

# 口腔病理及影像診斷科

## CASE REPORT

報告組別：Intern K 組

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# General Data

- ◎ Name: 方OO
- ◎ Sex: Male
- ◎ Age: 40 y/o
- ◎ Native: 台灣
- ◎ Marital status: 已婚
- ◎ Attending V.S.: 吳崇維醫師
- ◎ First visit: 100.11.8



# Chief Complaint

- Gingiva swelling over right lower lingual area for two days

# Present Illness

- ◎ This 40y/o male patient found that there is a painful, tender and numbness swelling over the lower right lingual area from central incisor to premolar area for two. So, he came to KMU dental department for further examination and treatment.
- ◎ 94. 2.15
  - Toothache over tooth 42, 43 area and found fistula on tooth 42 lingual. He went to many LDC and accepted RCT but the lesion became larger. Therefore, the dentist referred him to 輔英hospital and subsequently, referred to KMU dental department.
- 94.03.22 OD/Endo dept
  - Accepted flap op, bone window, root tip amputation in OD/Endo dept (tooth 42,43) plus medications

# Past History

## ⦿ Past Medical History

- Denied any underlying diseases
- Denied any food or drug allergies
- Hospitalization: (-)
- Surgery under GA: (-)

## ⦿ Past Dental History

- General routine dental treatment
- Root tip amputation and flap op of 42 43

## ⦿ Attitude to dental treatment: co-operative

# Personal History

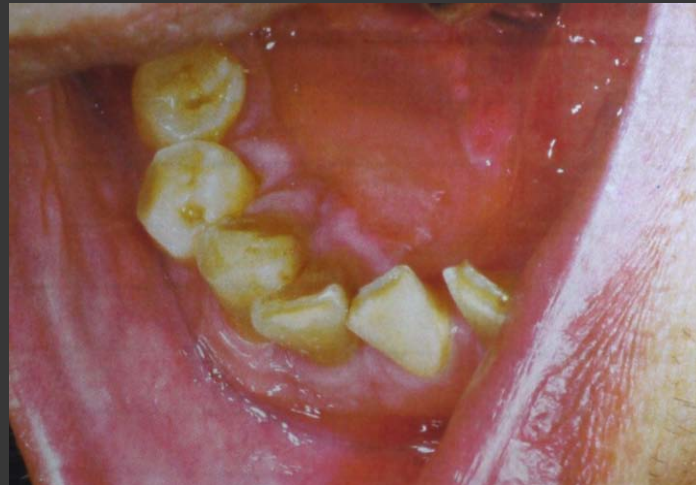
- ⦿ Risk factor related to malignancy
  - Alcohol : (+), sometimes 1-2 bottles
  - Betel quid: (-)
  - Cigarette: (-)
- ⦿ Special oral habits : Denied
- ⦿ Bite irritation : Denied

# Dental Examination

- Missing: Tooth 18, 28, 37, 38
- C&B: Tooth 14
- Restorations: Tooth 15, 36, 46
- General plaque and calculus deposition
- Food impaction

