Cysts of the jaw

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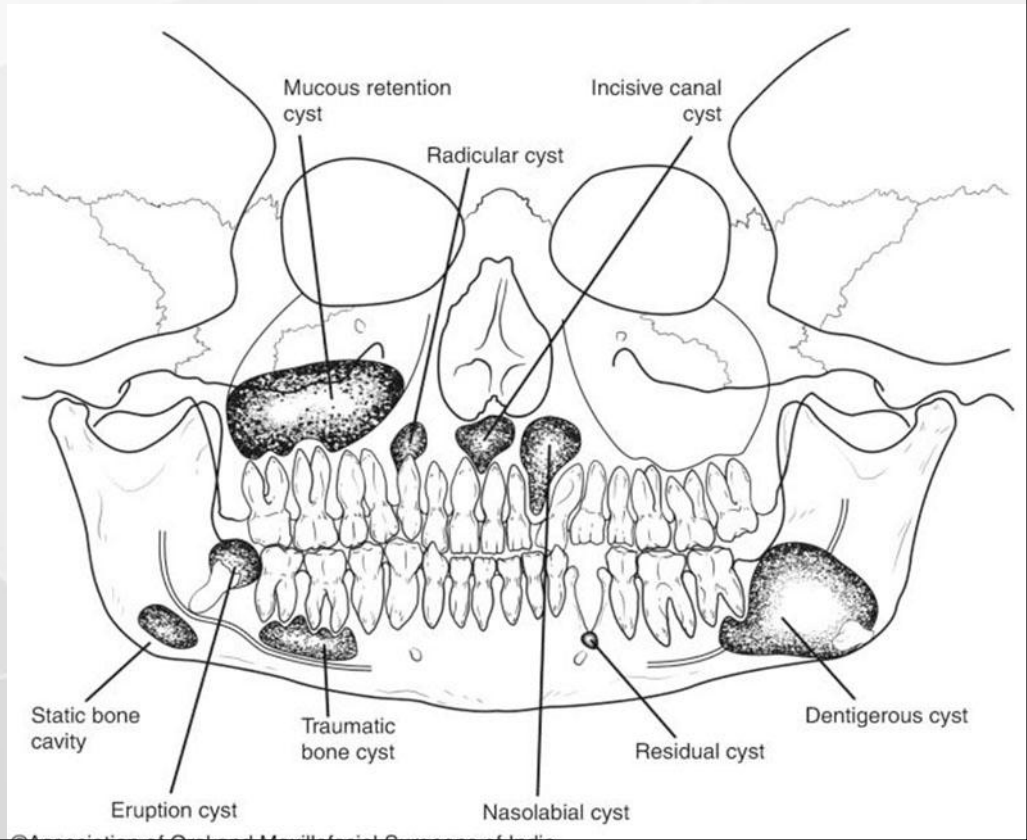
Cyst is defined as a pathologic cavity filled with fluid, and is lined by epithelium. It can also be defined as fluid- or semi-fluid-filled pathologic cavity lined by epithelium more often occurring in the jawbones than in any other bone. It is thought to arise from the rests of **odontogenic epithelium remaining after tooth formation.**



Odontogenic cysts(ODC)

Inflammatory ODC

Radicular (dental) cyst

Residual radicular cyst

Developmental ODC

Dentigerous cyst

Odontogenic Keratocyst (OKCs

Lateral periodontal cyst

Glandular odontogenic cyst

Adenomatoid odontogenic cyst

Non odontogenic cyst

Nasopalatine duct/Incisive canal cyst

Traumatic bone cyst

Inflamatory ODC

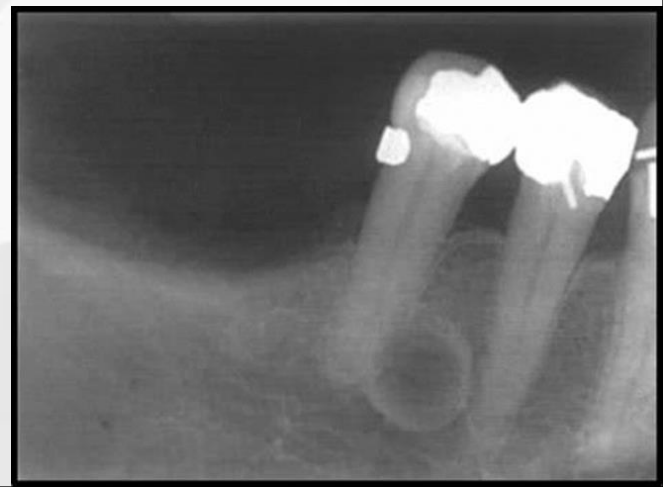
RADICULAR CYST

Clinical Features Radicular cyst is commonly seen in second to fifth decades of life . **Maxillary anterior** region is most commonly affected as it is prone to more frequent trauma. It is seen at apex of **non-vital teeth.**

