指導老師: **陳玉昆醫師**

口診SEMINAR第8組

組員名單

王胤元 黃渝聖 梁任宏 姚泓汎 林俊國
胡逸竹 孫麗婷 吳佳蓁 林天泉 謝鎧蔚

Part I

History and examination

General data

- Name: OOO
- Chart no.: Case 4
- Sex: Female
- Age: 60 y/o
- Marital status: Marriage
- Occupation: Housewife

Chief complaint

- Swelling over lower left mandible

Present illness

- This 60 year old female suffered from sharp pain over tooth 27 long time ago and also experiences pain when the lower left teeth were touched. She visited a LDC last week, and the dentist found a lesion over her lower left mandible after radiographic examination. She was then referred to our OPD for further evaluation and treatment.

Extraoral examination

- Facial asymmetry
- Clinical profile: convex
- Slight swelling on left chin

Intraoral examination

- Gingival swelling at tooth 27 and lower left mandible
- Swelling on lower left mandible size 4.0x3.0cm
- Smooth surface
- Sessile base
- Dome shaped
- Red color
- Hard consistency

Intraoral examination (cont.)

- No fluctuation
- Fixed
- Pain (+)
- Tenderness (-)
- Induration (-)
- Lymphadenopathy (-)
- Plaque & calculus deposition
- Percussion pain: 27, 34, 33, 42, 43, 44

Past medical history

- Hyperthyroidism - thyroid gland removed thereafter
- Unknown drug allergy - medication for cold
- Currently not taking any medications

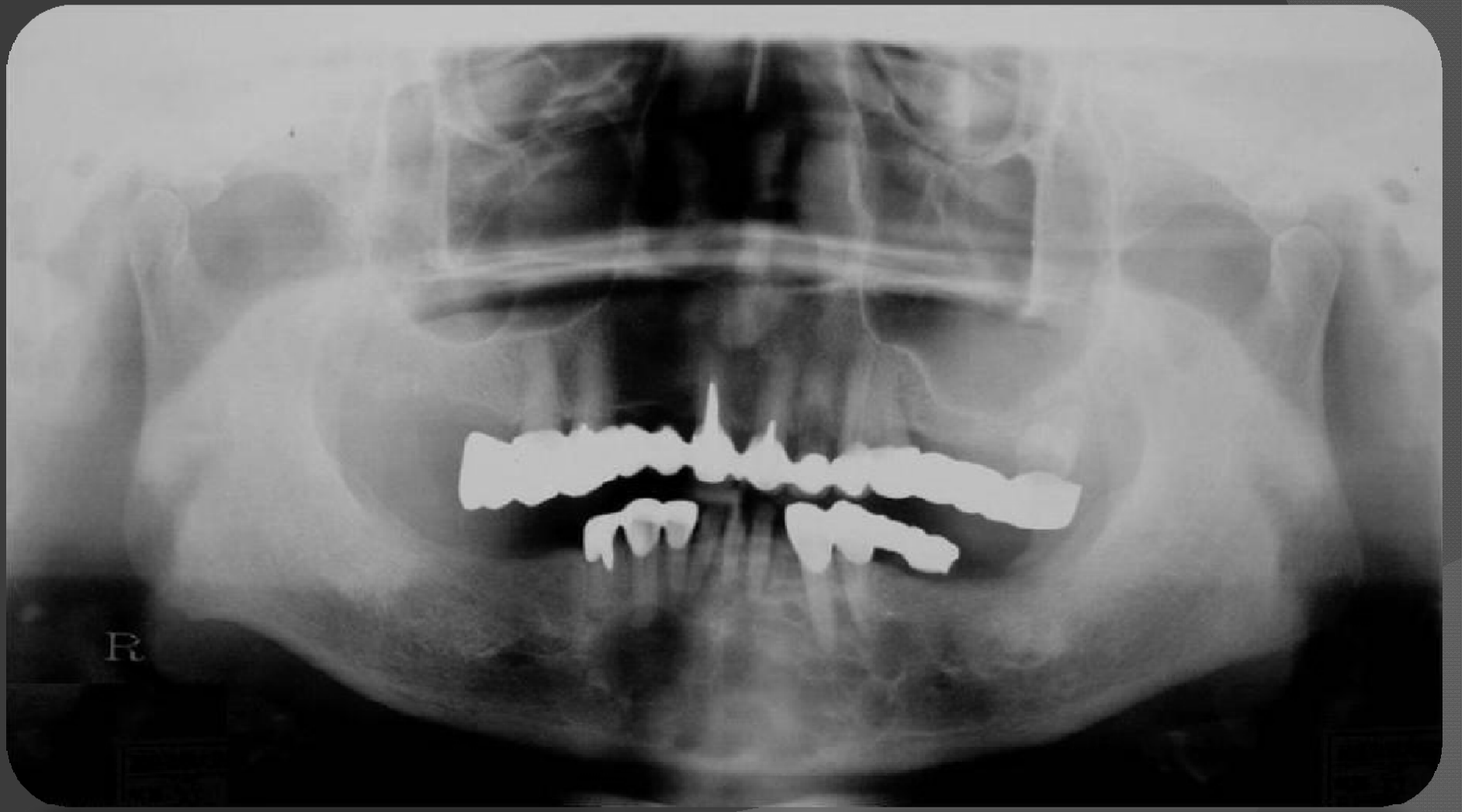
Past dental history

- Tooth Extraction
- Crown & Bridge
- Post & Core

Personal habits

- Risk factors related to malignancy：
  - Alcohol：(-)
  - Betel quid：(-)
  - Cigarette：(-)
- Other special habits：
  - Denied

Radiograph - pano



- There is a well-defined multilocular, irregular-shaped, non-discretely corticated radiolucency with hazy internal trabeculae extending from the root of tooth 41 crossing the midline to the area below the 36 pontic and from the periphery of the roots to the upper margin of the lower cortical border of the jaw, measuring approximately 4 x 3 cm in diameter. Bony destruction can be found on the anterior lower left mandible extending from below the periapical lesion at the root of tooth 43 through the lower cortical border of the jaw and to the area below the edentulous area of the lower left mandible.

- Caries: 22, 27, 31, 32
- Missing tooth: 18, 17, 16, 13, 12, 25, 26, 28, 35, 36, 37, 38, 45 ,46, 47, 48
- PAP: 43
- C&B: 16~27, 33~36, 42, 43, 44
- Posts: 11, 21

Part II

Differential diagnosis

Inflammation, Neoplasm or Cyst ?

- Tenderness (-)
- Fever or local heat (-)
- Lymphadenopathy (-)
- Fluctuation (-)
- Drainage (-)
- Fixed
- bleeding tendency:(-)

- Redness (+)
- Swelling (+)
- Pain (+)

→ **Neoplasm or Cyst**

Benign or Malignant tumor?