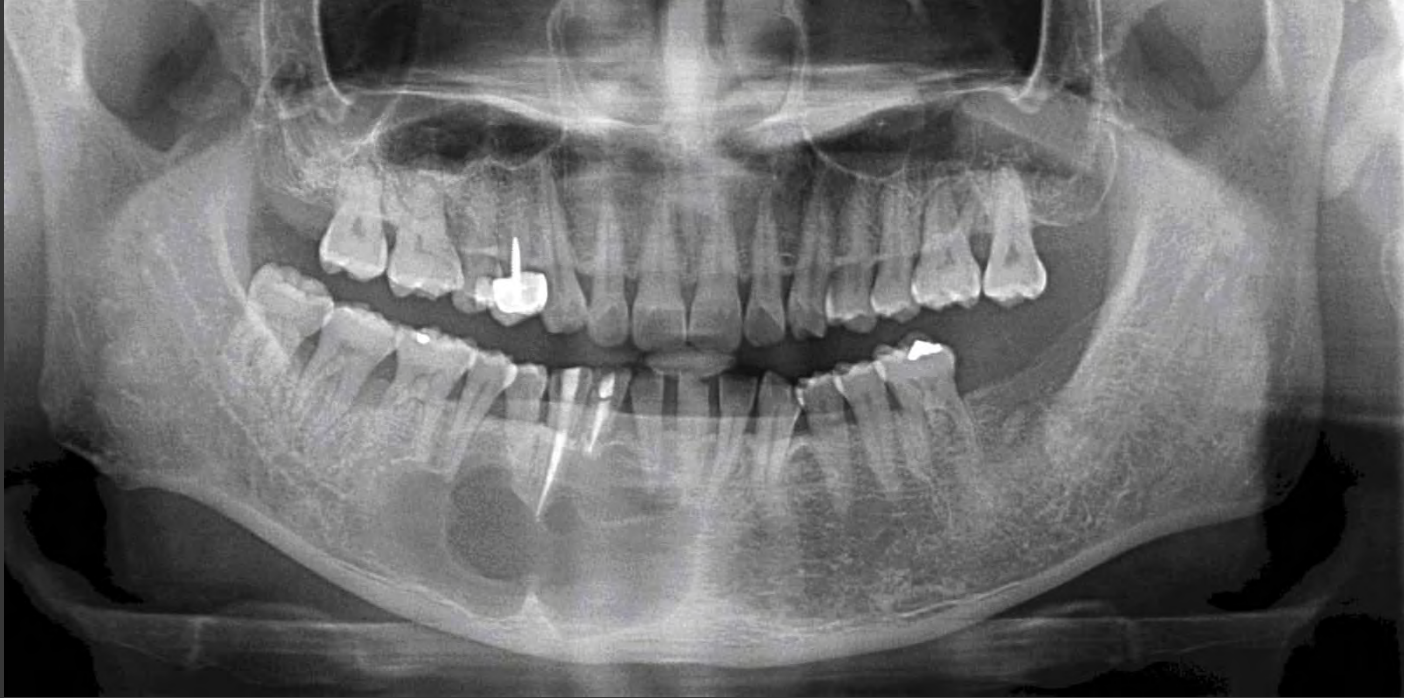
# Intraoral Findings

- Max. Dimension: 2.5x1.5 cm
- Color: Red
- Surface: Smooth
- Base: Sessile
- Shape: Dome
- Consistency: Soft
- Fluctuation (+)
- Mobility: Fixed
- Pain (+)
- Tenderness (+)
- Induration (-)





# Panoramic Radiography



100.11.08

There was a well-defined multilocular round-shaped radiolucence with corticated margin over the apex of tooth 32 to 46, extending from 32 root apex to mesial root apex of tooth 46 and from mandible alveolar ridge of 41 to 45 down to the inferior border of right mandible, measured 4.0x2.5cm in diameter. Right mandibular canal may have been involved. Ambiguous external root resorption of tooth 42 43 are found. Tooth 42, 43 with RCT can also be noted.

# Periapical Radiography



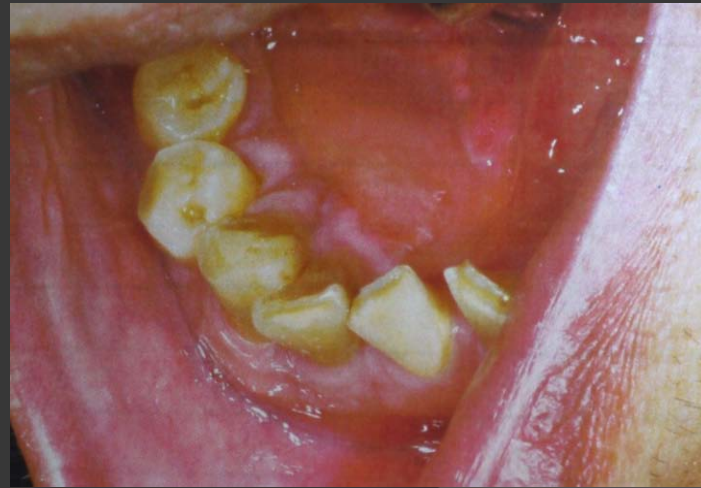
100.11.8

1. Well-defined multilocular RL over root apex of tooth 43, 44, 45
2. Restoration: Tooth 46
3. Previously RCT: Tooth 43

# DIFFERENTIAL DIAGNOSIS

# Peripheral or intrabony ?

- 42~43 lingual side:
- 2.5X 1.5 cm, dome shape, sessile base, soft consistency with fluctuation, red color
- Tenderness (+)
- Pain (+)