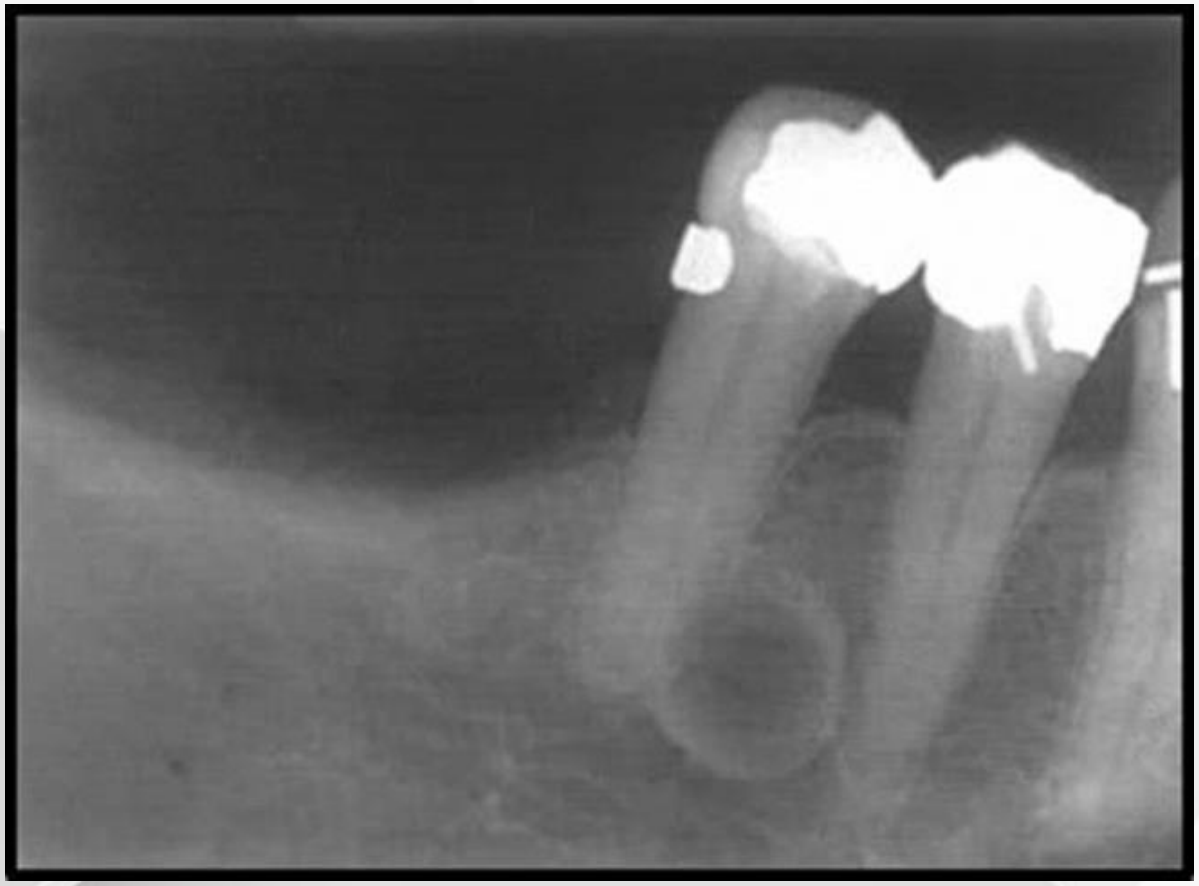
It is asymptomatic unless it is secondarily infected. Large cyst results in the swelling of the jaw and mobility of adjacent teeth.

Radiographic Features Radicular cyst appears as radiolucent area at the apex of tooth with **well-demarcated sclerotic margins** unless secondarily infected.

The size of radiolucency is vary from **small to large** in diameter. In case of secondary infection margin of cyst can be destroyed. Anatomical structures, such as maxillary antrum, nasal fossa and mandibular canal are frequently involved by teeth.



Differential Diagnosis It includes periapical granuloma (size of granuloma is less than 1.5 cm), periapical scar (history), traumatic bone cyst (not associated with teeth) and periapical cemental dysplasia (tooth is vital)



RESIDUAL CYST

Residual cysts most commonly are the retained periapical cysts from teeth that have been **removed**. They could also develop in a **periapical granuloma** that is possibly left after an extraction.