- Radiographic features suggestive of benignancy:
  - Well-defined border
  - Smooth outline
  - Corticated border
  - Cortical destruction (-)
  - Periosteal reaction (-)
  - Soft tissue infiltration (-)
  - Long duration
  - Metastasis (-)
- Radiographic features suggestive of malignancy:
  - Ill-defined border
  - Irregular outline
  - Non-corticated border
  - Cortical destruction (+)
  - Periosteal reaction (+)
  - Soft tissue infiltration (+)
  - Short duration
  - Metastasis (+)

Benign or Malignant tumor?

- Clinical features suggestive of benignancy:
  - Movable (except palate)
  - Unattached to skin or mucosa (except palate)
  - Ulceration (-)
  - Slow growth
  - Long duration
  - Pain (-)
  - Facial nerve palsy (-)
- Clinical features suggestive of malignancy:
  - Induration (+)
  - Fixed to overlying skin or mucosa
  - Ulceration (+)
  - Rapid growth
  - Short duration
  - Pain (+)
  - Facial nerve palsy (+)

Benign or Malignant tumor?

- Our Case
  - Pain (+)
  - Fixed
  - Bony destruction
  - Irregular outline
  - Tenderness (-)
  - Induration (-)
  - Long duration (+)
  - Ulceration (-)
  - Smooth mucosal surface
  - LAP (-)
  - Well-defined border

Benign

→ **Benign tumor**

Peripheral or intrabony origin?

- Mucosal lesion (-)
- Hard consistency
- Bony destruction (+)

→ **Intrabony**

Intrabony benign neoplasm

or

Intrabony cyst

Working Diagnosis

- Neoplasm
  - Odontogenic origin:
    - Ameloblastoma (solid)
    - Odontogenic myxoma
    - Central giant cell granuloma
    - Ameloblastic fibroma
  - Non-odontogenic origin:
    - Central hemangioma
    - Central neurilemoma
- Cyst
  - Developmental origin:
    - Odontogenic keratocyst
    - Glandular odontogenic cyst
  - Aneurysmal bone cyst

Benign intrabony neoplasm

- Odontogenic origin:
  - Ameloblastoma (solid)
  - Odontogenic myxoma
  - Ameloblastic fibroma
  - Central giant cell granuloma
- Non-odontogenic origin:
  - Central hemangioma
  - Central neurilemoma

AMELOBLASTOMA (SOLID)

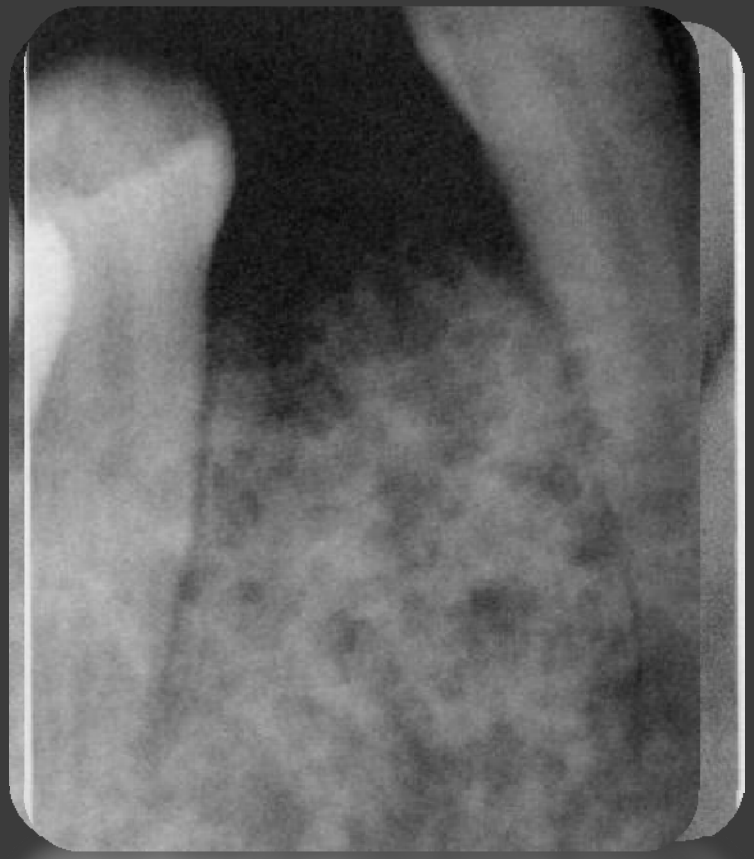
Clinical features

- Most common clinically significant odontogenic tumor.
- Mostly between 30~60 years old.
- No gender predilection.
- Often asymptomatic.
- May have painless swelling or expansion of the jaw.
- The lesion manifesting in the mucosa may be firm and fluctuant if the bone is destroyed.

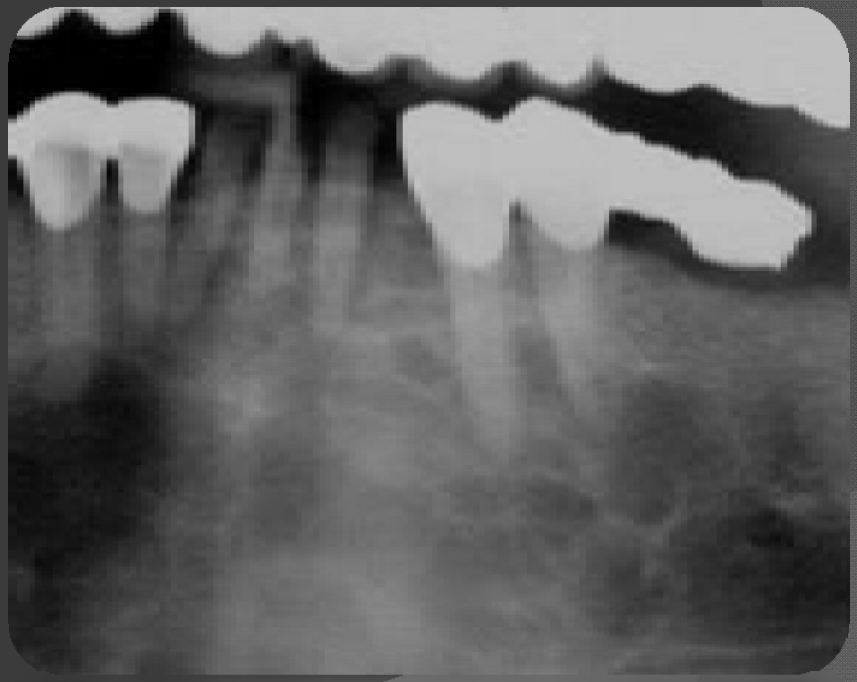
Radiographic features

- Found mostly in the mandible, molar-ascending ramus area.
- Well-defined radiolucency with corticated border and internal radiopaque septa.
- Smooth and scalloped outline.
- May be unilocular with irregular scalloping or multilocular with “soap bubble” or “honeycombed” appearances.

