Odontogenic cysts

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Presentation Outline

- ✓ Introduction
- ✓ Odontogenic Cysts
- ✓ Odontogenic tumors

Introduction

- There are variety of cysts and tumors that affect the osseous marrow and cortex of the jaw bones, which are uniquely derived from the tissues of developing teeth.

Odontogenic Cysts

- A cyst is a pathologic cavity filled with fluid, lined by epithelium and surrounded by a definite connective tissue wall.

Odontogenic Jaw Cysts

- *Odontogenic cysts arise from tooth development epithelium.*

- Odontogenic cysts are true cysts occurring in the jaws. They arise from stimulation of epithelium left over from tooth development.

Odontogenic Jaw Cysts

Odontogenic cysts include:

- Radicular (Apical) Cyst
- Dentigerous Cyst
- Odontogenic Keratocyst
- Lateral Periodontal cyst

Apical Cyst (Radicular Cyst,)Periapical Cyst

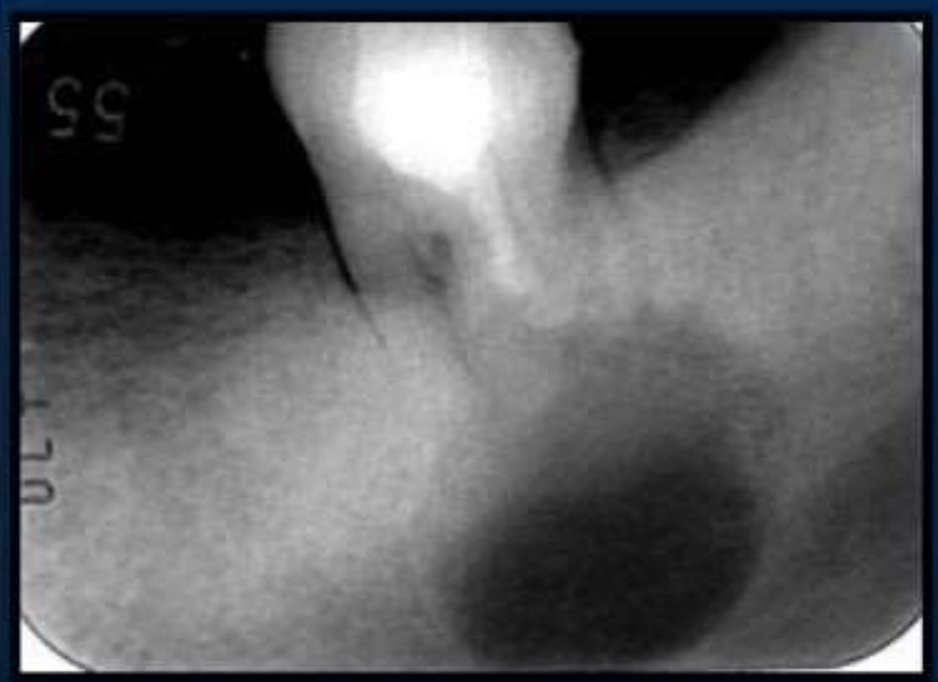
- A radicular cyst is a cyst that most likely results when rests of epthielial cells in the periodontal ligament are stimulated by inflammatory products from a non vital tooth.

Apical Cyst (Radicular Cyst,)Periapical Cyst

- *Features*

  It develops in a preexisting periapical granuloma.
- It has similar radiographic appearance as the periapical granuloma:
  - round or oval radiolucency
  - well defined
  - well corticated if longstanding
- The adjacent teeth can be displaced but rarely resorbed.

Apical Cyst (Radicular Cyst,)Periapical Cyst



Dentigerous Cyst (Follicular)Cyst

- A Dentigerous cyst is a cyst that forms around the crown of an unerupted tooth.