# Peripheral or intrabony ?

- Multilocular radiolucence with bony destruction  
→ Intrabony lesion



# Inflammation, cyst, neoplasm?

Due to panorex finding: Large multilocular RL destruction lesion → cyst or neoplasm

# Cyst or neoplasm?

	Our case	cyst
<b>Fluctuation</b>	+	+-
<b>Well + defined border</b>	+	+
<b>Bone expansion</b>	-	+-

	Our case	Inflammation cyst	<Non-inflammation cyst>
<b>Pain, tenderness</b>	+	+	-
<b>Local heat</b>	Unknown	+	-
<b>Color</b>	Pink	Reddish	Pink
<b>Progression</b>	Slow	Fast	Slow
<b>Sclerotic margin</b>	+	-	+

# Cyst or neoplasm?

	<b>Our case</b>	<b>&lt;benign&gt;</b>	<b>&lt;Malignance&gt;</b>
<b>Border</b>	Well-defined	Well-defined	Ill-defined
<b>Margin</b>	Smooth	Smooth	Irregular
<b>Sclerotic margin</b>	+	+	-
<b>Destruction of cortical margin</b>	+	--+	+
<b>progressive</b>	Slow	Slow	fast
<b>Swelling with intact epi.</b>	+	+	-
<b>Pain</b>	+	-	+
<b>Induration</b>	-	-	+

→ Non-Inflammation cyst or Benign tumor



# Working Diagnosis

- (1) Keratocystic odontogenic tumor
- (2) Ameloblastoma
- (3) Odontogenic myxoma
- (4) Central giant cell granuloma
- (5) Aneurysmal bone cyst

# Keratocystic odontogenic tumor

	Our case	KCOT (larger)
<b>Gender</b>	Male	Slight male
<b>Age</b>	40	10~40
<b>Site</b>	32~46	Mandible (posterior body and ascending ramus)
<b>Paresthesia</b>	Pain	Ppain
<b>Swelling</b>	+	+
<b>Drainage</b>	+ (Fluctuation)	+
<b>Shape</b>	Well-defined, smooth, scalloped, multilocular, corticated margin	Well-defined, smooth, multilocular, corticated margin
<b>Bony expansion</b>	-	-
<b>Teeth displacement /root resorption</b>	+	+
<b>Duration</b>	Suspected 7 years	Slow

# Ameloblastoma

	Our case	Ameloblastoma
<b>Gender</b>	Male	Equal
<b>Age</b>	40	30~70
<b>Site</b>	32~46	Mandible (molar→ ascending ramus)
<b>Paresthesia</b>	Pain	Uncommon
<b>Swelling</b>	+	+
<b>Drainage</b>	+ (Fluctuation)	+
<b>Shape</b>	Well-defined, smooth, scalloped, multilocular, corticated margin	Well-defined, smooth, multilocular, corticated margin
<b>Bony expansion</b>	-	+
<b>Teeth displacement /root resorption</b>	+	+
<b>Duration</b>	Suspected 7 years	slow

# Odontogenic myxoma

	Our case	Odontogenic myxoma
<b>Gender</b>	Male	Slight female
<b>Age</b>	40	10~50 (mean25~30)
<b>Site</b>	Tooth 32~46	Max.:Mand.=3:4 or 3:7 (tooth-bearing areas)
<b>Paresthesia</b>	Pain	-
<b>Swelling</b>	+	-
<b>Drainage</b>	+ (Fluctuation)	-
<b>Shape</b>	Well-defined, smooth, scalloped, multilocular, corticated margin	Often well-defined, unilocular or multilocular, may with corticated margin
<b>Bony expansion</b>	-	+
<b>Teeth displacement /root resorption</b>	+	+
<b>Duration</b>	Suspected 7 years	Slow

# Central giant cell granuloma

	Our case	Nonaggressive( most)	Aggressive
<b>Gender</b>	Male	Female	
<b>Age</b>	40	<30	
<b>Site</b>	Tooth 32~46	Mandible (anterior region) frequently cross the midline	
<b>Paresthesia</b>	Pain	-	Pain
<b>Swelling</b>	+	-	+
<b>Drainage</b>	+ (Fluctuation)	-	-
<b>Shape</b>	Well-defined, smooth, scalloped, multilocular, corticated margin	Well-defined, unilocular or multilocular, non-corticated margin	
<b>Bony expansion</b>	-	-	+
<b>Teeth displacement /root resorption</b>	+	-	+
<b>Duration</b>	Suspected 7 years	Slow	Rapid

