# OM seminar

組別：**D92** 第五組

指導老師：陳玉昆醫師暨

口腔病理科全體醫師

組長：王荷若
組員：蔡閏旭 徐佳佑 鄧聖霖 顧廣毅 王俞婷
溫婉珺 游傑丞 呂思源

# General Data

- Name : XXX
- Gender : Female
- Age : 43 y/o
- Native : Taiwan
- Occupation : xx
- 初診日期：xxxxxx

# Chief Complaint

- The patient felt pain at molar region of left maxilla, and went to the LDC for help. The X-ray shows radio-lucent lesion at molar region of left mandible. The left mandible also feels pain from time to time and has been last for a period of time.

# Present Illness

- The 43 y/o patient went to the LDC for the pain at maxilla left molar area. After taking X-ray, the dentist found radio-lucent lesion at mandible left molar area. Patient also said that she feels pain from time to time and the situation has been last for a period of time. The doctor suggested her to our OPD for further diagnosis and treatment.

# Past History

- Past Medical History
  - palpitations (心悸)
- Past Dental History
  - OD: Amalgam filling on tooth 38
  - Endo: Tooth 22, 26, 27

# Personal History

Oral habits

- Alcohol (+) : 量不一定，主要是保利達、啤酒、高梁
- Betel quid (-)
- Cigarette (-)

Other habits：(-)

# Intraoral examination

- There is a dome shaped pink colored hard swelling lesion at the left mandible molar region.
- The covering mucosa is intact and smooth. There is no sign of fluctuation, tendreness, or induration.
- Patient doesn’t feel pain and there is no lymphadenopathy.

# Intraoral examinations

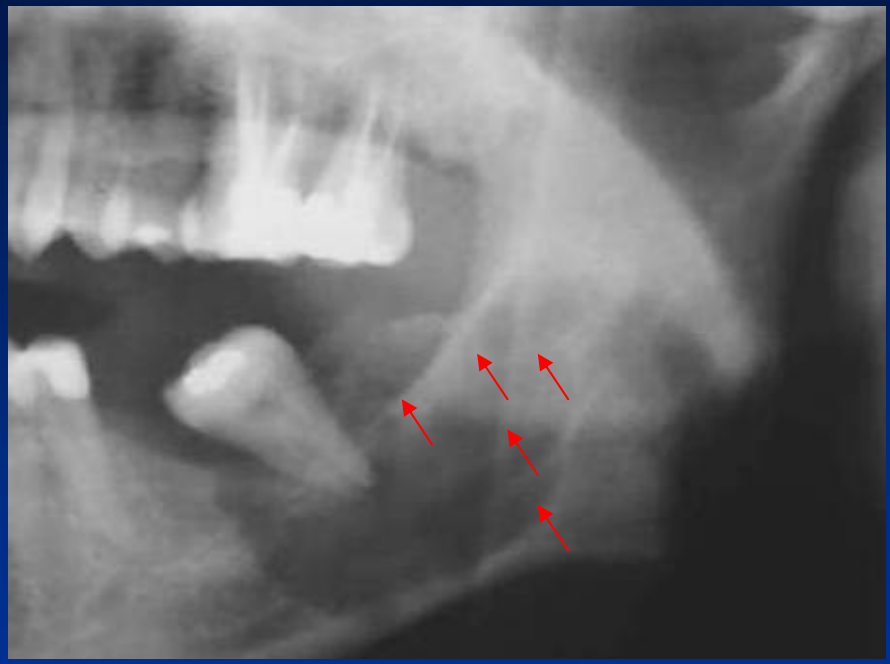
- Size ：1.5cm X 3cm from the tooth 35 extent to the retromolar pad of left mandible
- Pain ：(-)
- Tenderness ：(-)
- Consistency：hard
- Mobility ：fixed
- Fluctuation : (-)
- Induration ：(-)
- Fever ： (-)
- LAP : (-)

# Radiographic examination

- Missing : Tooth 18, 28, 36, 38
- Endo: Tooth 22, 26, 27

# Radiographic examination

- There is a oviod shape radiolucent lesion with radiopaque margin extend from the front of the tooth 37 to the lower border of the  left mandible ramus. And from the lower cortical bone up to the occlusal surface of the tooth 37.



A part of lesion, in front of the teeth 37 is less radiolucent.
The other part of lesion is multilocular, multiple cavities.
The tooth being displaced from the origin site.
Lose of PDL radiolucent
Bony expansion extend to the cervical third of clinical crown.
Slight bony destruction (scallop shape) at the inferior cortical bone

Original lesion of tooth 37 ??

# Working Diagnosis

# Inflammation or Neoplasm

- Fever or local heat (-)
- Pain (-)
- Pus (-)
- Swelling (+) – Hard swelling with intake epithelium
- Tenderness (-)

→ Neoplasm

# Benign or Malignant

- Pain (-)
- Tenderness (-)
- Ulceration (-)
- Induration (-)
- LAP (-)
- Lesion : (-)
- Color : white and a little bit red

→ Benign

# Peripheral or Intrabony Origin

- Mucosal lesion (-)
- Induration (-)
- consistency : firm
- Bone destruction (+)

→ Intrabony Origin

# Cyst

- Tenderness (-)
- Induration (-)
- Consistency：hard
- Mobility ：fixed
- Fluctuation : (-)

--- R/O Cyst

# Tumor

- Pain (-)
- Tenderness (-)
- Ulceration (-)
- Consistency：hard
- Mobility ：fixed
- Bone destruction (+)