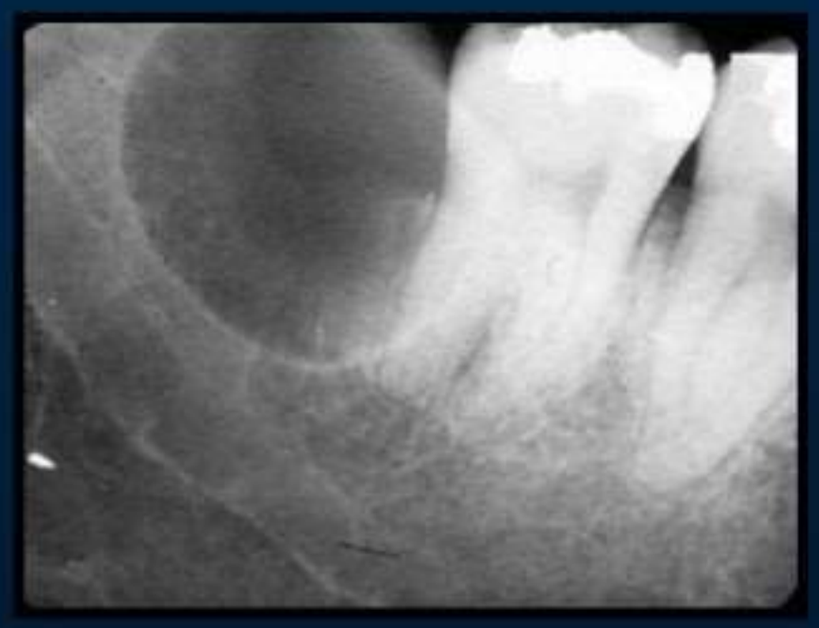
)Dentigerous Cyst (Follicular Cyst

- It arises in the follicular region of unerupted permanent tooth.
- It develops after fluid accumulates between the remnants of enamel organ and the tooth crown.
- Usually adolescents, 20-40 years old.
- Most common sites: mandibular third molar, maxillary canine, maxillary third molar.
- Unilocular radiolucency, well-defined, often corticated, associated with the crown of an unerupted and displaced tooth.
- Large cysts tend to expand the outer plate (usually buccally)

)Dentigerous Cyst (Follicular Cyst

Odontogenic Keratocyst
)(Keratocyst, Keratinizing Cyst

- This is a non-inflammatory odontogenic cyst that arises from the dental lamina.

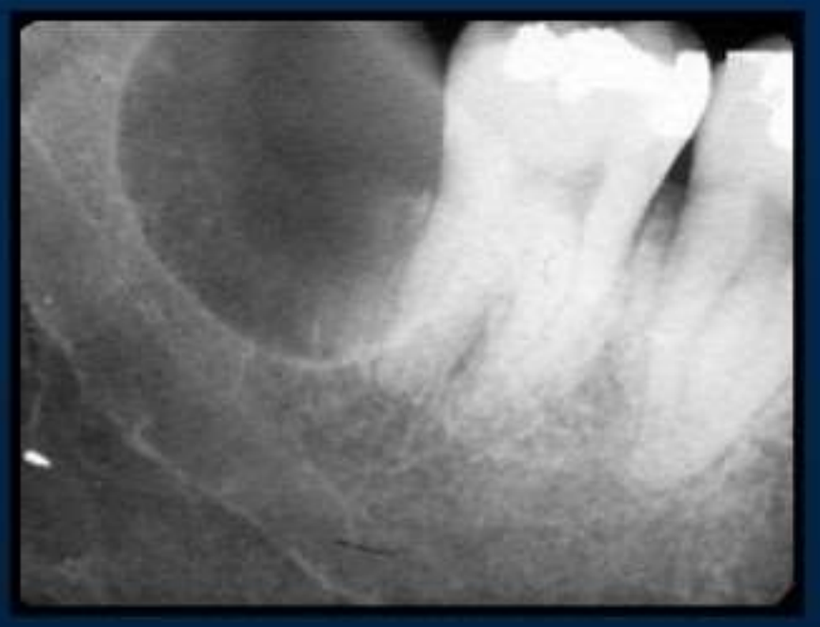


Odontogenic Keratocyst
)(Keratocyst, Keratinizing Cyst

- *Features*
- It is lined by keratinizing epithelium.
- It is usually located in the mandible (posterior body and ramus region).
- most develop during the second and third decade.
- It can become very large. It extends along the body of the mandible causing minimal mediolateral expansion.