# Aneurysmal bone cyst

	Our case	Aneurysmal bone cyst
<b>Gender</b>	Male	Equal
<b>Age</b>	40	<30
<b>Site</b>	32~46	Posterior of jaw
<b>Paresthesia</b>	Pain	Often
<b>Swelling</b>	+	+
<b>Drainage</b>	+ (Fluctuation)	+
<b>Shape</b>	Well-defined, smooth, scalloped, multilocular, corticated margin	Well- defined or diffuse, unilocular or multilocular, often with marked cortical expansion and thinning
<b>Bony expansion</b>	-	+
<b>Teeth displacement /root resorption</b>	+	+
<b>Duration</b>	Suspected 7 years	Rapid

# Clinical Impression

- Keratocystic odontogenic tumor, over tooth 32~46

# Treatment course

- ◎ 100. 11. 08
  1. Return to OS and the lesion was found expanded from tooth 41 to 46
  2. Incisional biopsy was immediately taken and visit in next week
- ◎ 100.11.15
  1. Pathology finding: Keratocystic odontogenic tumor
  2. Suture removal of biopsy



# Treatment Course

- ◎ 100.11.22
  1. Decompression and extraction of tooth 42
  2. Bone trimming and flap reflection over 42 labial side for enlargement of socket wall near gingiva .Soft tissue sent to HP for examination
- ◎ 100.11.29~5.15
  - Wound irrigation and instruction
  - Follow up every 6weeks

# Treatment Course

- ① 101.4.24  
CT was arranged and pano was taken
- ② 101.6.27  
Pre-operative examination
- ③ 101.7.6  
Op : bone tumor excision + bone graft repair +  
complicated extraction of 43 44
- ④ 101.7.6~7.18  
Suture removal + wound check

# Radiographic Examination



101.2.14

1. Multilocular RL turns into bilocular RL with more RO in the lesion indicated new bone formation
2. Tooth42 extracted in 100/11/22
3. Size of lesion decreased