Ameloblastoma



Our case



Clinical Findings	Our case	Ameloblastoma (solid)
Gender	Female	none
Age	60	30~60
Site	Anterior left segment of jaw	Mostly in mandible, molar-ascending ramus area
Shape	Dome	
Base	Sessile	Sessile
Swelling	+	+

	Our case	Ameloblastoma (solid)
Size	4 x 3 cm	Very variable
Consistency	Hard	Firm (if bone is destroyed)
Pain	+	-
Tenderness	-	-
Induration	-	-
LAP	-	-

X-ray findings	Our case	Ameloblastoma (solid)
Border	Well-defined Non-discrete cortical border	Well-defined, cortical border
Radiodensity	RL (hazy)	RL with internal RO septa
Outline	Irregular	Smooth and scalloped outline
Unilocular/ multilocular	Multilocular with ill-defined septa	Multilocular (“soap bubble” or “honeycombed”)
Effect on surrounding structures/ teeth	Bony hard swelling Loss of lamina dura	Cortical expansion Resorption of roots Teeth displacement

ODONTOGENIC MYXOMA

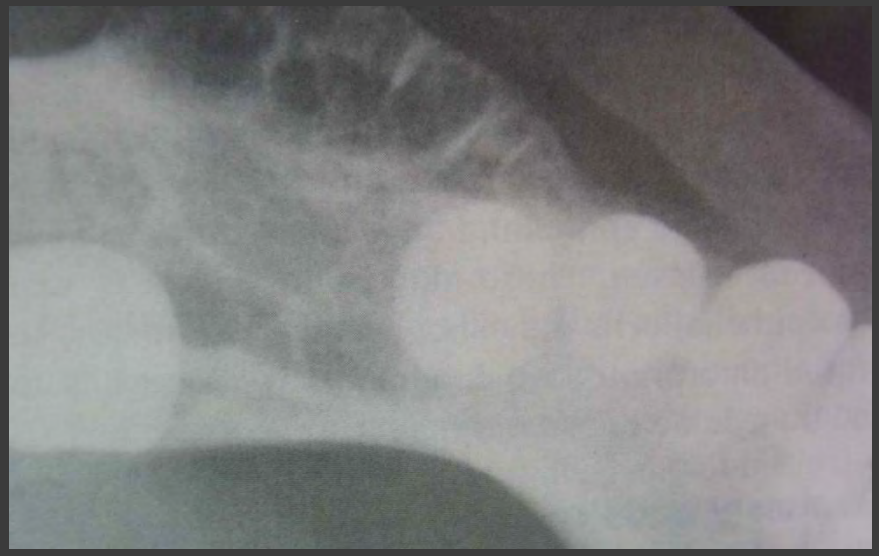
Clinical feature

- Predominantly found in young adult but may occur over a wide age group
- No sex predilection
- Mandible>Maxilla
- Can be found in almost any area of the jaw
- Smaller lesion: asymptomatic
- Larger lesion: a painless expansion of the involved bone
- Grows rapidly

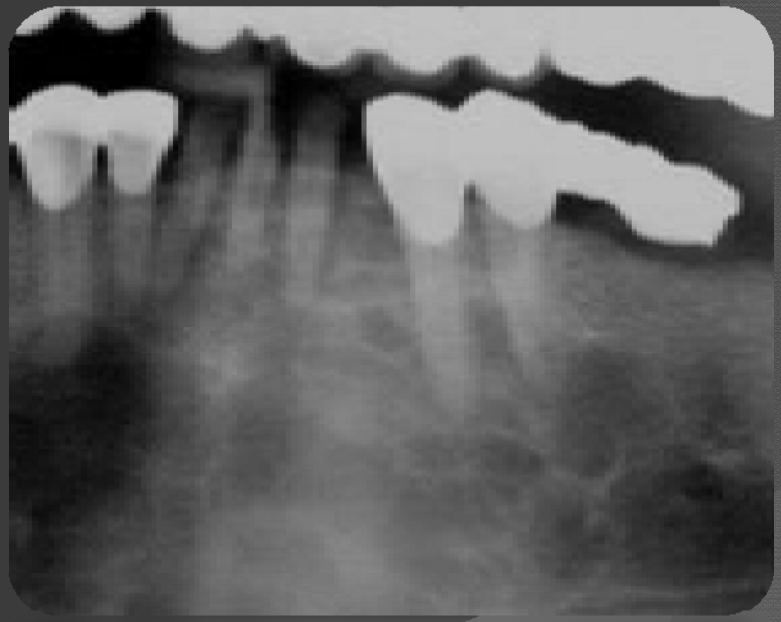
Radiographic feature

- Unilocular or multilocular RL
- Irregular or scalloped
- Thin, wispy trabeculae of residual bone, which are often arranged at right angle to one another (step-ladder pattern)
- Soap bubble RL pattern

Odontogenic myxoma



Our case



Clinical findings	Our case	Odontogenic myxoma
Gender	Female	No sex predilection
Age	60	25-30
Site	Anterior left segment of jaw	Mostly in mandible, molar-ascending ramus area
Shape	Dome	
Base	Sessile	
Swelling	+	-

Clinical findings	Our case	Odontogenic myxoma
Size	4cm*3cm	Variable
Consistency	Hard	
Pain	+	-
Tenderness	-	-
Induration	-	-
LAP	-	-

X-ray findings	Our case	Odontogenic myxoma
Border	Well-defined Non-discrete cortical border	well-defined
Radiodensity	RL (hazy)	RL
Outline	Irregular	Irregular or scalloped
Unilocular/ multilocular	Multilocular with ill-defined septa	Unilocular or multilocular
Effect on surrounding structures/ teeth	Bony hard swelling Loss of lamina dura	Resorption of teeth

CENTRAL GIANT CELL GRANULOMA

Clinical feature

- From 2 to 80 years of age (more than 60% of all cases occur before age 30)
- Slightly female predilection
- 70% arise in the mandible (more common in anterior portion of jaw)
- Painless
- Expansion of the affect bone (may be associated with pain, paresthesia, or perforation of the cortical plate in few cases of aggressive lesions type)
- Occasionally resulting in ulceration of mucosal surface

Radiographic feature

- Mandible lesion usually anterior to molar and frequently crosses the midline
- Radiolucent
- Unilocular or multilocular
- Well delineated
- Without corticated margin
- Size is highly variable
- Mostly single lesion