Odontogenic Keratocyst
)(Keratocyst, Keratinizing Cyst

- *Features*
- Unilocular (often with scalloped margins) or multilocular (more often in larger lesions)
- Smooth margins, well-defined, often well-corticated.
- Tendency for recurrence after inadequate surgery.
- Adjacent teeth: vital, rarely resorbed.



Odontogenic Keratocyst

Lateral Periodontal Cyst

- Lateral Periodontal Cyst are thought to arise from Epithelial rests in periodontum lateral to the tooth root.

Lateral Periodontal Cyst

- It is a developmental odontogenic cyst. It arises from remnants of the dental lamina or from the reduced enamel epithelium.
- Common site: Along the lateral surface of the root of vital tooth. Usually in mandibular premolar/canine region.
- Usually asymptomatic.
- Small size (less than 1 cm in diameter).
- Unilocular, round or oval, well-defined, usually well corticated radiolucency.

II. Odontogenic Tumors

Odontogenic Tumors

- Epithelial
- Mixed
- Mesodermal

Epithelial Odontogenic Tumors

- Ameloblastoma
- Adenomatoid odontogenic tumor
- Calcifying epithelial odontogenic tumor

I - Benign

Epithelial Odontogenic tumours

1)Ameloblastoma :

- It is the most common neoplasm of the jaws.

Clinical features : Age : Between 3rd to 5th decades.

Sex: No sex predilection

Site : Mandible more than maxilla 80% of cases were in mandible . In the mandible 70% of cases were in molar ramous region.

Characters :

- Asymptomatic
- Slowly growing
- Discovered by X – ray

Radiographic Appearances :

1) Multilocular radiolucent area.(Honey comb pattern) & expanded lingually
2) Unilocular radiolucent area usually associated with impacted tooth (as in dentigerous cyst).

Ameloblastoma

- This a true neoplasm of odontogenic epithelium

- It is an aggressive neoplasm the arises from the remnants of the dental lamina and dental organ(odontogenic epithelium)

Ameloblastoma

- Benign, locally aggressive odontogenic tumor. Usually it slowly grows as painless swelling of the affected site.
- It can occur at any age.
- Localized invasion into the surrounding bone.
- 80-95% in the mandible (posterior body, ramus region). In the maxilla mostly in the premolar-molar region.

Ameloblastoma

- Unilocular (small lesions). Multilocular (large discrete areas or honeycomb appearance)
- Smooth, well-defined, well-corticated margins
- Adjacent teeth are often displaced and resorbed.
- It causes extensive bone expansion.
- Incomplete removal can result in recurrence.

Mixed Odontogenic Tumors

- Odontoma
- Ameloblastic fibro-odontoma
- Ameloblastic fibroma
- Adenomatoid odontogenic tumor

Odontomas

- It is a tumor that is radiogrphically and histologically characterized by the production of mature enamel , dentin , cementum and pulp tissue .
- Relatively Common lesion

Odontoma

- It usually occurs in young patients.
- Usually asymptomatic.
- Failure of eruption of a permanent tooth may be the first presenting symptom.It is commonly found occlusal to the involved tooth.

