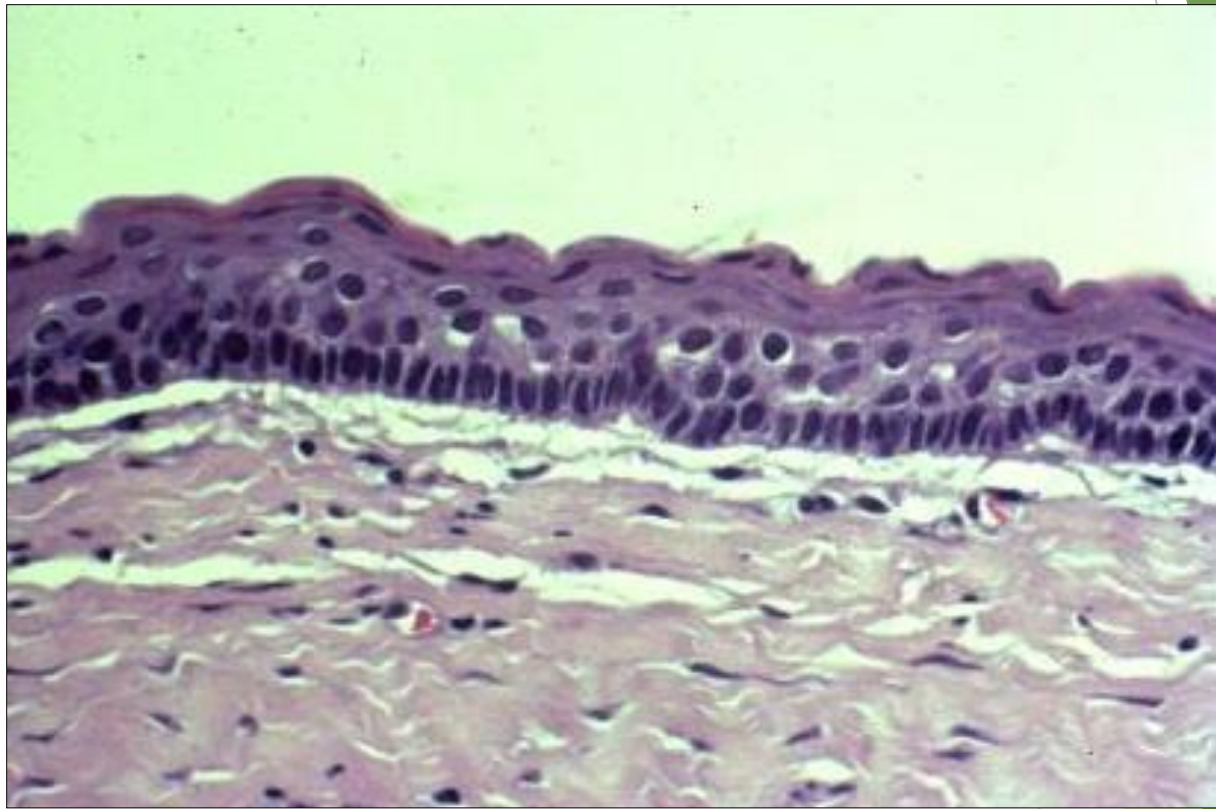
- ▶ Grows in the a-p direction without causing bone expansion.
- ▶ Multilocular.
- ▶ Well defined radiolucent area with smooth and corticated margins.
- ▶ Associated with unerupted tooth.
- ▶ Resorption of root is less common.



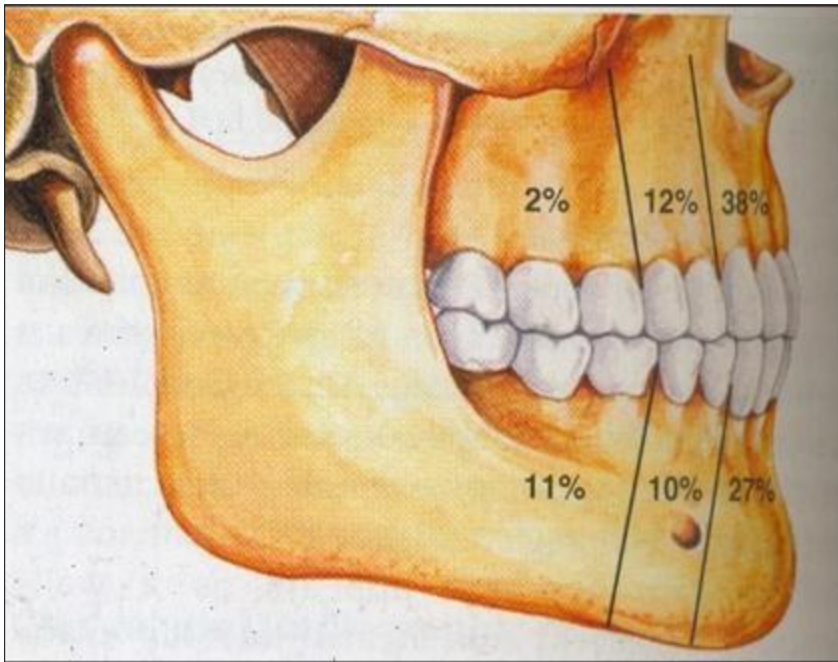




- ▶ Envelopmental.
- ▶ Collateral.
- ▶ Replacement.
- ▶ Extraneous.



CALCIFYING ODONTOGENIC CYST/GORLIN CYST.



