

Cysts of the jaw

Cyst can be defined as fluid- or semi-fluid-filled pathologic cavity lined by epithelium more often occurring in the jawbones than in any other bone. The cysts of the jaw are divided into odontogenic and nonodontogenic cysts depending on their origin.

*****Odontogenic cysts(ODC)**

-Inflammatory ODC:

Radicular (dental, periapical) cyst

Residual cyst

-Developmental ODC:

Dentigerous cyst

Odontogenic Keratocyst (OKCs)

Lateral periodontal cyst

Adenomatoid odontogenic cyst

*****Non odontogenic cyst** are mostly cysts arising from epithelial remnants which entrap in the line of closure of developing facial process during embryonic life.

Nasopalatine duct/Incisive canal cyst

Traumatic bone cyst

Stafne bone cyst

Inflammatory ODC

RADICULAR CYST (PERIAPICAL CYST)

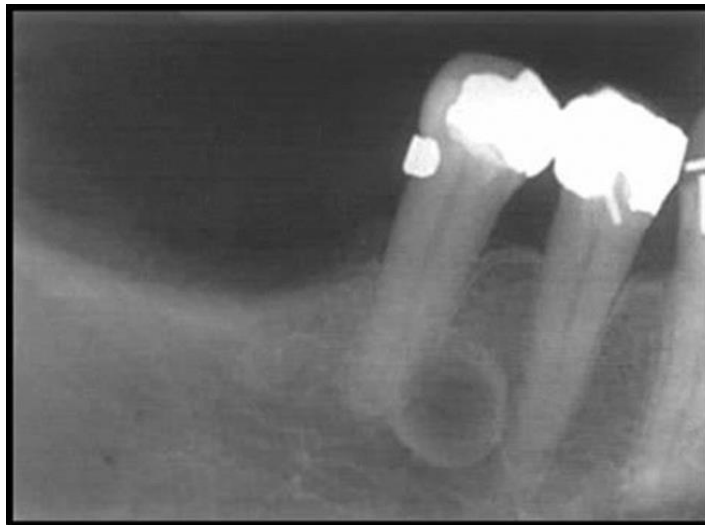
Clinical Features Radicular cyst is the most common type of the cysts of the jaw which develop as a common sequelae of pulpal necrosis following caries or trauma.

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 **unilocular** 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. Sometimes it may appear on the mesial or distal surface of the root in association with the accessory canal.



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: Size may range from a few millimeters to several centimeters. Clinically, these cysts are usually found on routine radiographic examination of an edentulous area. Usually they are painless unless secondarily infected.

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



Developmental odontogenic cysts

DENTIGEROUS CYST (follicular cyst)

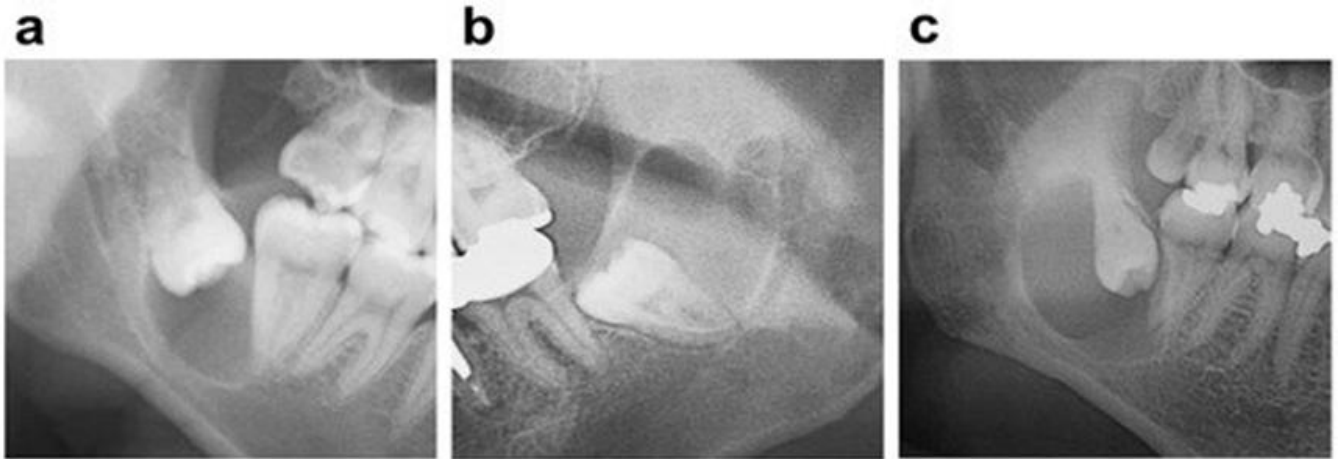
Clinical Features Dentigerous cysts develop around the crown of an impacted, unerupted tooth or supernumerary tooth or in association with odontomas. They are frequently associated with mandibular third molar followed by maxillary canines, maxillary third molar and mandibular second premolar.

The clinical examination reveals a missing tooth. It usually asymptomatic, identified on routine radiographs taken to investigate delayed tooth eruption. It can grow large enough to produce a painless bony expansion, can displace the involved tooth, cause resorption of adjacent teeth and If secondarily infected, may be associated with pain & swelling.

Radiographic Features

Dentigerous cyst appears as well-defined radiolucency with sclerotic borders seen at the cemento-enamel (CE) junction of unerupted tooth. Size of the cyst varies from small to large lesion and may be solitary or multiple.