--- Tumor

# Summary

- Neoplasm
- Benign
- Intrabony Origin

  Odontogenic & non-odontogenic
- Tumor
- R/O cyst
- Hard tissue pathology

# Differential Diagnosis

- Pindborg tumor
- Ameloblastoma
- Central odontogenic fibroma
- Odotongenic myxoma
- Central mucoepidermoid carcinoma
- Cemento-ossifying fibroma(COF)

# Pindborg Tumor

# Pindborg Tumor

- Calcifying epithelial odontogenic tumors
- Ameloblastoma of unusual type with calcification

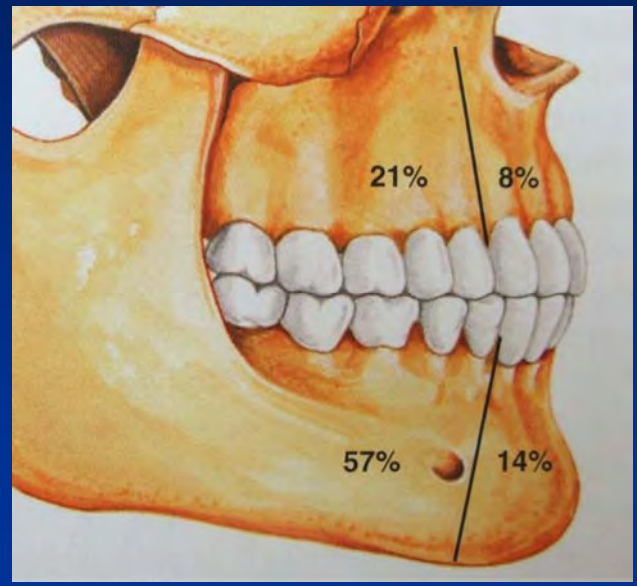
# Pindborg Tumor

- Rare neoplasm
- account about 1% of odontogenic tumors
- Usually **located within bone** and produce a mineralized substance within amyloid-like material
- Distinctive microscopic appearance with epithelium that resembles the stratum intermedium of the enamel organ

# Pindborg Tumor

**Clinical feature**

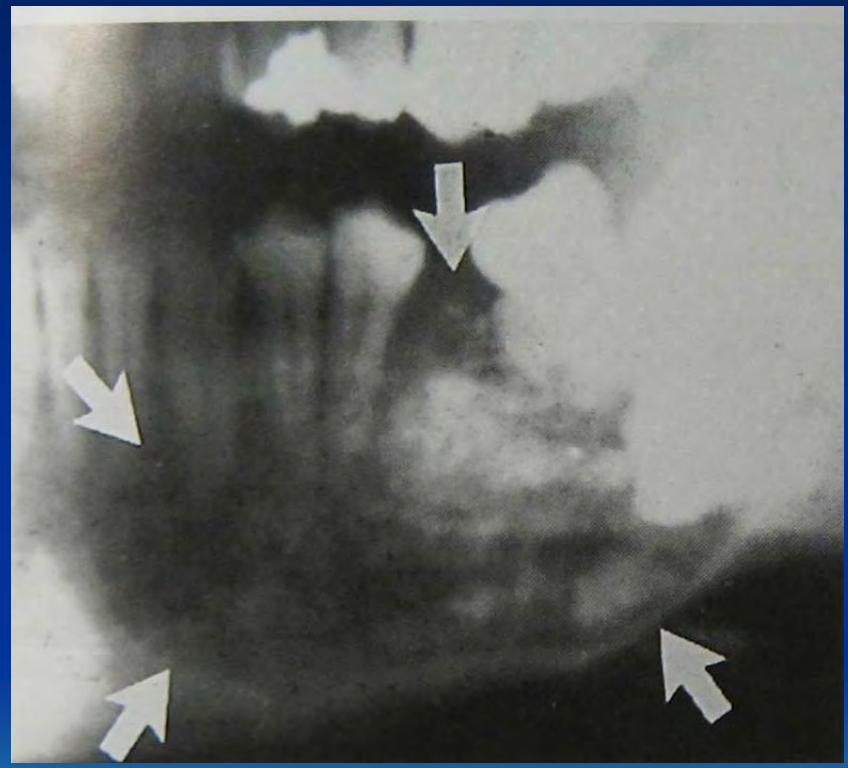
- Less aggressive than ameloblastoma
- Found in the same group with ameloblastoma(**30~50 y/o**)
- **Mandible : maxilla=2:1**
- **Painless, slow-growing swelling**
- Most develop in **premolar-molar region**



# Pindborg Tumor

**Radiographic feature**

- Location:
  - ♠ 52% associated with unerupted or impacted tooth
  - ♠ R-L around the crown of mature, unerupted tooth in early stage



# Pindborg Tumor

- Peripheral and shape:
  - ♠ **well-defined** cystlike cortex
  - ♠ Some cases are irregular and ill-defined

# Pindborg Tumor

- Internal structure
  - ♠ Unilocular or **multilocular** with numerous scattered R-O foci of varying size and density
  - ♠ R-O close to the the crown of the embedded tooth
  - ♠ Small, thin, opaque trabeculae may cross the R-L in many direction

# Pindborg Tumor

- Effect on surrounding structure:
  - ♠ May displace a developing tooth or prevent its eruption
  - ♠ **Expansion of jaw** with maintenance of cortical boundary may also occur