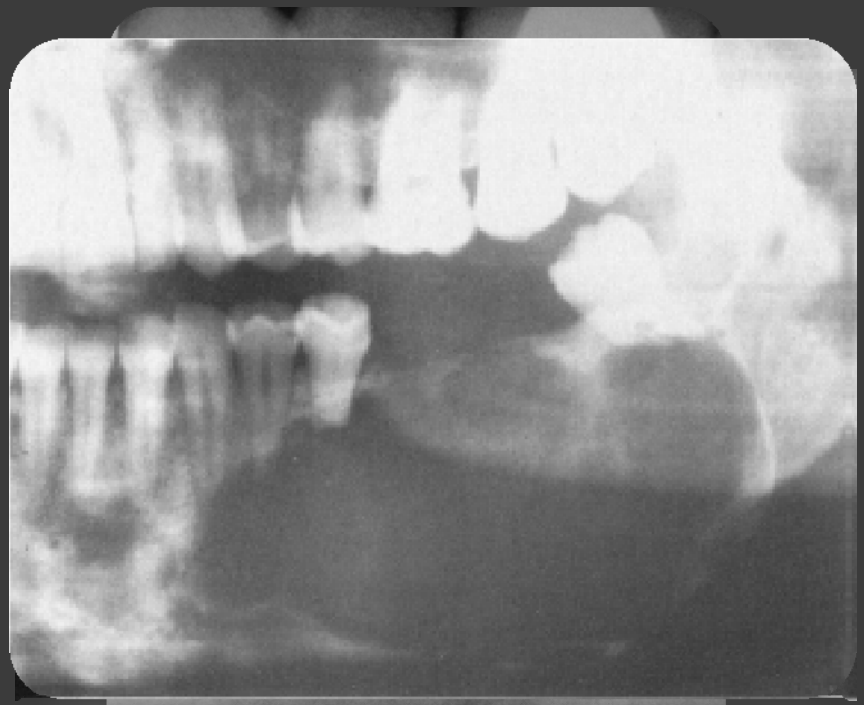
Radiographic feature

- Non-aggressive lesion
  - Most cases
  - No symptoms
  - Lesion grows slowly
  - No cortical perforation
  - No teeth resorption

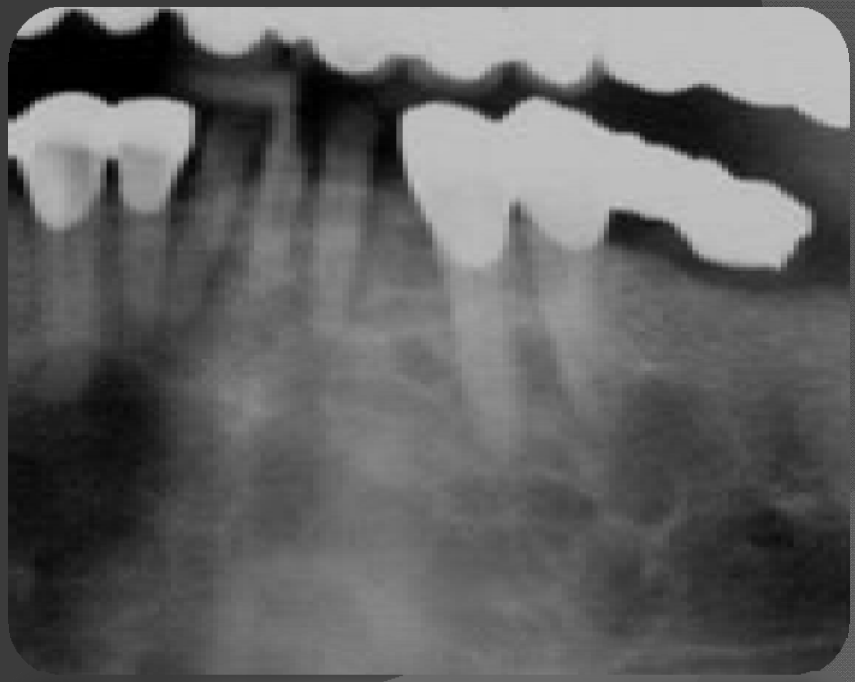
Radiographic feature

- Aggressive lesion
  - Lesion grows rapidly
  - Cortical perforation
  - Root resorption

Central giant cell granuloma



Our case



Clinical Findings	Our case	CGCG
Gender	Female	Slightly in female
Age	60	2~80 (More than 60% occurs before age 30)
Site	Anterior left segment of jaw	Most in anterior mandible
Shape	Dome	Dome
Base	Sessile	Sessile
Swelling	+	+

	Our case	CGCG
Size	4 x 3 cm	Highly variable
Consistency	Hard	
Pain	+	– (most cases) + (occasionally)
Tenderness	-	-
Induration	-	-
LAP	-	-

X-ray findings	Our case	CGCG
Border	Well-defined Non-discrete cortical border	Well-defined Non-corticated
Radiodensity	RL (hazy)	RL
Outline	Irregular	Smooth round or ovoid or scalloped outline
Unilocular/ multilocular	Multilocular with well-defined septa	Unilocular / multilocular
Effect on surrounding structures/ teeth	Bony hard swelling Loss of lamina dura	Root resorption in aggressive lesion Missing lamina dura

AMELOBLASTIC FIBROMA

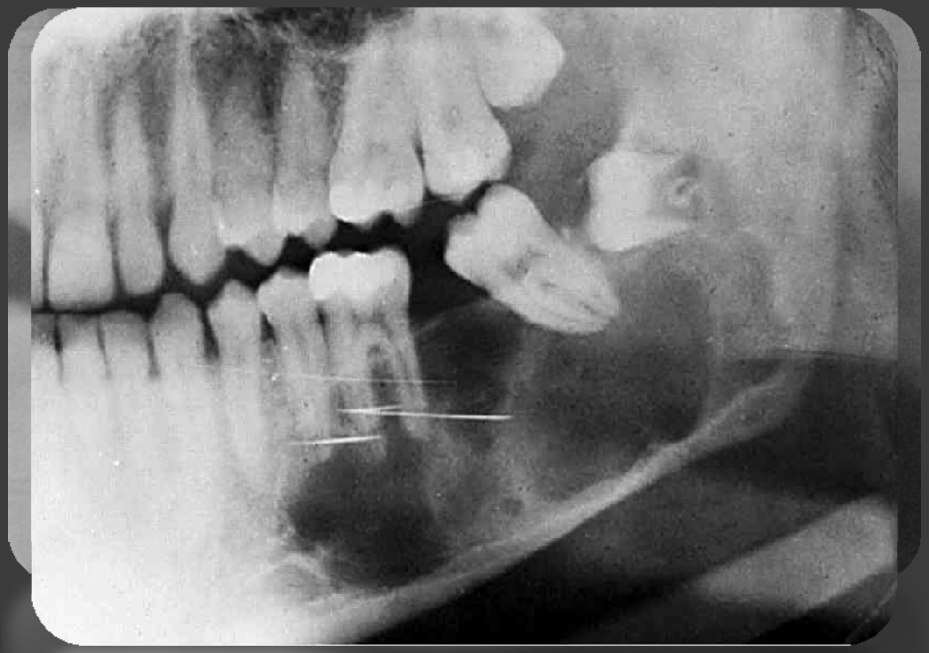
Clinical features

- Mostly occur during young age between 5~20 years old.
- Slightly male predilection.
- Small lesions are asymptomatic; larger lesions may associate with swelling of the jaw.
- Usually as painless, slow-growing expansion.