Odontoma

- **Well defined**

- Two types: **complex** and **compound** odontoma

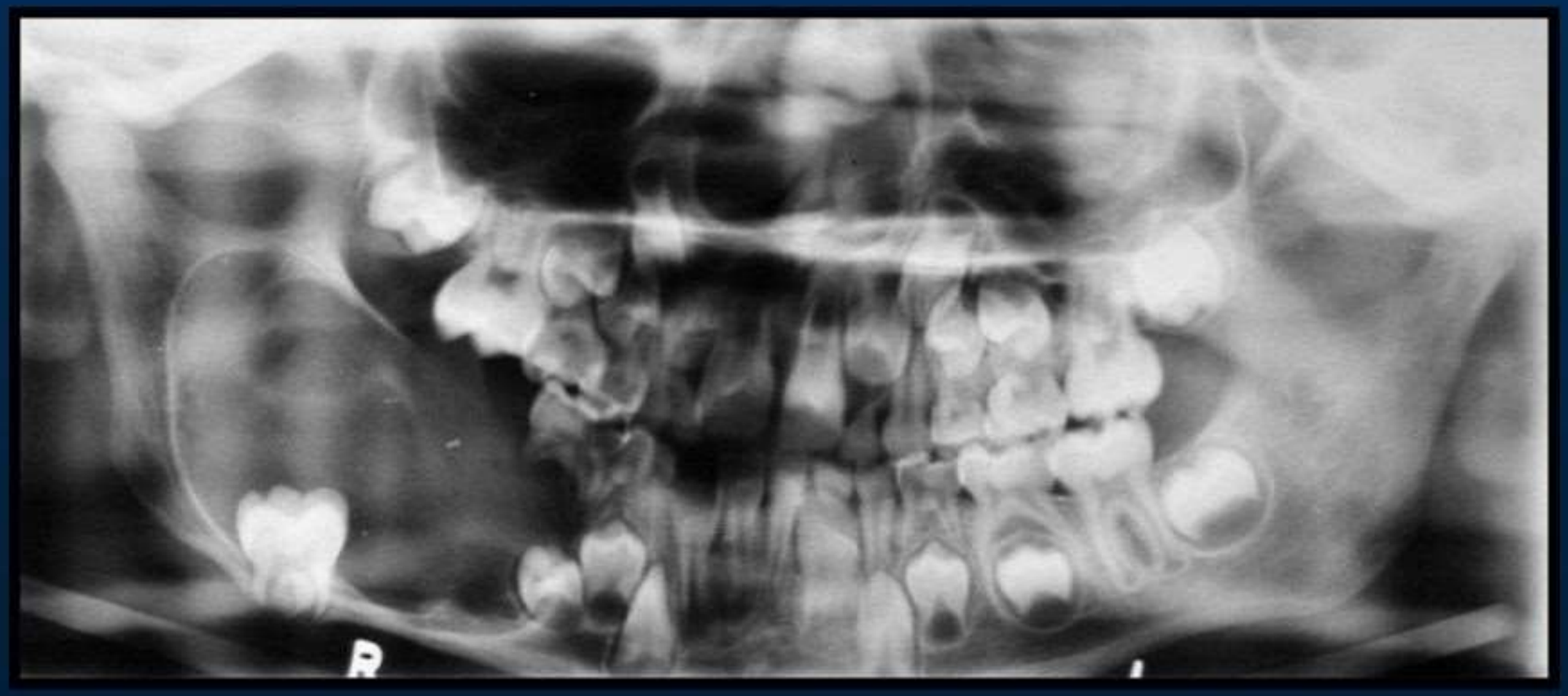
- Complex odontoma is composed of haphazardly arranged dental hard and soft tissues.

- Compound odontoma is composed of many small "denticles" .

- internal aspect is very radiopaque in comparison to bone.