# Pindborg Tumor

| High compatibility | Low compatibility |
| --- | --- |
| Usually located within bone | Rare neoplasm |
| 30~70 y/o | associated with unerupted or impacted tooth |
| Most develop in mandible premolar-molar region | displace a developing tooth or prevent its eruption |
| well-defined | R-O close to the the crown of the embedded tooth |
| multilocular | Expansion of jaw with maintenance of cortical boundary |
| Painless,slow-growing | |

# Ameloblastoma

# Ameloblstoma

- Three clinicoradiographic situations

1. Conventional solid or multicystic (86%)
2. Unicystic (13%)
3. Peripheral (1%)

# Conventional solid or multicystic Ameloblstoma

## Clinical features

- 30~50 years old male or female
- 85% in the mandible
- Asymptomatic
- Painless swelling
- Expansion of the jaw

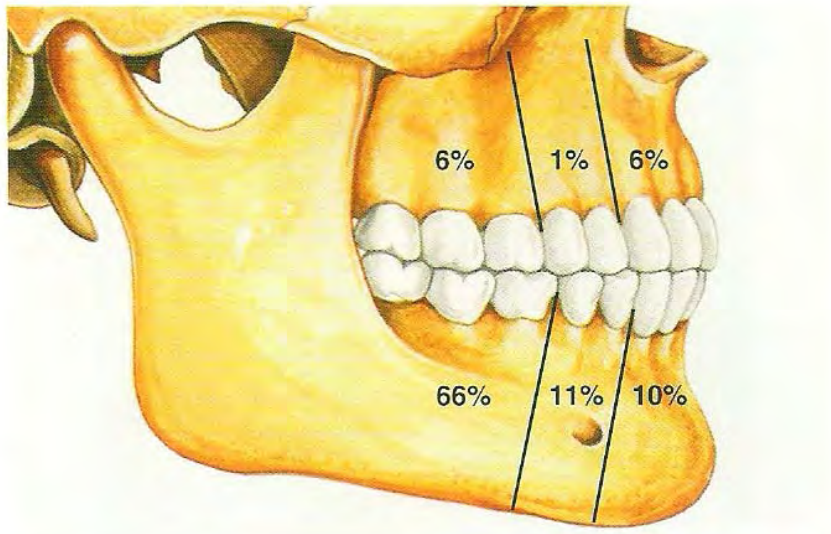



Figure 15-51 • **Ameloblastoma.** Relative distribution of ameloblastomas in the jaws.

# Conventional solid or multicystic Ameloblstoma

Painless swelling and
Jaw expansion

# Conventional solid or multicystic Ameloblstoma

## Radiographic features

- Multilocular radiolucent (unilocular in solid)
- Irregular scalloping margins
- “Soap bubble” appearance when large
- “Honeycombed” when small
- Buccal or lingual cortical expansion
- Resorption of the roots of adjacent teeth
- In many cases, an unerupted tooth, most often mandibular 3rd molar, is associated with the radiolucent defect

# Conventional solid or multicystic Ameloblstoma

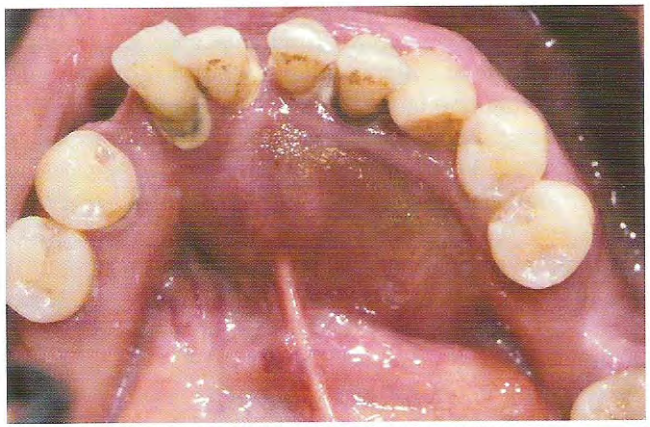


Figure 15-53 • **Ameloblastoma.** Prominent expansion of the lingual alveolus caused by a large ameloblastoma of the mandibular symphysis. The radiograph of the patient is shown in Figure 15-57.

X-ray

root resorption of the anterior teeth

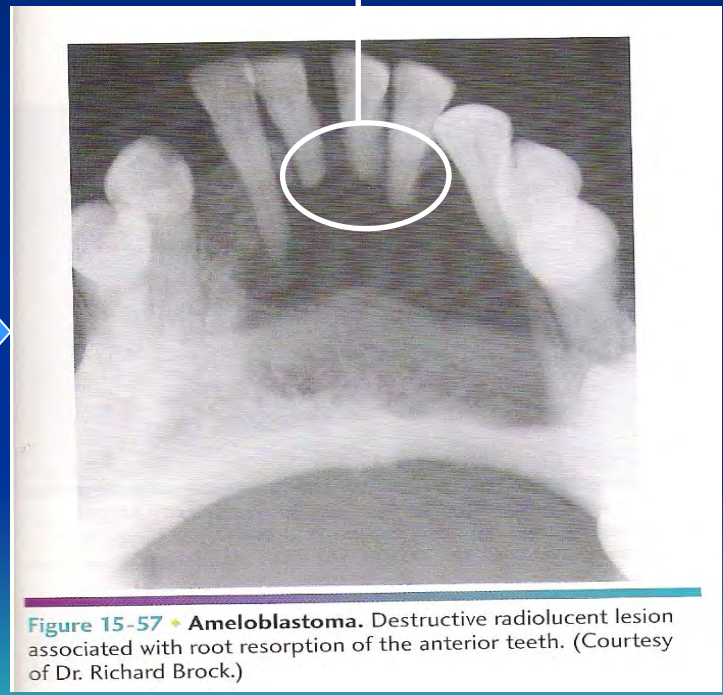


Figure 15-57 • **Ameloblastoma.** Destructive radiolucent lesion associated with root resorption of the anterior teeth. (Courtesy of Dr. Richard Brock.)