The sclerotic border is absent in case of infected cyst. The teeth are usually greatly displaced from their original position. In mandible, tooth may be displaced to inferior border or ramus while in maxilla, it may be displaced to nasal cavity or antrum. **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).



Odontogenic Keratocyst (OKCs)

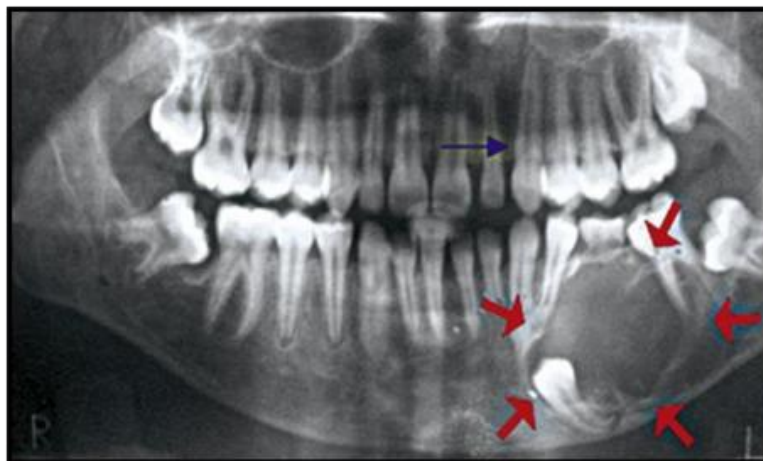
Clinical Features

It is a locally aggressive cyst, can develop in association with an unerupted tooth or as solitary entities in bone. It is characterized by keratinization of its epithelium lining. OKCs usually cause no symptoms, although mild swelling may occur. Aspiration may reveal a thick, yellow cheesy material (keratin). This cyst has a high propensity for recurrence because of small cysts or epithelium fragments left behind after surgical removal.

It is most commonly located in molar ramus area of the mandible

Radiographic Features

It has radiolucent 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.



LATERAL PERIODONTAL CYST

Lateral periodontal cyst (botryoid odontogenic cyst) is uncommon type of cyst occurring along the lateral surface of the tooth root. It is thought to arise from rest of dental lamina.

Clinical Features It is usually asymptomatic and often discovered during normal radiographic examination. 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.



GLANDULAR ODONTOGENIC CYST

Clinical Features It is relatively rare cystic lesion with salivary gland feature such as presence of mucus producing cell. It has a slight female predominance with mean age 46-50 . this cyst has an aggressive behavior and a tendency to recur after surgery.

The most common site is the anterior mandible.

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

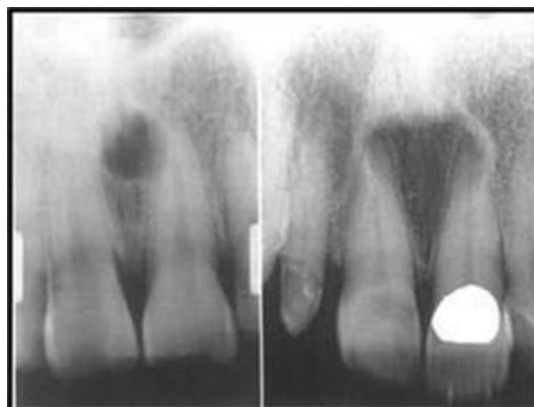


No odontogenic cyst
NASOPALATINE DUCT CYST

Nasopalatine cyst (also called incisive canal cyst): It is the most common nonodontogenic cyst occurring in the maxilla. It originates due to the cystic transformation of the epithelial remnants of the nasopalatine duct.

Clinical Features Nasopalatine cyst is seen in fourth and fifth decades with male predilection. The patient may complain from a small, well-defined swelling in anterior palate just posterior to the palatine papilla. In some cases, cystic fluid may drain into the oral cavity and the patient reports a salty taste. Many lesions are asymptomatic and discovered only on routine radiographic examination. Sometimes it may cause numbness and burning sensation of oral mucosa if cyst causes pressure on nasopalatine nerve.

Radiographic Features It appears as a midline radiolucency between roots of upper central incisor. 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.



It should be differentiated from incisive foramen in which radiolucency less than 6 mm.

If the cyst extends posteriorly to involve the hard palate behind the premaxilla, it often is referred to as median palatal cyst

TRAUMATIC BONE CYST(simple bone cyst, hemorrhagic bone cyst):

It is simple benign cyst, results from trauma causing intraosseous haematoma which undergo liquefaction resulting in cystic defect.

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 the cyst appears as a well-circumscribed radiolucency , and it commonly scallops between the roots of teeth. If it occur in the anterior region it may be round or oval. History of trauma in the childhood may be helpful in the diagnosis. Aspiration may provide nothing or sometimes serosanguinous fluid or blood may be obtained.

Stafne bone cyst (The Stafne defect, stafne bone cavity)

It is not a true cyst since there is no epithelial lining or fluid content. The Stafne defect is thought to be caused by an ectopic portion of the submandibular salivary gland which causes the bone of the lingual cortical plate to remodel.

This defect tends to not increase in size or change in radiographic appearance over time (hence the term "static bone cyst"), and this can be used to help confirm the diagnosis.

Stafne's defect is usually discovered by chance during routine dental radiography.

Radiographically, it is a well-circumscribed, unilocular, round, radiolucent defect, 1-3 cm in size, usually between the inferior alveolar nerve and the inferior border of the mandible between the molars and the angle of the jaw