Odontoma

Ameloblastic fibroma

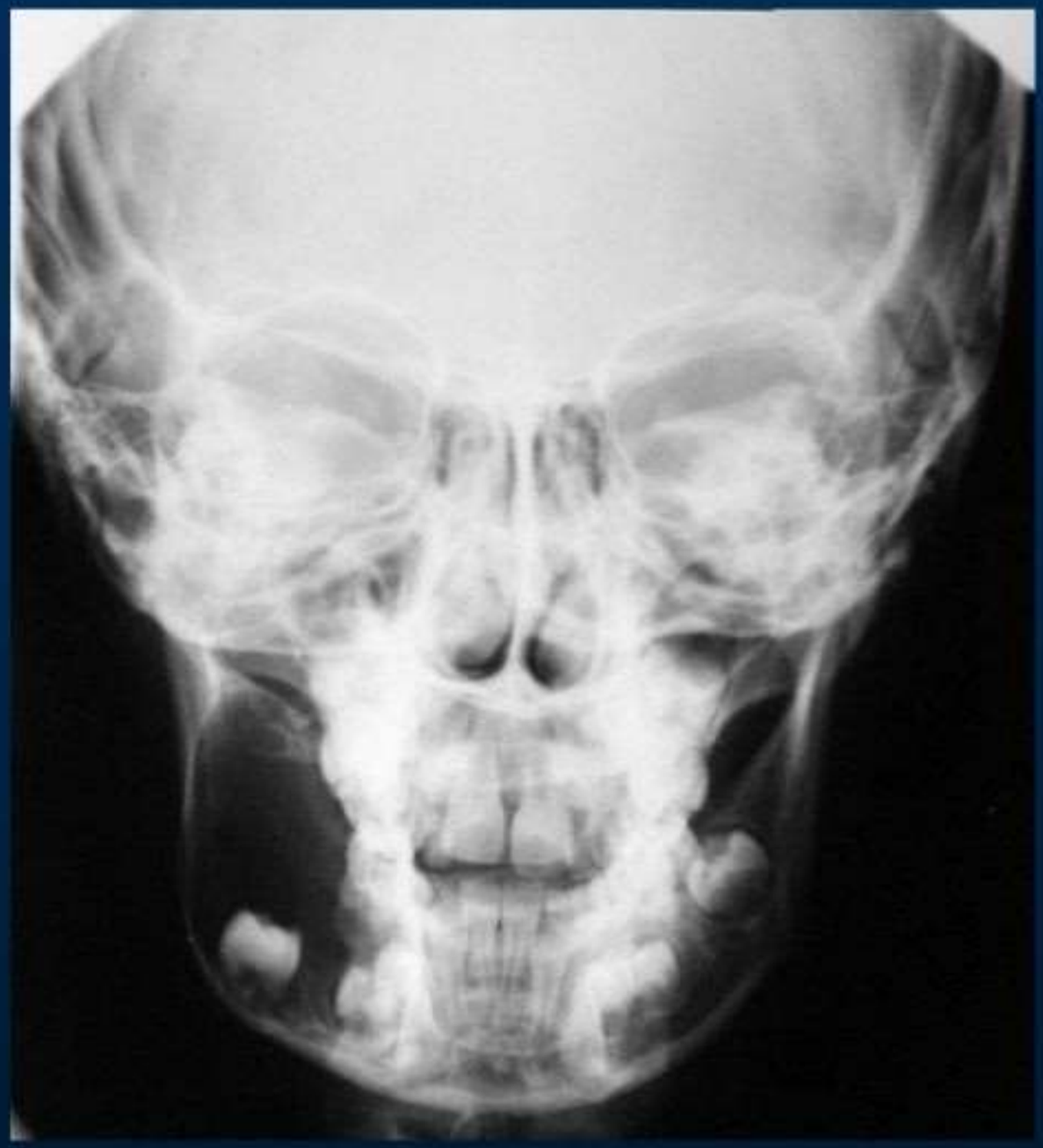


Ameloblastic fibroma

- These are benign mixed odontogenic tumors .
- They are characterized by neoplastic proliferation of maturing and early functional ameloblasts as well as the primitive mesnchymel components of the dental papilla

Ameloblastic fibroma

- Benign Rare. Occurs in children and adolescents.
- Most common site: mandible posterior region.
- Often associated with an unerupted tooth.
- Well defined, well corticated. Small lesions are monolocular. Large lesions are multilocular.
- It may cause displacement of adjacent teeth. Large lesions cause buccal/lingual expansion.



Ameloblastic fibro- odontoma

- This is an extremely rare lesion. It consists of elements of ameloblastic fibroma with small segments of enamel and dentin.