# Conventional solid or multicystic Amelobl stoma

- Irregular scalloping margin.
- A large lesion in the mandibular body and ramus shows only a few septa.

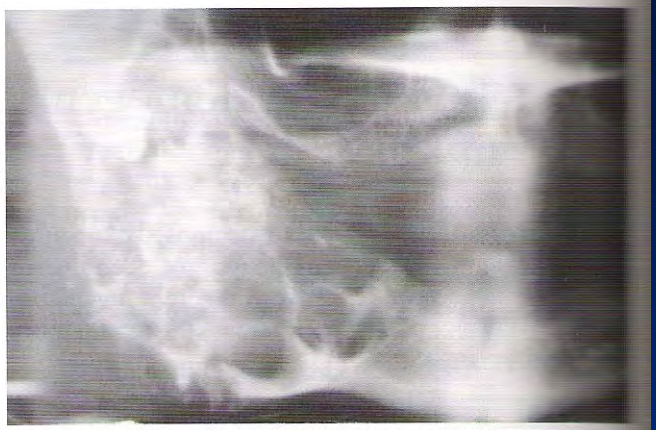


Figure 15-55 • **Ameloblastoma.** Large multilocular lesion involving the mandibular angle and ascending ramus. The large loculations show the "soap bubble" appearance. An unerupted third molar has been displaced high into the ramus.

"Soap bubble" appearance

Solid ameloblastomas appear as unilocular radiolucent

5-58 • **Ameloblastoma.** This small unilocular ra
sion could easily be mistaken for a lateral period
ourtesy of Dr. Tony Traynham.)

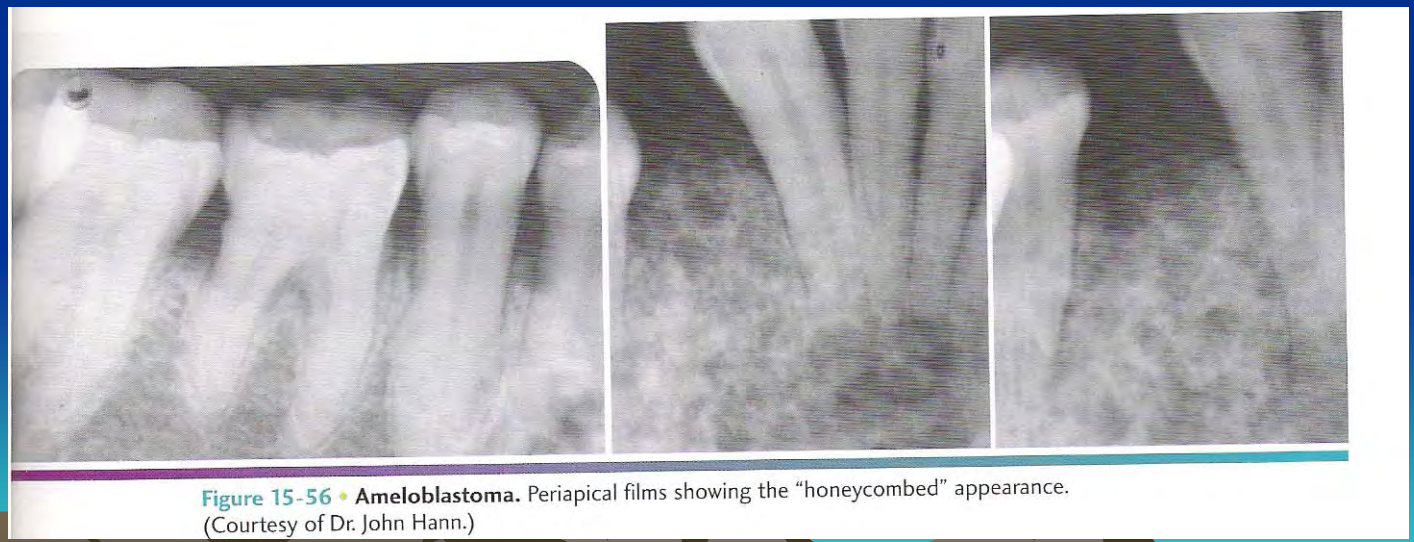


Figure 15-56 • **Ameloblastoma.** Periapical films showing the "honeycombed" appearance. (Courtesy of Dr. John Hann.)