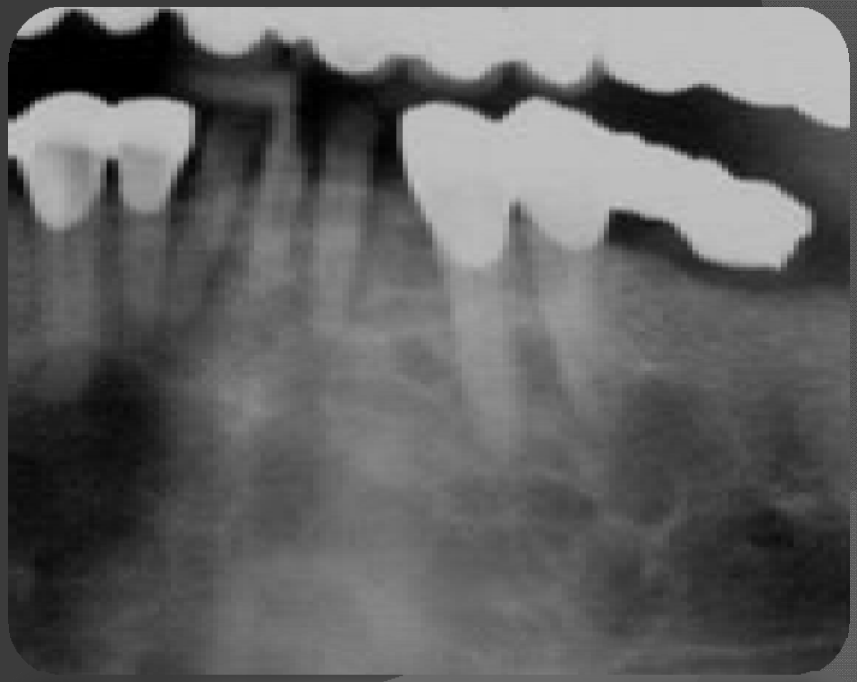
Radiographic features

- Found mostly in the posterior mandible (premolar-molar area).
- Well-defined radiolucency with sclerotic or corticated border usually associated pericoronally with unerupted teeth (75% of cases).
- Small lesions tend to be unilocular.
- Larger lesions may be multilocular with indistinct curved septa.

Ameloblastic fibroma



Our case



Clinical Findings	Our case	Ameloblastic fibroma
Gender	Female	Slight male predilection
Age	60	Young (5~20)
Site	Anterior left segment of jaw	Usually in posterior mandible (premolar-molar area)
Shape	Dome	
Base	Sessile	
Swelling	+	+

	Our case	Ameloblastic fibroma
Size	4 x 3 cm	Variable
Consistency	Hard	Soft
Pain	+	-
Tenderness	-	
Induration	-	
LAP	-	

X-ray findings	Our case	Ameloblastic fibroma
Border	Well-defined Non-discrete cortical border	Well-defined with sclerotic/corticated border
Radiodensity	RL (hazy)	Usually pericoronal RL
Outline	Irregular	Smooth outline
Unilocular/ multilocular	Multilocular with ill-defined septa	Unilocular / multilocular (with indistinct curved septa)
Effect on surrounding structures/ teeth	Bony hard swelling Loss of lamina dura	Associated with unerupted tooth Adjacent teeth displacement Buccal/lingual expansion of the jaw

Benign intrabony neoplasm

- Odontogenic origin:
  - Ameloblastoma (solid)
  - Ameloblastic fibroma
  - Central giant cell granuloma
  - Odontogenic myxoma
- Non-odontogenic origin:
  - Central hemangioma
  - Central neurilemoma

CENTRAL HEMANGIOMA (INTRABONY)

Clinical features

- Probably represent either venous or arteriovenous malformations
- Between 10 and 20 y/o (when lesions are in the jaws)
- More common in females than males
- Mandible : Maxilla = 2:1
- May be asymptomatic, some are associated with pain and swelling

Clinical features

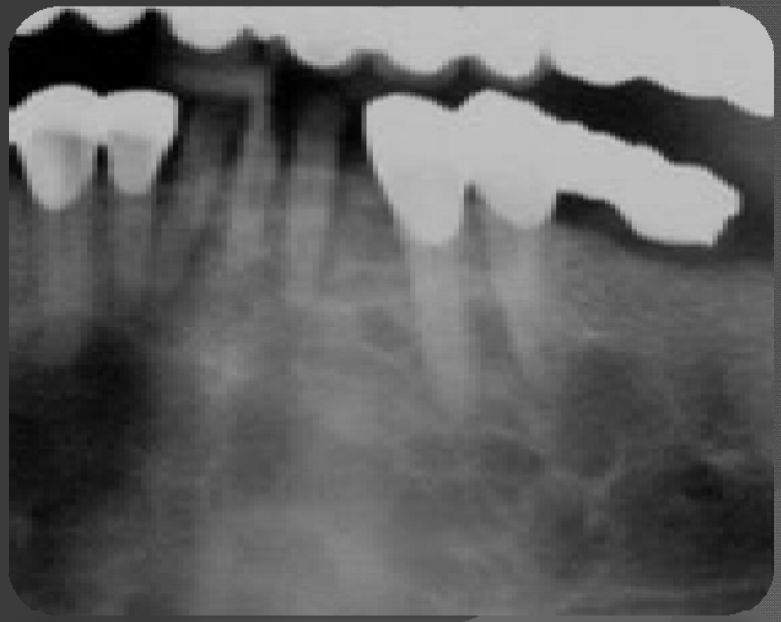
- Mobility of teeth or bleeding from the gingival sulcus may occur.
- A bruit or pulsation may be apparent on ausculation and palpation.

Radiographic features

- Shows a multilocular radiolucent defect most commonly.
- May have honeycomb or soap bubble appearance.
- May present as an ill-defined radiolucent area or a well-defined, cystlike radiolucency.
- Large malformations may cause cortical expansion, and occasionally a “sunburst” radiographic pattern is produced.

Central hemangioma

Our case



Clinical Findings	Our case	Central hemangioma
Gender	Female	Female
Age	60	Between 10 and 20 y/o
Site	Anterior left segment of jaw	Mandible : Maxilla=2:1
Shape	Dome	
Base	Sessile	
Surface	Smooth	
Swelling	+	+ (in some cases)

	Our case	Central hemangioma
Size	4 x 3 cm	variable
Consistency	Hard	
Pain	+	+ (in some cases)
Tenderness	-	
Induration	-	
Mobility	Fixed	
LAP	-	

X-ray findings	Our case	Central hemangioma
Border	Well-defined Non-discrete cortical border	Ill-defined RL or well-defined, cystlike RL
Radiodensity	RL (hazy)	RL
Outline	Irregular	
Unilocular/ multilocular	Multilocular with ill-defined septa	Multilocular (honeycomb or soap bubble appearance)
Effect on surrounding structures/ teeth	Bony hard swelling Loss of lamina dura	Large malformations may cause cortical expansion

CENTRAL NEURILEMOMA

Clinical features

- Uncommon, 25~48% occur in the neck and head
- Asymptomatic
- Most common in young-aged and middle-aged
- Size is variable
- Posterior mandibular region is the most common site for central neurilemomas