# Radiographic Examination

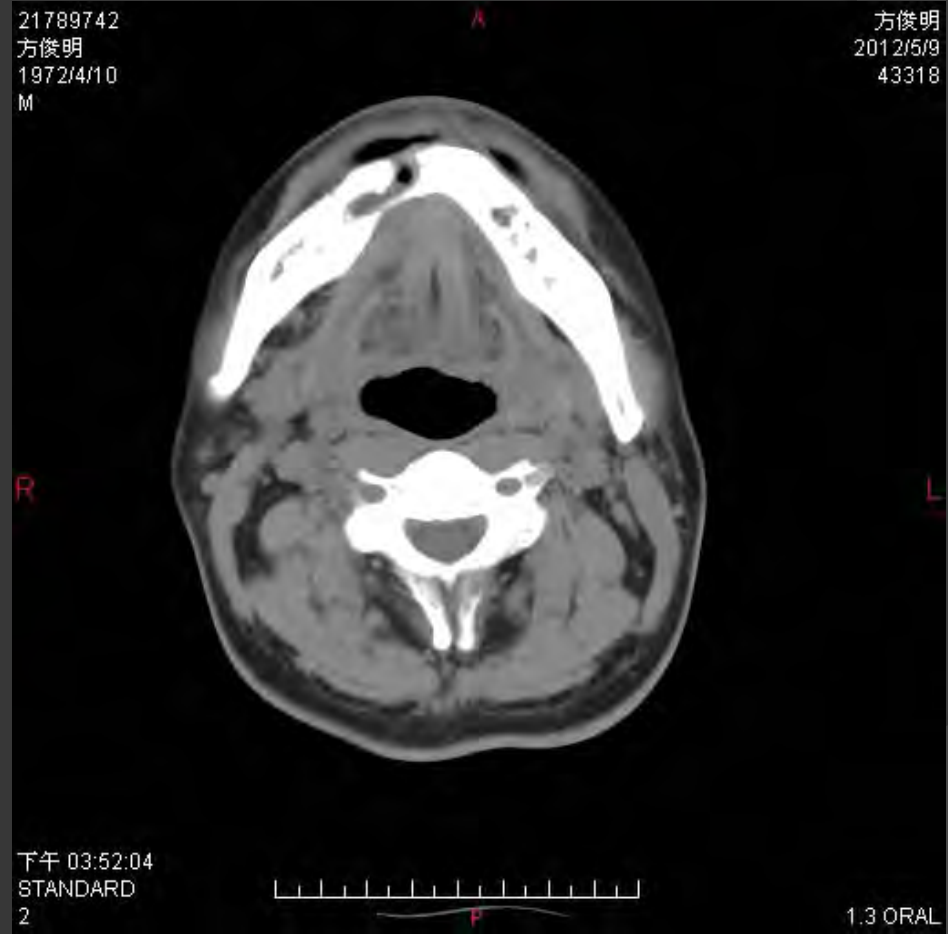


101.4.24

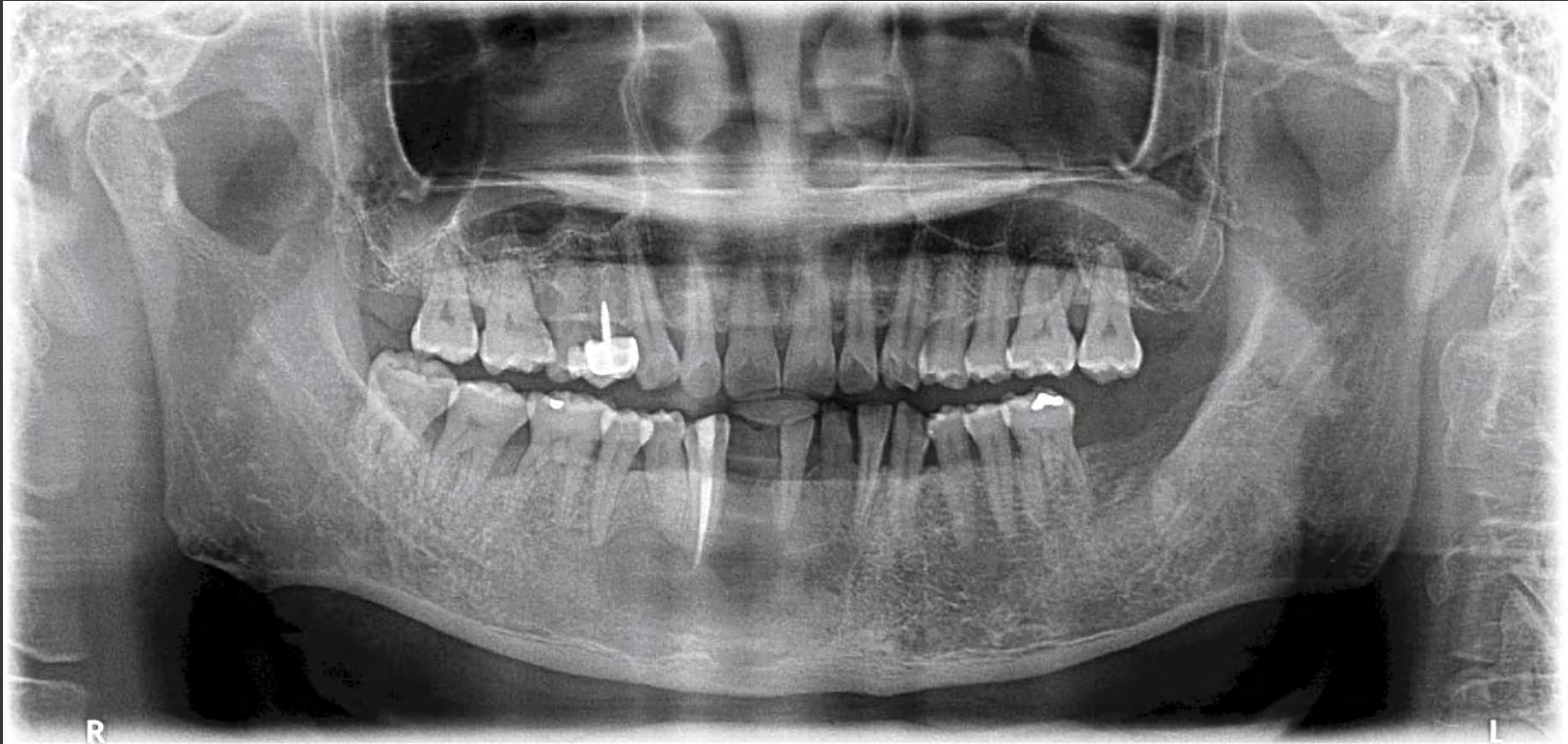
A well-defined unilocular round-shaped radiolucence between tooth 31 and 43, from 2/3 portion of root to root apex of 43, measuring about 1x0.5cm lesion remain. Tooth 43 has been displaced into tooth 42 and continuous bone formation can be noted between tooth apex 32 to 46  
✓ Suspect of bony perforates so CT was arranged