"Honeycombed" appearance

# Ameloblastoma

| Highly corresponding | Low corresponding |
| --- | --- |
| Non-inflammation lesion | Most often associated with unerupted 3rd molar |
| The most common odontogenic tumor | Resorption of the roots of adjacent teeth |
| Posterior mandible and ramus region(66%) | Buccal or lingual cortical expansion |
| Multilocular R-L | |
| Asymptomatic | |
| 30~50 years old male and female | |
| “Soap bubble” appearance | |
| Painless swelling | |
| Irregular scalloping margins | |

# Central Odontogenic Fibroma

Simple odontogenic fibroma

Odontogenic fibroma (WHO type)

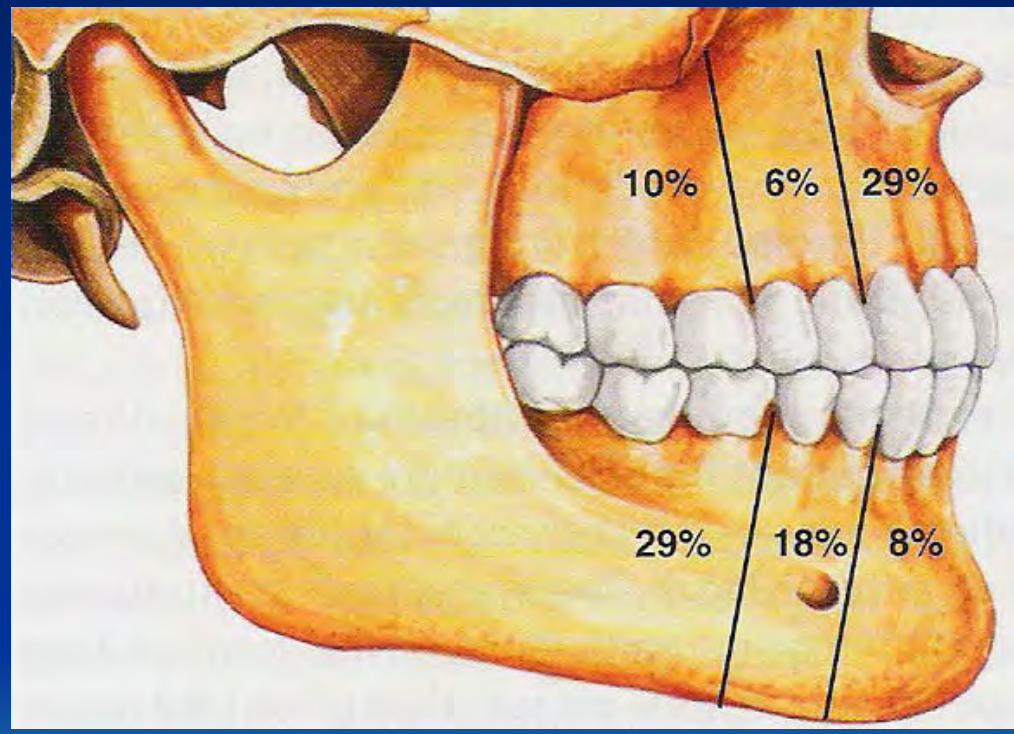
# Central Odontogenic Fibroma

Clinical features

- Rare neoplasm
- Between ages 4~80 years( mean age 40)
- Female preponderance 2.2：1
- Asymptomatic or swelling and mobility of the teeth

# Central Odontogenic Fibroma

- 45% cases occurred in the maxilla
- Most maxillary lesions are located anterior to the 1st molar
- Most mandibular lesions are located posterior to the 1st molar



# Central Odontogenic Fibroma

- Tooth displacement is common
- Root resorption is common
- Often cause root divergence

# Central Odontogenic Fibroma

Radiographic features

- Well defined
- Small lesions：unilocular
- Large lesions：multilocular
- Internal septa is fine and straight, or granular, or totally R/L, or unorganized internal calcification

# Central Odontogenic Fibroma

- Expansion with maintenance of a thin cortical boundary
- Or grow alone the bone with minimum expansion
- Many lesions have a sclerotic border
- 12% exhibit R-O flecks within the lesion
- Does not have a definite capsule, but have a limited growth potential
- Prognosis is very good

# Central Odontogenic Fibroma

| Highly corresponding | Low corresponding |
|---|---|
| Benign neoplasm | Tooth displacement is common |
| mean age 40 | Root resorption is common |
| female predilection | unorganized internal calcification |
| Most mandibular lesions are located posterior to the 1st molar | |
| Asymptomatic or swelling and mobility of the teeth | |
| Well-defined multilocular RL lesion | |
| Expansion with maintenance of a thin cortical boundary | |
| Many lesions have a sclerotic border | |

# Odontogenic Myxoma

# Odontogenic myxoma

Clinical features

- Rare
- Neoplasm of odontogenic mesenchyme
- Usually seen in young adults
- Benign but prone to recurrence
- Forms a multilocular, sometimes soap-bubble radiolucency
- Most common site is posterior mandible