Radiographic features

- Unilocular or multilocular RL
- May produce bony expansion

Clinical Findings	Our case	Central neurilemoma
Gender	Female	none
Age	60	Young and middle age
Site	Anterior left segment of jaw	Mostly in tongue, but if have intra-osseous lesion, then in posterior mandible
Shape	Dome	
Base	Sessile	
Swelling	+	

	Our case	Central neurilemoma
Size	4 x 3 cm	Few millimeters to several centimeters
Consistency	Hard	
Pain	+	+ (occasionally)
Tenderness	-	+ (occasionally)
Induration	-	-
LAP	-	-

X-ray findings	Our case	Central neurilemoma
Border	Well-defined	Well-defined
Radiodensity	RL (hazy)	RL
Outline	Irregular	
Unilocular/ multilocular	Multilocular with ill-defined septa	Unilocular or multilocular
Effect on surrounding structures/ teeth	Bony hard swelling Loss of lamina dura	If arise in the center of the bone, it may produce bone expansion

Intrabony cyst

- Developmental origin:
  - Odontogenic keratocyst
  - Glandular odontogenic cyst
- Aneurysmal bone cyst

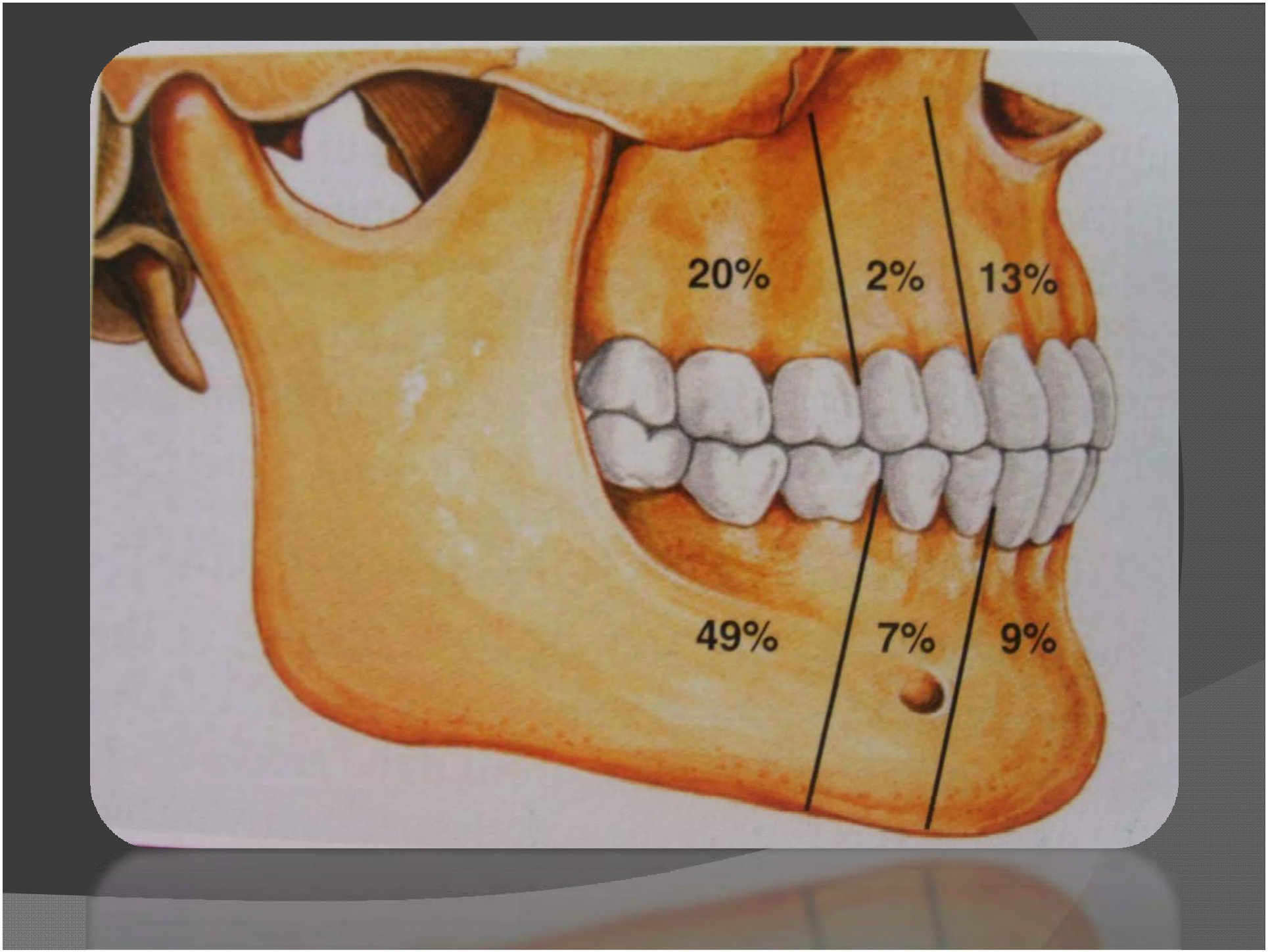
ODONTOGENIC KERATOCYST

Clinical features

- From infancy to old age with approximately 60% found between 10~40 years old.
- A slight male predilection.
- Small lesions are usually asymptomatic.
- Larger lesions may associate with pain, swelling, or drainage.
- Pain may occur with secondary infection .

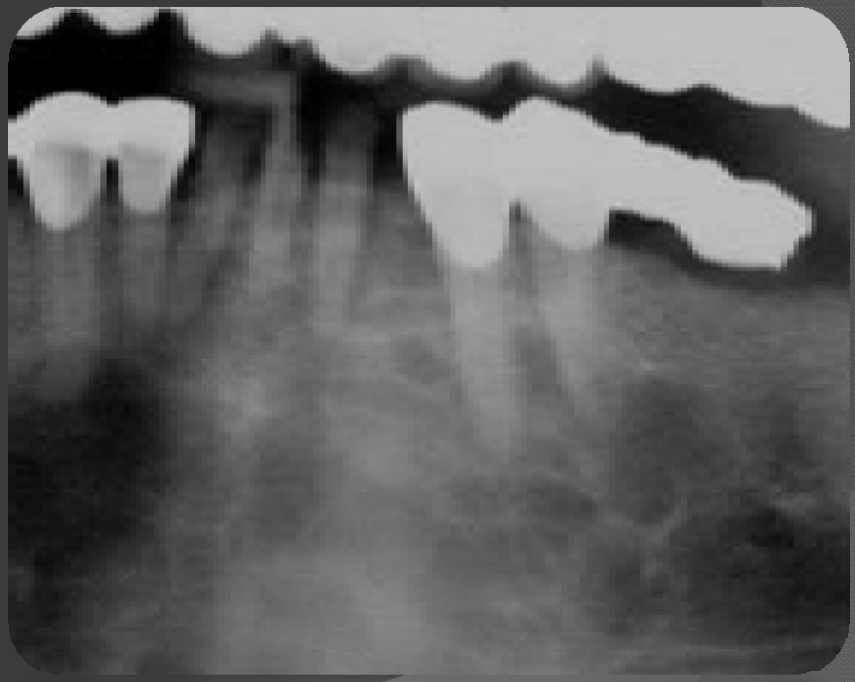
Radiographic features

- Found mostly in the posterior body and ascending ramus of mandible.
- Well-defined radiolucency with smooth and corticated margins.
- Smooth round or oval or scalloped outline.
- Large lesions appear multilocular.
- Grow along the internal aspect of the jaws in antero-posterior direction within medullary cavity without obvious bone expansion.