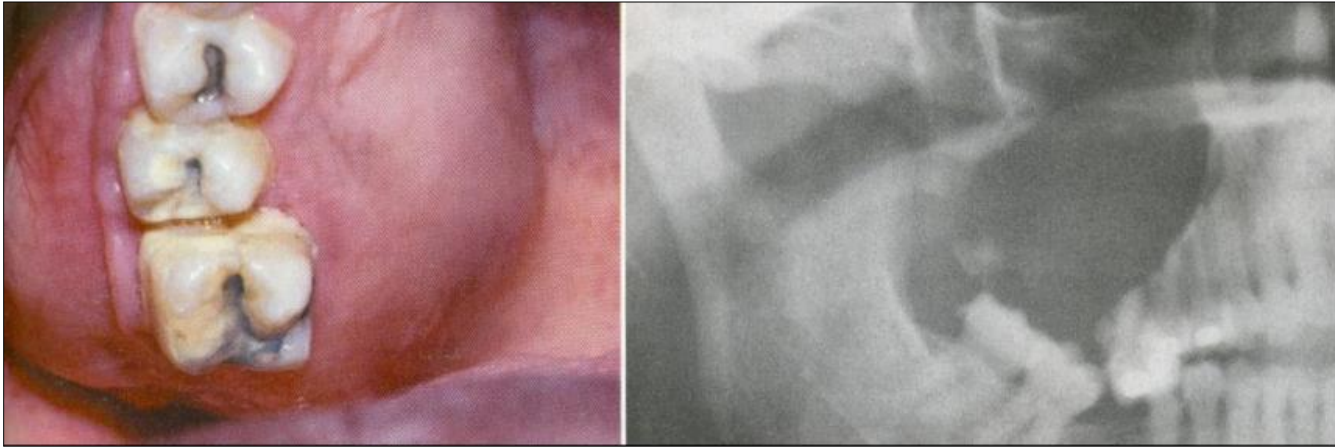
- ▶ Gorlin and associates in 1962, 1964.
- ▶ Common in children and young adults.

Pathogenesis:

- ▶ Remnants of dental lamina.
- ▶ Stellate reticulum.
- ▶ REE.
- ▶ Epithelial lining has the ability to produce dental hard tissues in the connective tissue wall.

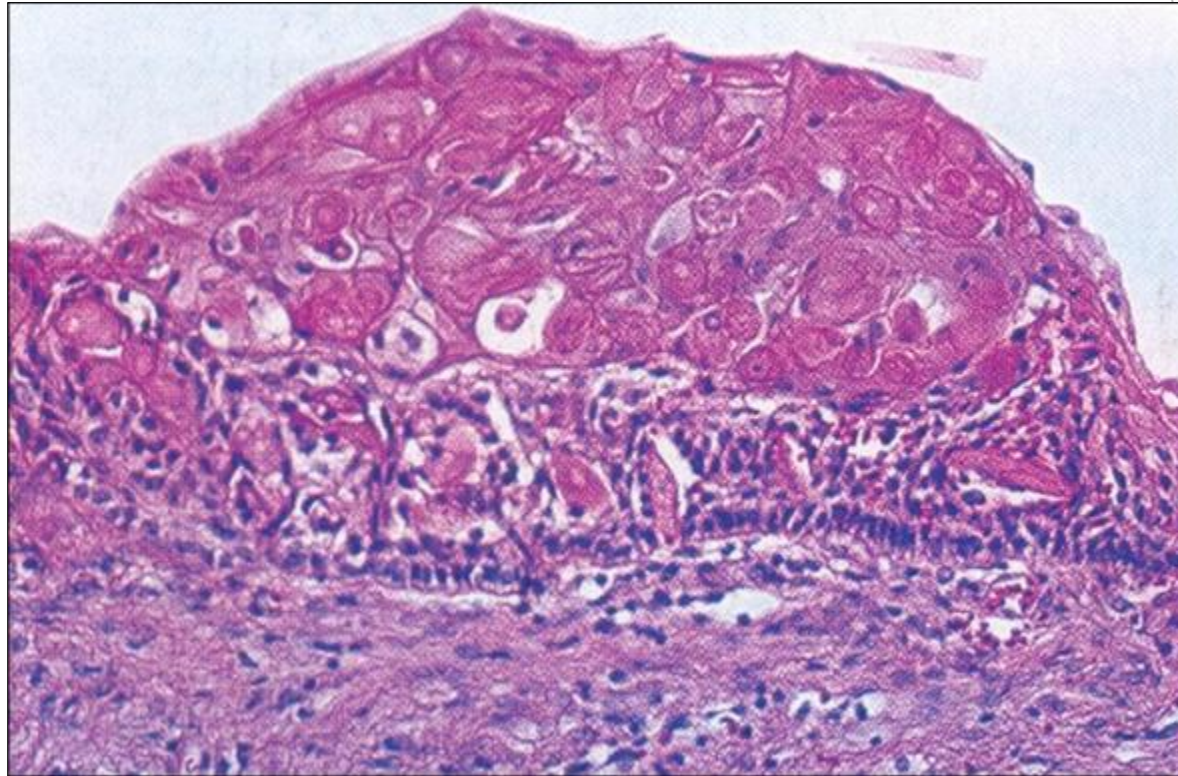
C/F:

- ▶ swelling may be associated with pain.
- ▶ It is central or peripheral.
- ▶ Peripheral cysts cause saucer shaped depressions on the surface of bone.





CALCIFYING EPITHELIAL CYST



H/F:

- ▶ Presence of ghost cells.
- ▶ Dystrophic calcifications.

▶ C/F:

- ▶ Asymptomatic, slowly progressing lesion.
- ▶ If infected causes pain and sinus tract is present.
- ▶ In the maxilla palatal swelling is more common.
- ▶ Initially the skin is normal but as the size of swelling increases blood vessels dilate and give a bluish tinge to the skin.
- ▶ Patient may experience temporary paresthesia.

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