# Odontogenic myxoma

## Radiographic features

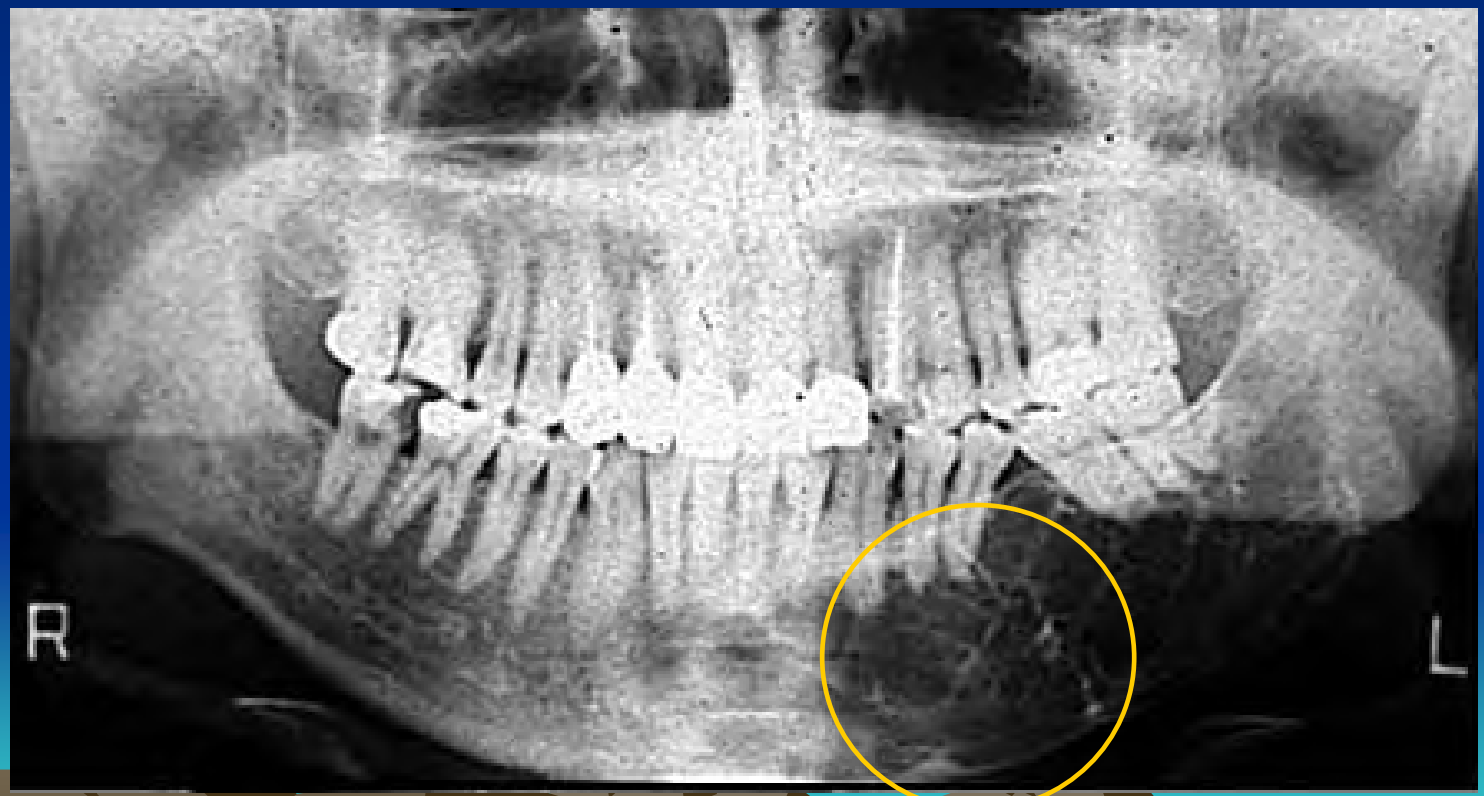
- Multilocular, soap-bubble radiolucency
- Left: Tooth 38 displaced & enclosed
- Right: Recurrent odontogenic myxoma similar to multilocular ameloblastoma

# Odontogenic myxoma

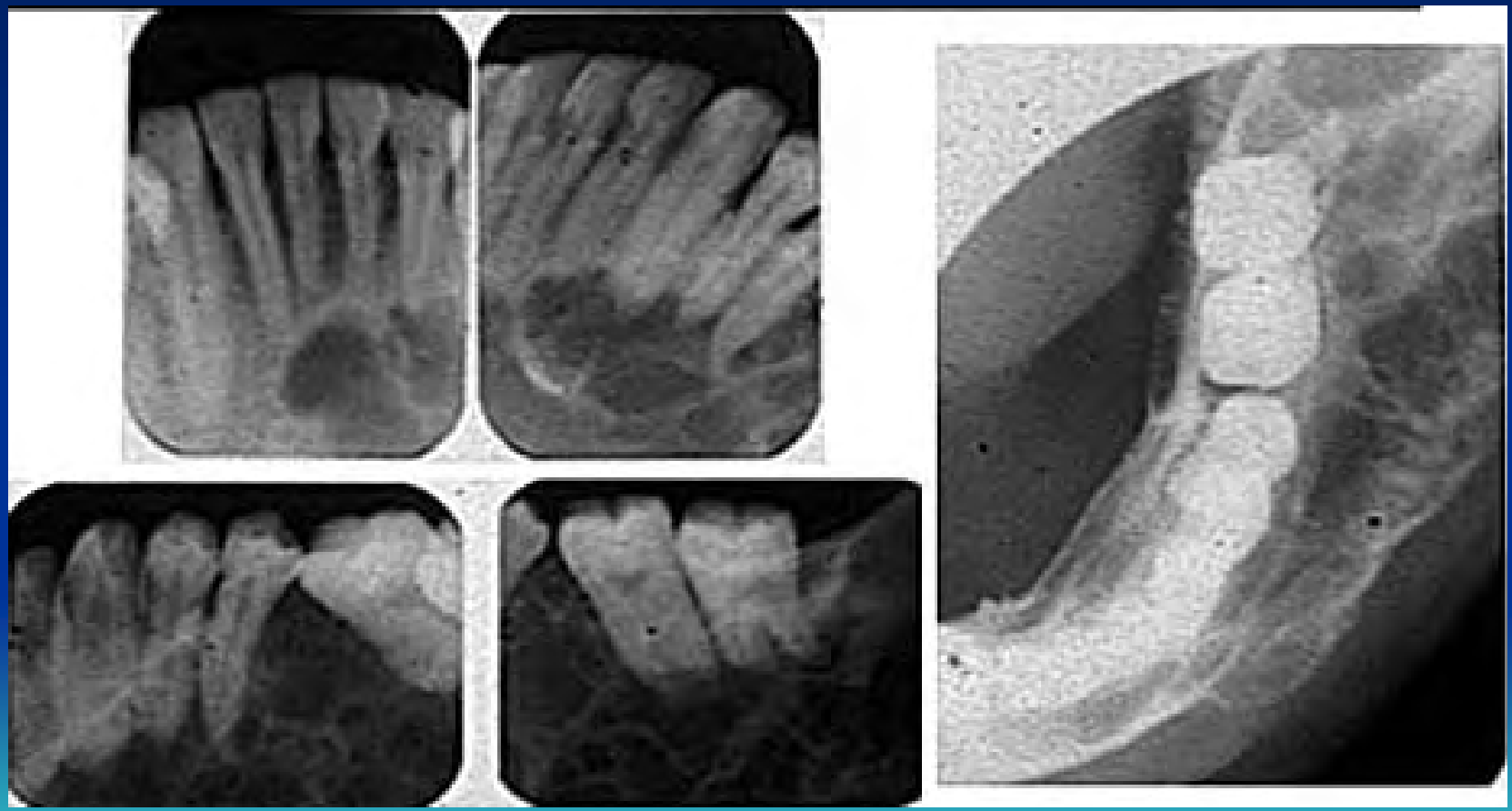
- Occlusal film
- Posterior mandible
- Soap-bubble, multilocular radioluency