20%
2%
13%
49%
7%
9%

OKC

Our case



Clinical Findings	Our case	Odontogenic keratocyst
Gender	Female	Slight male predilection
Age	60	Infancy to old age (60% between 10~40)
Site	Anterior left segment of jaw	Mostly in posterior body and ascending ramus of mandible
Shape	Dome	Dome
Base	Sessile	Sessile
Swelling	+	- (+ with larger lesion)

	Our case	Odontogenic keratocyst
Size	4 x 3 cm	variable, often large in mandible
Consistency	Hard	
Pain	+	- (+ with secondary infection)
Tenderness	-	-
Induration	-	-
LAP	-	-

X-ray findings	Our case	Odontogenic keratocyst
Border	Well-defined Non-discrete cortical border	Well-defined with smooth and corticated margins
Radiodensity	RL (hazy)	RL (occasionally hazy)
Outline	Irregular	Smooth round or oval or scalloped outline
Unilocular/ multilocular	Multilocular with ill-defined septa	Large lesions appear multilocular
Effect on surrounding structures/ teeth	Bony hard swelling Loss of lamina dura	No obvious bone expansion May cause cortical perforation

GLANDULAR ODONTOGENIC CYST

Clinical Feature

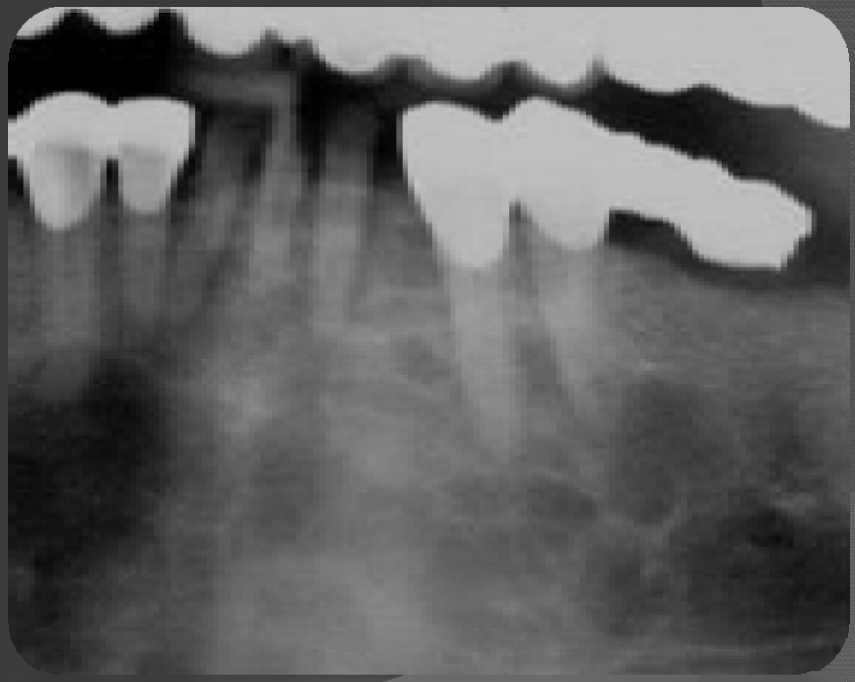
- Middle-aged adult (mean age: 49)
- 85% in mandible, and has strong predilection for anterior region of jaw
- Small cyst may be asymptomatic
- Large cyst may expand and cause pain or paresthesia

Radiographic Feature

- Usually multilocular, well-defined radiolucency with a sclerotic rim

Glandular odontogenic cyst

Our case



Clinical Findings	Our case	GOC
Gender	Female	No predilection
Age	60	Middle-aged adult (Mean age: 49)
Site	Anterior left segment of jaw	Anterior jaw
Shape	Dome	
Base	Sessile	
Swelling	+	+ (large cyst)

	Our case	GOC
Size	4 x 3 cm	From 1cm to most of the jaw
Consistency	Hard	
Pain	+	+ (large cyst)
Tenderness	-	
Induration	-	
LAP	-	

X-ray findings	Our case	GOC
Border	Well-defined Non-discrete cortical border	Well-defined with a sclerotic rim
Radiodensity	RL (hazy)	RL
Outline	Irregular	
Unilocular/ multilocular	Multilocular with ill-defined septa	Unilocular or Multilocular (more common)
Effect on surrounding structures/ teeth	Bony hard swelling Loss of lamina dura	

ANEURYSMAL BONE CYST

Clinical feature

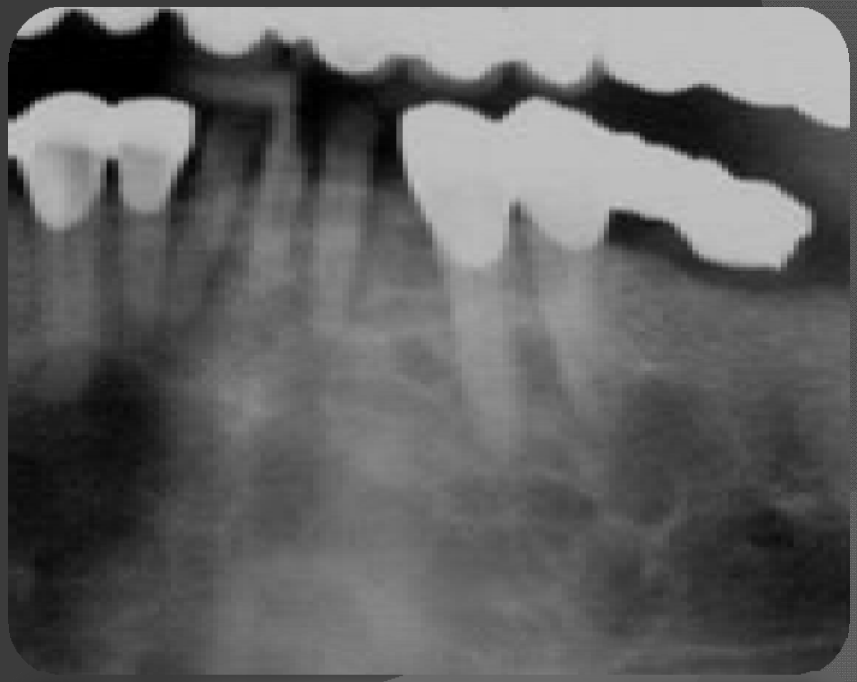
- No significant sex predilection
- Located most commonly in the shaft of long bone or in the vertebral column
- Gnathic aneurysmal bone cyst are uncommon (2%)
- Within the jaw, a wide age range is noted with mean age of 20
- Swelling and pain
- Occasionally may result in malocclusion, mobility, migration, or resorption