Clinical Features Residual cyst can be found in any of the tooth-bearing area of the maxilla or mandible. Size may range from a few millimetres to several centimetres. Clinically, these cysts are usually found on routine radiographic examination of patients. Usually they are painless unless secondarily infected. They do **not show expansion** of cortical plates.

Radiographic Feature: There is **well-defined** unilocular radiolucency in the periapical area of **extracted tooth**. If the cyst is secondarily infected, the hyperostotic border may be absent. Cyst may **displace mandibular canal and adjacent teeth.**

Differential Diagnosis Differential diagnosis includes keratocyst (mandibular posterior area), traumatic cyst (not associated with teeth) .

Developmental odontogenic cysts

DENTIGEROUS CYST

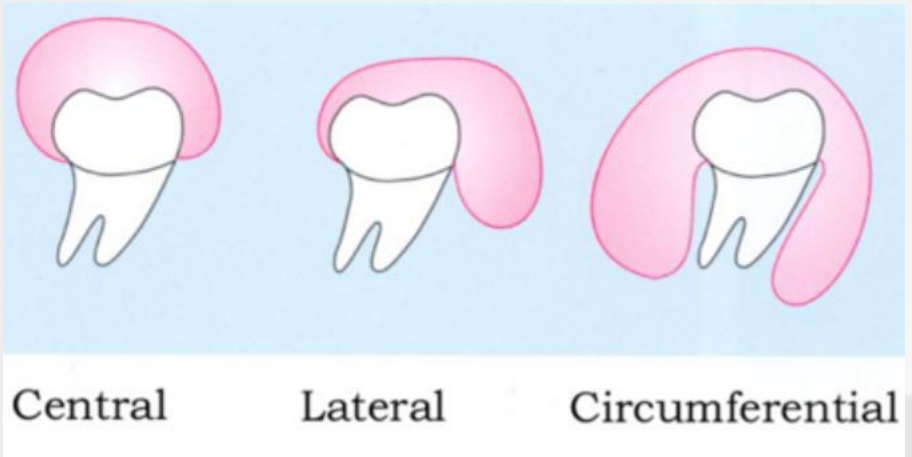
Clinical Features Dentigerous cysts develop around the **crown of an impacted** or embedded unerupted or supernumerary tooth or in association with odontomas. They are frequently associated with **mandibular third molar** followed by maxillary canines, maxillary third molar and mandibular second molar.

Radiographic Features

Dentigerous cyst appears as well-defined radiolucency with sclerotic borders seen at the **cementoenamel (CE)** junction of unerupted tooth.

The sclerotic border is absent in case of infected cyst. The teeth are usually **greatly displaced** from their original position and are found lying on floor of cavity. Radiographically, dentigerous cyst can be central (cyst enclosing the crown of tooth symmetrically), lateral (cyst arising laterally from one side of crown) and circumferential (when whole tooth lies within the cystic cavity).

Differential Diagnosis Differential diagnosis includes:
adenomatoid odontogenic cyst (AOT; maxillary anterior region)
Calcifying epithelial odontogenic tumour (evidence of calcification)
Radicular cyst (carious teeth).



Odontogenic Keratocyst (OKCs)