# Odontogenic myxoma

- R-O bony trabeculae within  radiolucent defects



# Odontogenic myxoma



# Odontogenic myxoma

| Highly corresponding | Low corresponding |
|---|---|
| Asymptomatic | Most common in second-third decades Range 5-72 years |
| Unilocular or multilocular | associated with impacted teeth or odontogenic cysts |
| Irregular or scallop margin of the lesion | Larger lesions are often associated with painless bony expansion |
| Large myxoma may show “soap bubble “ radiolucent pattern | |
| Any area of the jaws, more commonly in mandible (28% in molar area) | |
| No sex predilection, Probably female favored | |

# Central mucoepidermoid carcinoma

# Central mucoepidermoid carcinoma

Clinical feature

- Female:male=2:1
- The most common site: premolar-molar-angle region of the mandible
- age:40~50yrs
- In children is rare, but max:mand=1:1.
- cortical bone swelling
- associated with impacted teeth or odontogenic cysts

# Central mucoepidermoid carcinoma

X-ray feature

- Well circumscribed unilocular/multilocular radiolucency
- Soap bubble image is rare

# Central mucoepidermoid carcinoma

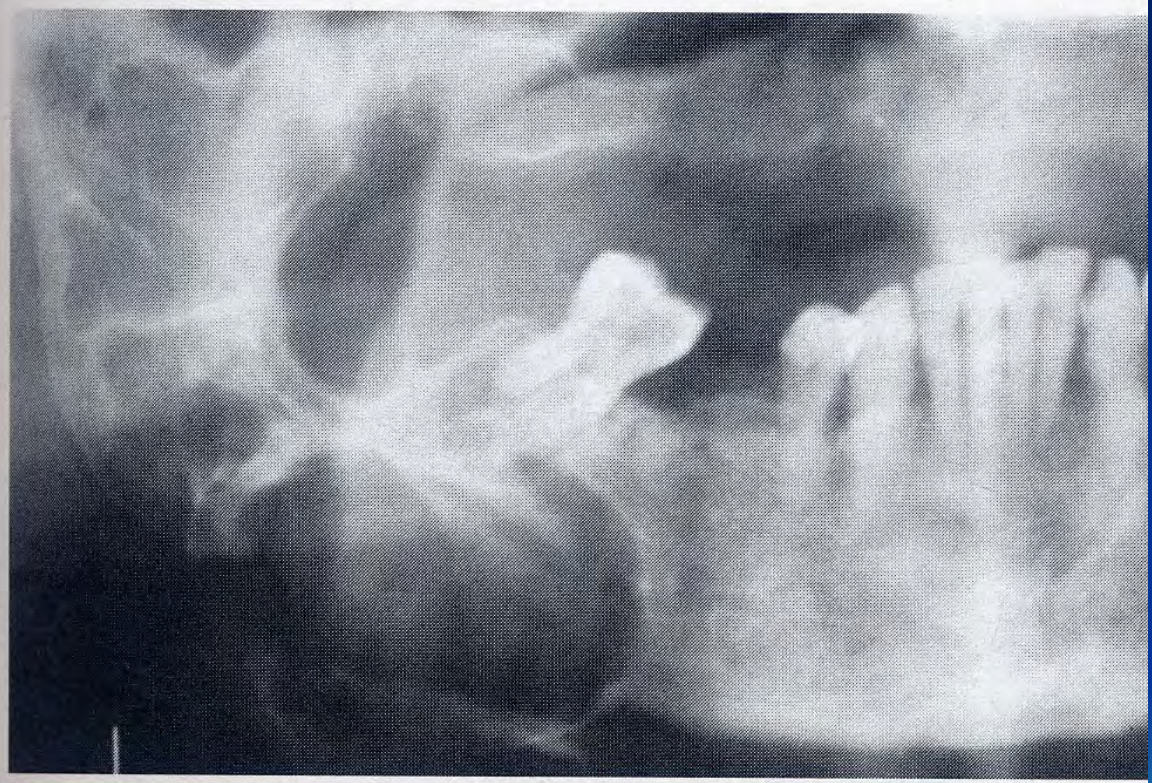


Figure 11-60 • **Intraosseous mucoepidermoid carcinoma.** Multilocular lesion of the posterior mandible. (Courtesy of Dr. Joseph F. Finelli.)