Radiographic feature

- Well defined unilocular or multilocular radiolucency with marked cortical expansion and thinning of cortical bone
- Ballooning or blow out outline

Aneurysmal bone cyst

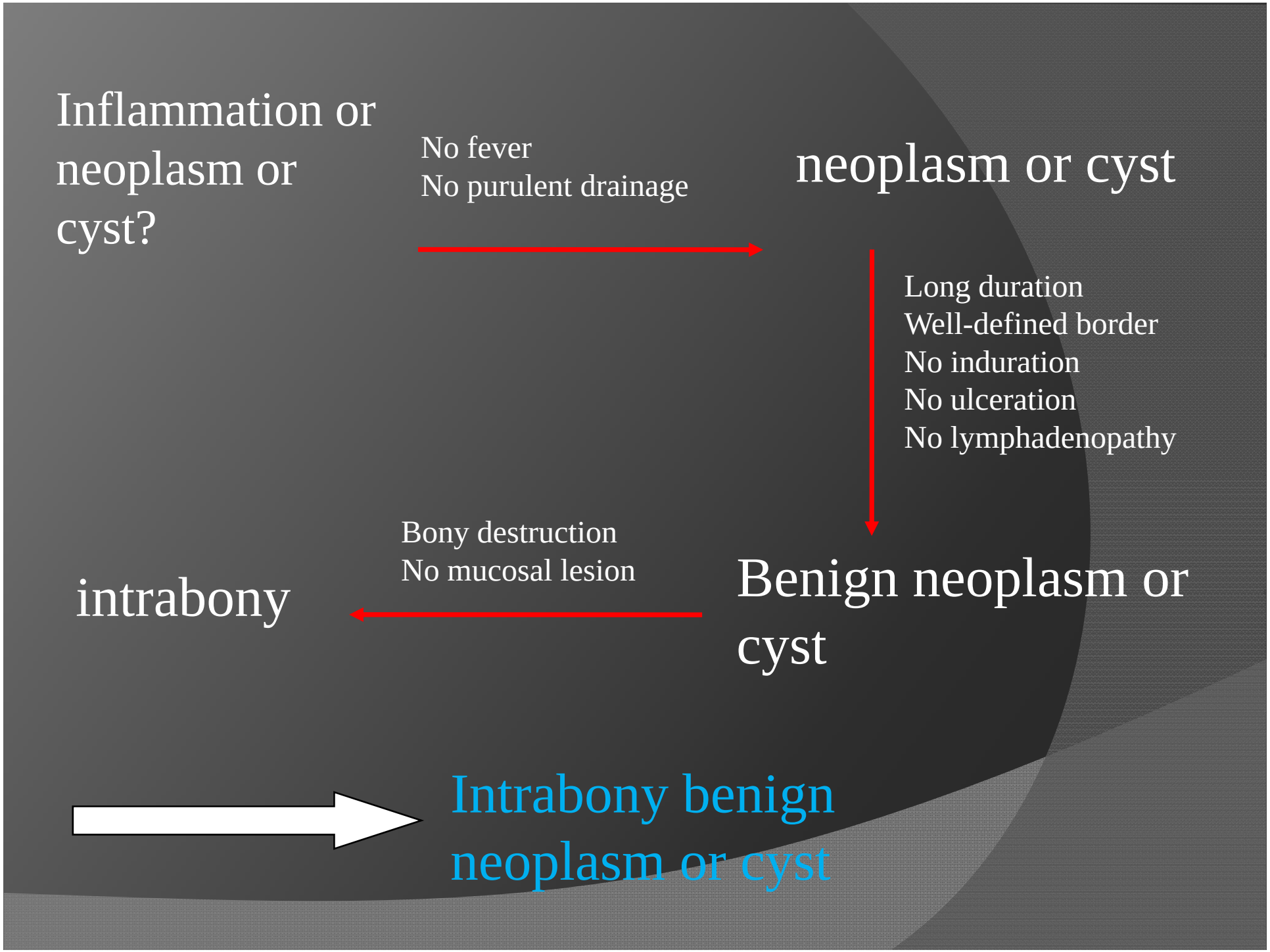
Our case



Clinical Findings	Our case	Aneurysmal bone cyst
Gender	Female	No sex predilection
Age	60	20
Site	Anterior left segment of jaw	Posterior segment of jaw
Shape	Dome	
Base	Sessile	
Swelling	+	+

	Our case	Aneurysmal bone cyst
Size	4 x 3 cm	Variable
Consistency	Hard	Firm
Pain	+	+
Tenderness	-	+
Induration	-	
LAP	-	-

X-ray findings	Our case	Aneurysmal bone cyst
Border	Well-defined Non-discrete cortical border	Well-defined or diffuse
Radiodensity	RL (hazy)	RL
Outline	Irregular	Ballooning or blow-out
Unilocular/ multilocular	Multilocular with ill-defined septa	Unilocular or Multilocular
Effect on surrounding structures/ teeth	Bony hard swelling Loss of lamina dura	Cortical expansion Malocclusion, mobility, migration, resorption of involved teeth


Inflammation or neoplasm or cyst?
No fever
No purulent drainage
neoplasm or cyst
Long duration
Well-defined border
No induration
No ulceration
No lymphadenopathy
Benign neoplasm or cyst
Bony destruction
No mucosal lesion
intrabony
Intrabony benign neoplasm or cyst

Working Diagnosis

- Neoplasm
  - Odontogenic origin:
    - Ameloblastoma (solid)
    - Odontogenic myxoma
    - Ameloblastic fibroma
    - Central giant cell granuloma
  - Non-odontogenic origin:
    - Central hemangioma
    - Central neurilemoma
- Cyst
  - Developmental origin:
    - Odontogenic keratocyst
    - Glandular odontogenic cyst
  - Aneurysmal bone cyst

	Gender	Age	Site	Border	Unilocular/ multilocular	Effect on surrounding structures/teeth
Central giant cell granuloma	○	○	○	○	○	▲
Ameloblastoma (solid)	▲	○		○	○	▲
Ameloblastic fibroma			▲	○	○	
Odontogenic myxoma			▲	○	○	○
Central hemangioma				○	○	
Central neurilemoma				○	○	○

	Gender	Age	Site	Border	Unilocular/ multilocular	Effect on surrounding structures/ teeth
Aneurysmal bone cyst	▲			○	○	○
Glandular odontogenic cyst	▲	▲	○	○	○	
Odontogenic keratocyst		▲		○	○	

Clinical final impression

- Central Giant Cell Granuloma
  - Anterior left mandible
- Odontogenic Myxoma
  - Anterior left mandible
- Glandular Odontogenic Cyst
  - Anterior left mandible

會議記錄照

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Thanks for your attention!