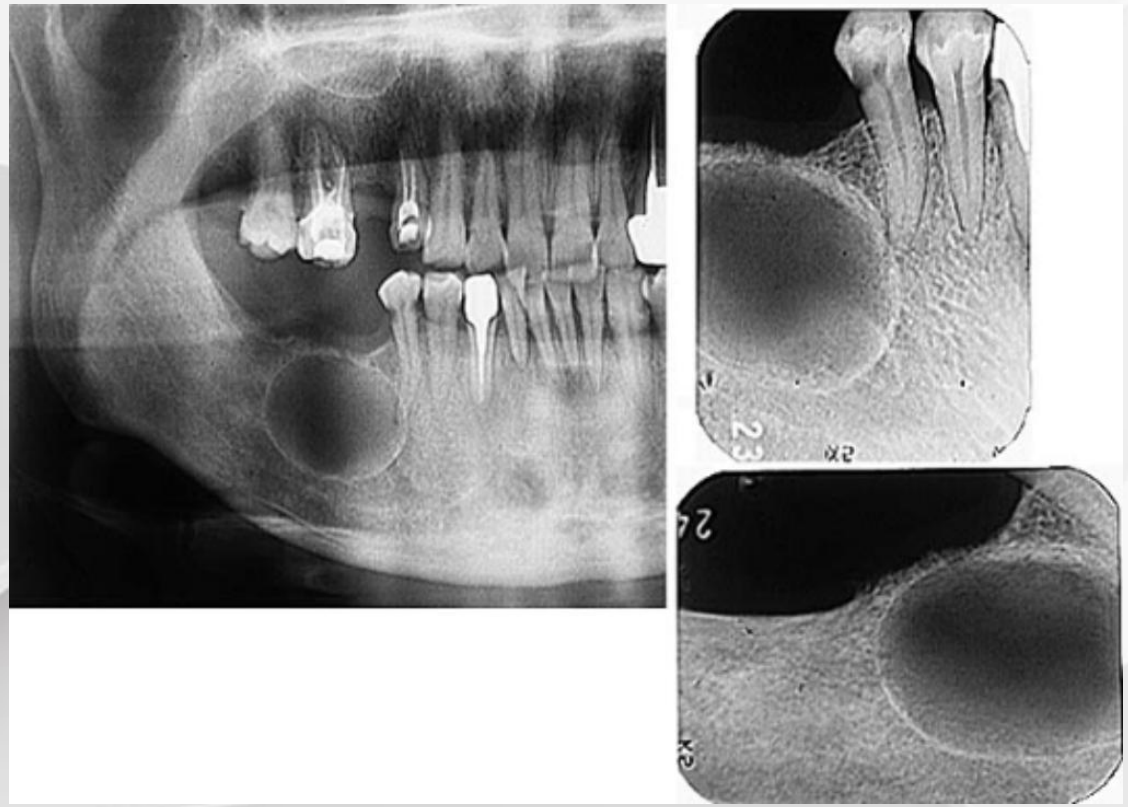
Clinical Features

OKCs can develop in association with an unerupted tooth or as solitaryentities in bone. OKCs usually cause no symptoms, although mild swelling may occur
It is most commonly located in **molar ramus** area of the mandible.

Radiographic Features

It has radiolucency radiographic appearance. Radiographically, it appears as round or oval unilocular or multilocular radiolucency; however, as compared to other cysts, it is **less radiolucent** due to the presence of keratin in it. The well defined and sclerotic borders may be visible around the radiolucency if the lesion is not infected

Differential diagnosis includes:
radicular cyst (nonvital teeth)
dentigerous cyst (does not expand anteroposteriorly)
residual cyst (history)
traumatic bone cyst (no expansion)



LATERAL PERIODONTAL CYSt

Clinical Features It is usually asymptomatic and often discovered during normal radiographic examination. It is usually seen in **fifth or sixth** decade of life with slight male predilection. Eighty percent of the cases are reported in **mandibular premolar–canine and lateral incisor areas.**

Radiographic Features As the name suggests this cyst appears as a radiolucent area situated laterally at middle third of the affected tooth between the apex and the alveolar crest of tooth. It is **oval or round** in shape with the size as small as **less than 1 cm** in diameter. The associated tooth is **vital**.

The borders are sclerotic,
well-defined surrounding the radiolucency,
which is often missing in case of infected cyst.

Differential Diagnosis

Differential diagnosis includes dentigerous cyst (associated with unerupted tooth),
and radicular cyst (teeth are non-vital).

GLANDULAR ODONTOGENIC CYST

Clinical Features It is relatively **rare** cystic lesion that occurs over a wide age range from the second to ninth decades, with a peak frequency in the **sixth** decade, more frequently in **males** than in females with a predilection for **anterior mandible**. The lesion shows slow, progressive, locally destructive, painless growth.

Radiological Features The lesion appears as **well-defined multilocular,** occasionally **unilocular** radiolucency with sclerotic or scalloped borders. **Root resorption** of associated teeth and **tooth displacement** is noted.

Differential Diagnosis All the lesions which are considered in the differential diagnosis of lateral periodontal cyst should be considered

ADENOMATOID ODONTOGENIC CYST

Clinical Features Adenomatoid odontogenic cyst is most commonly seen in individuals between **10 and 40** years of age with **female** predilection.
The most common site of occurrence in the jaw is the **anterior portion of maxilla** than in the mandibular region. It may produce obvious swelling clinically, which is usually asymptomatic. It is painless.

Radiographic Features It appears commonly as a **unilocular radiolucency** with smooth corticated border. Generally, it presents as radiolucency adjacent to or involving crown of associated tooth.Occasionally, area of multilocular radiolucency with scalloped border may be seen. Sometimes, **radio-opaque** foci may be identified within the radiolucent region. Adjacent tooth displacement and divergence of associated root may be reported with slight erosion of underlying alveolar bone

Differential Diagnosis It includes
odontogenic keratocyst tumour
(more in posterior region)
calcifying odontogenic cyst
(common in old age)
dentigerous cyst (posterior region).