# Central mucoepidermoid carcinoma

staging system based on condition of the overlying bone (Brookstone and Huvos )

- stage I : Lesions with intact cortical plates with no evidence of bony expansion offer the best prognosis
- Stage2 : surrounded by intact cortical bone that has undergone some degree of expansion
- Stage3 : Any instance of cortical perforation, breakdown of the overlying periosteum or nodal spread

# Central mucoepidermoid carcinoma

| Highly corresponding | Low corresponding |
|---|---|
| Female:male=2:1 | rare in central site |
| The most common site: premolar-molar-angle region of the mandible | associated with impacted teeth or odontogenic cysts |
| age:40~50yrs | Soap bubble image is rare |
| In children is rare, but max:mand=1:1 | |
| cortical bone swelling | |
| Well circumscribed unilocular/multilocular radiolucency | |

# Cemento-ossifying fibroma (COF)

# Cemento-ossifying fibroma

Clinical features

- Benign fibro-osseous neoplasm
- 30~40y/o
- Definite female predilection
- Most common in mand. premolar & molar
- Asymptomatic 、painless swelling of the bone
- May grow quite extensively
- Displacement of the adjacent teeth
- Root resorption is uncommon

# Cemento-ossifying fibroma

Radiographic features

- Radiolucent line，representing a fibrous capsule
- Well-defined, unilocular or multilocular RL lesion
- RO degree is varying
- Prognosis is favorable with surgical resection

# Cemento-ossifying fibroma

Three stages :

radiolucent – mixed – radiopaque.

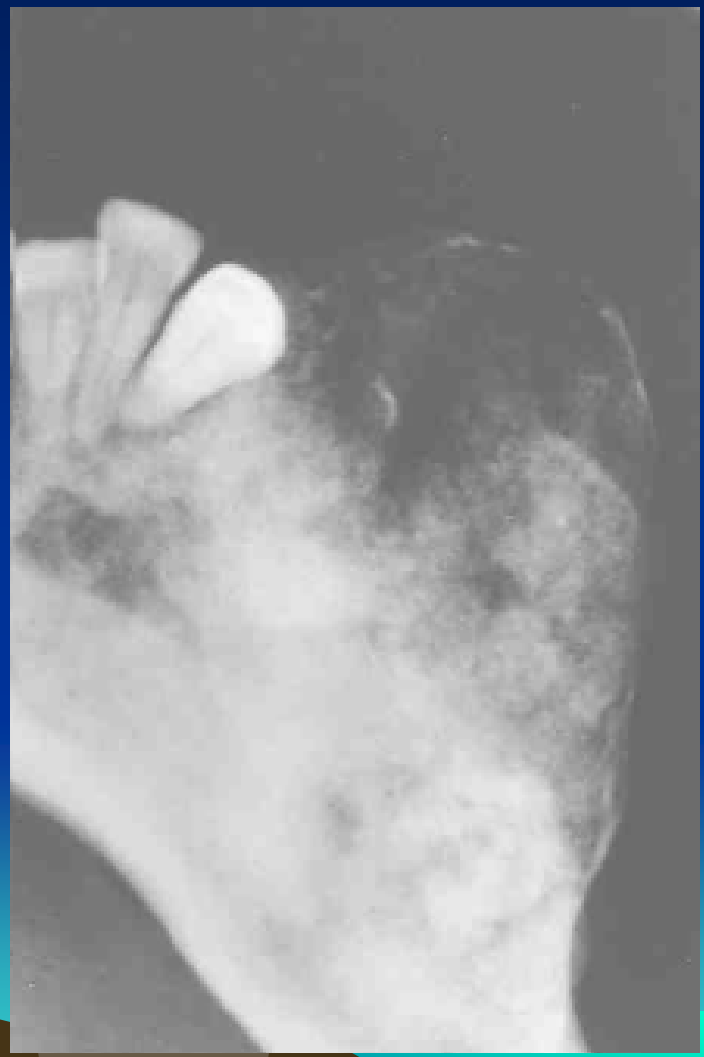
- early stage ： unilocular, well-defined radiolucency
- With time radiopaque foci develop
- When radiopaque is usually surrounded by a thin radiolucent halo

# Cemento-ossifying fibroma

- in the mandibular first & second molar region
- Unilocular radiolucency
- Containing faint opacification
- Well-defined cortical margins

# Cemento-ossifying fibroma

- Occlusal view shows buccal expansion of the mixed radiopaque-radiolucent lesions



# Cemento-ossifying fibroma

- The large unilocular radiolucency containing calcifications
- Expansion of the cortical plate near the inferior border of the mandible

# Cemento-ossifying fibroma (COF)

| Highly corresponding | Low corresponding |
|---|---|
| 30~40y/o female predilection | fibrous capsule |
| Most common in mandibular premolar & molar | Displacement of adjacent teeth |
| Asymptomatic | |
| Root resorption is uncommon | |
| Well-defined, unilocular or multilocular R-L lesion | |

# Clinical Impression

→ Pindborg tumor

# Thanks for your attention!