2- Adenomatoid Odontogenic Tumour

It is benign epithelial odontogenic Tu. Characterized by duct like structure & variable degrees of inductive change . It is probably a hamartoma.

Clinically : Age 2nd decade of life (young adult).

Sex : Female more than male .

Site : Maxilla > mandible 2: 1 , most common in canine region.

Characters :

1- Slowly growing .

2- painless discovered by chance on X-ray.

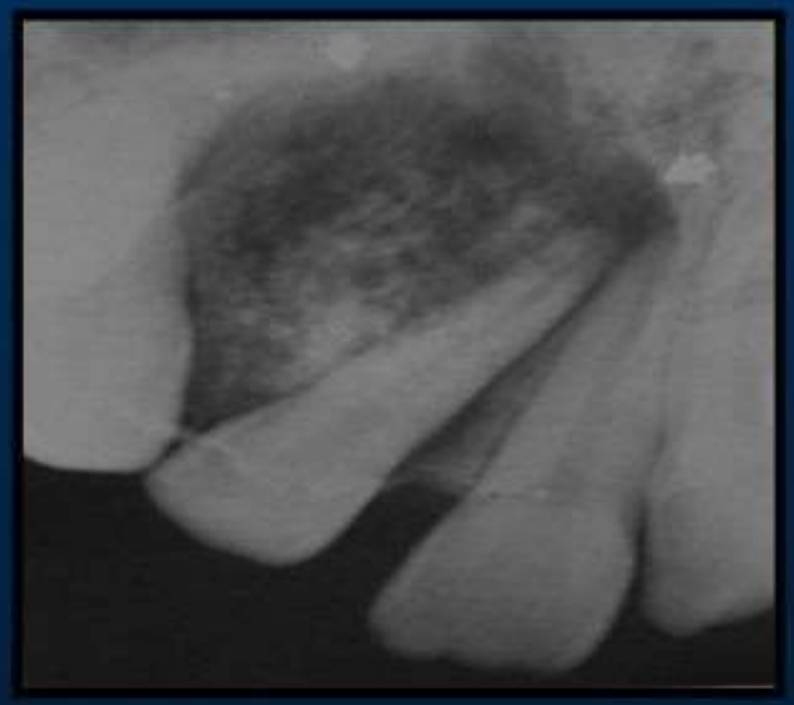
3- cause jaw expansion especially of upper canine region .

4- Usually related to unerupted tooth (may resemble dentigerous cyst both clinically & radiographically).

Radiographic picture :

- Well defined radiolucent area related to unerupted tooth.
- Inside this radiolucency , scattered radiopaque areas may be seen.