No odontogenic cyst

NASOPALATINE DUCT CYST

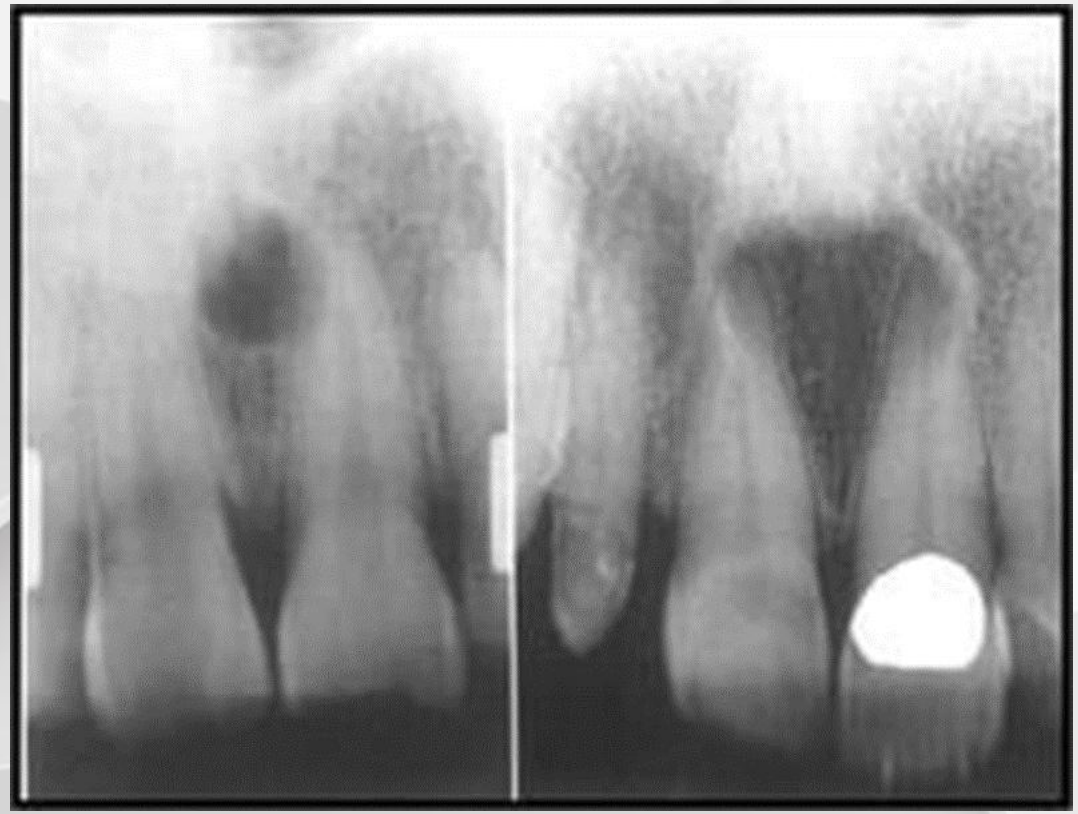
Nasopalatine cyst is also called incisive canal cyst.

Clinical Features Nasopalatine cyst is seen in **fourth and fifth decades** with male predilection. **There is swelling in the anteri**
or palate.

Many lesions are asymptomatic and discovered only on **routine** radiographic examination.

Radiographic Features It appears as an area of midline **radiolucency** situated between roots of **upper central incisor** in nasopalatine canal. It can be round, oval or irregular in shape with curved margin. If the superimposition of anterior nasal spine occurs, cyst appears **as heart shaped**. It can cause **resorption** of root and displacement of **teeth**.

Differential Diagnosis It includes incisive fossa (radiolucency less than 6 mm), radicular cyst (pulp is non-vital) and median palatine cyst (radiolucent lesion is behind the incisive canal).



TRAUMATIC BONE CYST

Clinical Features It is most frequently reported in **older** age group with **male** predominance.**Mandible** is affected more than maxilla in the jaws. It is seen in premolar–molar area. It presents as painless swelling. Teeth in the affected area are vital.

Radiographic Features Area of radiolucency is situated in canine, bicuspid and molar regions of mandible. The radiolucent lesion is well demarcated from the adjacent bone. Margin is well defined or ill defined with thin radio-opaque border. In some cases, as lesion extends between roots, the border becomes irregular and scalloped.

Differential Diagnosis It includes: radicular cyst, keratocyst (it expands along the bone).

THANKS