Adenomatoid odontogenic tumor

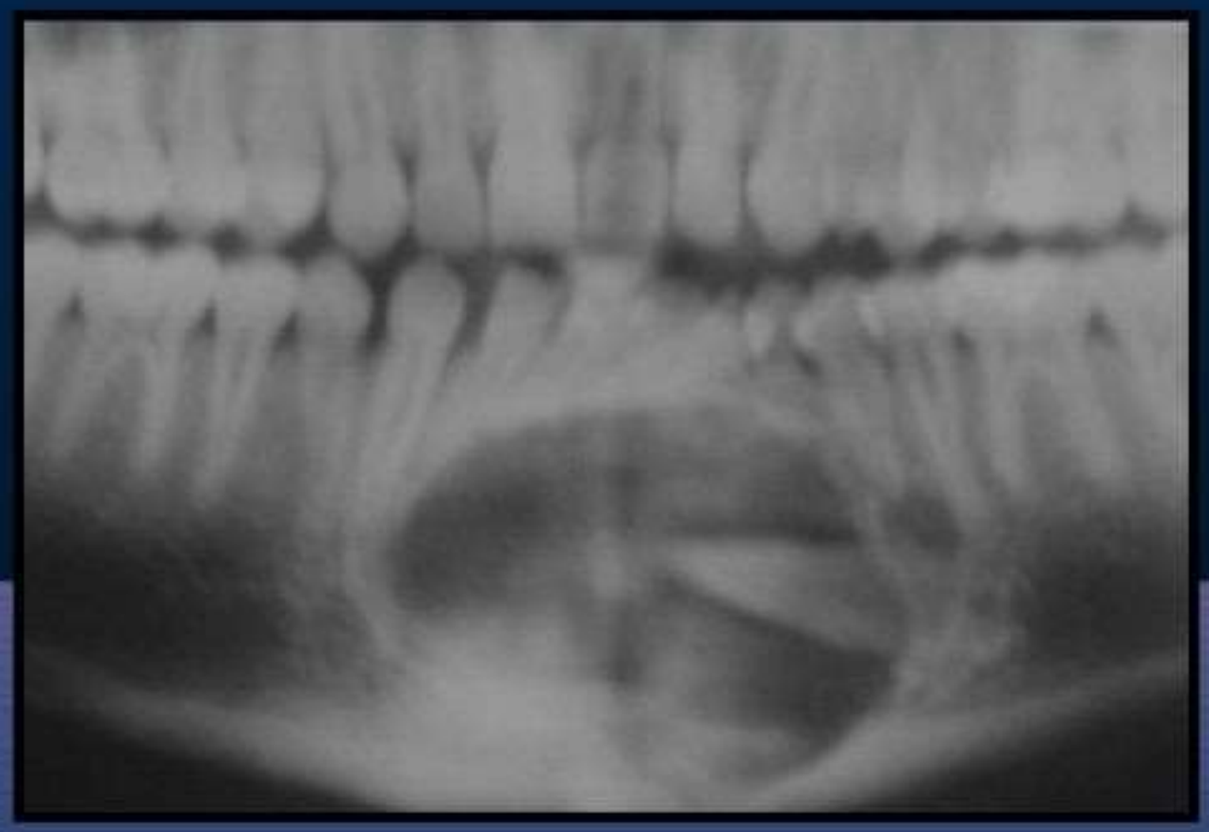


Features

- Benign. Relatively rare.
- It occurs in young patients (70% of cases in patients younger than 20 years).
- Most common site: anterior maxilla.
- Often surrounds an entire unerupted tooth (most commonly the canine).
- Usually well defined, well corticated. Some tumors are totally radiolucent; others show evidence of internal classification.

Adenomatoid Odontogenic Tumor ")("Adenoameloblastoma

- These are uncommon , nonaggressive tumors of odontoginc epthilum.



Mesodermal Odontogenic Tumors

- Odontogenic myxoma (myxofibroma)
- Cemento-blastoma
- Odontogenic fibroma

)Odontogenic myxoma (myxofibroma

- They are benign, intraosseous neoplasms that arise from the mesenchymal portion of the dental papilla.

)Odontogenic myxoma (myxofibroma

- *Features*

- It represents approximately 3 - 6% of all odontogenic tumors. It is painless and grows slowly.

- It can occur at any age but most commonly in the second and third decades of life.

- More often affect the mandible (molar/premolar region).

)Odontogenic myxoma (myxofibroma

- *Features*

- Typically multilocular (internal septa- strings of a tennis racket or honeycomb appearance).
- Large lesions can have the sun ray appearance of an osteosarcoma.

- Often well-defined.

- Adjacent teeth can be displaced but rarely resorbed. It causes less bone expansion than in other benign tumors.

Cementoblastoma

- This is a slow growing mesenchymal neoplasms composed principally of cementum.

Cementoblastoma

- *Features*
- Benign neoplasm. Most commonly in the second and third decade.
- Site: usually mandibular premolar and molar regions.
- Attached to the root of the affected tooth. Tooth displacement, resorption are common.
- Pain in 50% of the cases, swelling.
- When radiopaque is usually surrounded by a thin radiolucent halo.

Radiographic Features

- Location:
- Periphery: well defined RO with RL hallo surrounding the calcified mass.
- Internal structure: mixed RL-RO leseions may be amorphous
- Effect on surrounding tissues: expansion, external root resorption

Thanks for your attention