# Image Finding – CT

- ⦿ An unilocular cystic lesion (2.6x0.9x1.0 cm) with cortical breakthrough at right mandibular body. DDx: radicular cyst, odontogenic keratocyst  
Recommend clinical correlation.
- ⦿ Retention cysts in the left maxillary sinus



# Radiographic Examination

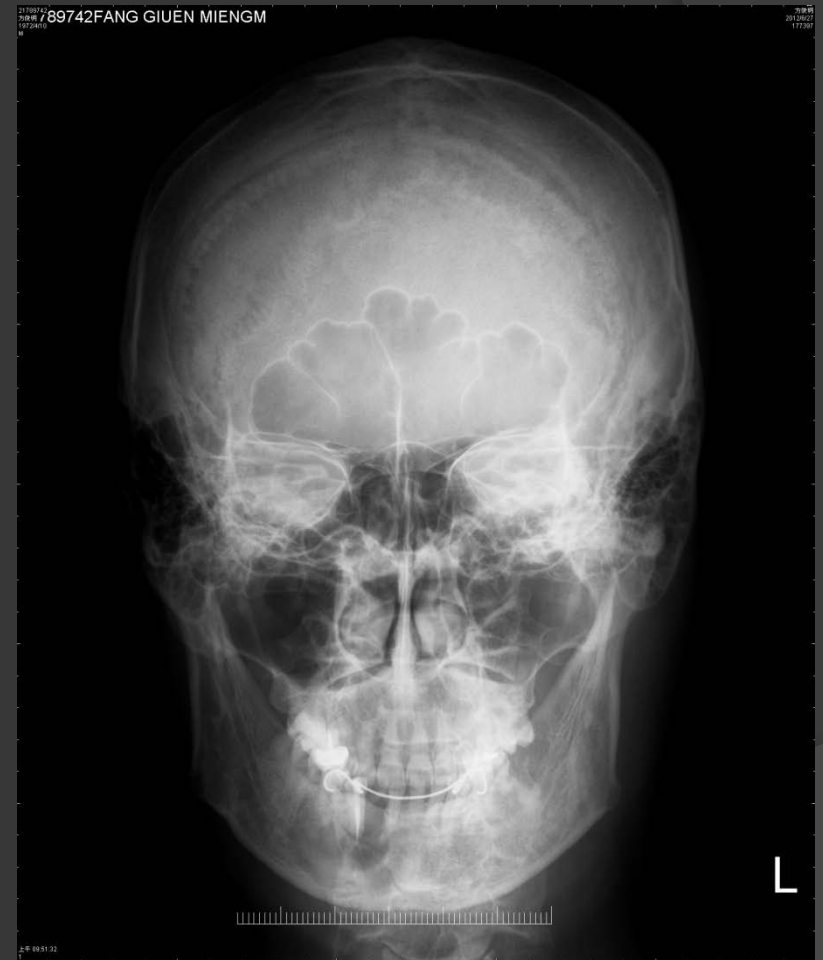


101.6.27

1. An unremarkable poorly defined radiolucence between apex of tooth 31 and 43
2. Multilocular radiolucence disappears
3. Shrinkage of cyst but suspect of cortical plate perforate

# Skull AP and lateral views

- Image findings:  
There was solitary, unilocular cystic lesion with cortical breakthrough at right mandibular body. The orbits appeared unremarkable.
- Impressions:  
An unilocular cystic lesion with cortical breakthrough at right mandibular body. Recommend clinical correlation.



# PA View of the Chest

- The heart size is not enlarged.
- The aorta and great vessels are unremarkable.
- No active lung consolidation is noted.
- The hila and mediastinum are unremarkable.
- The costophrenic sulci are clear.
- The thoracic cage is intact.
- Impression:  
No imaging evidence of active cardiopulmonary disease.

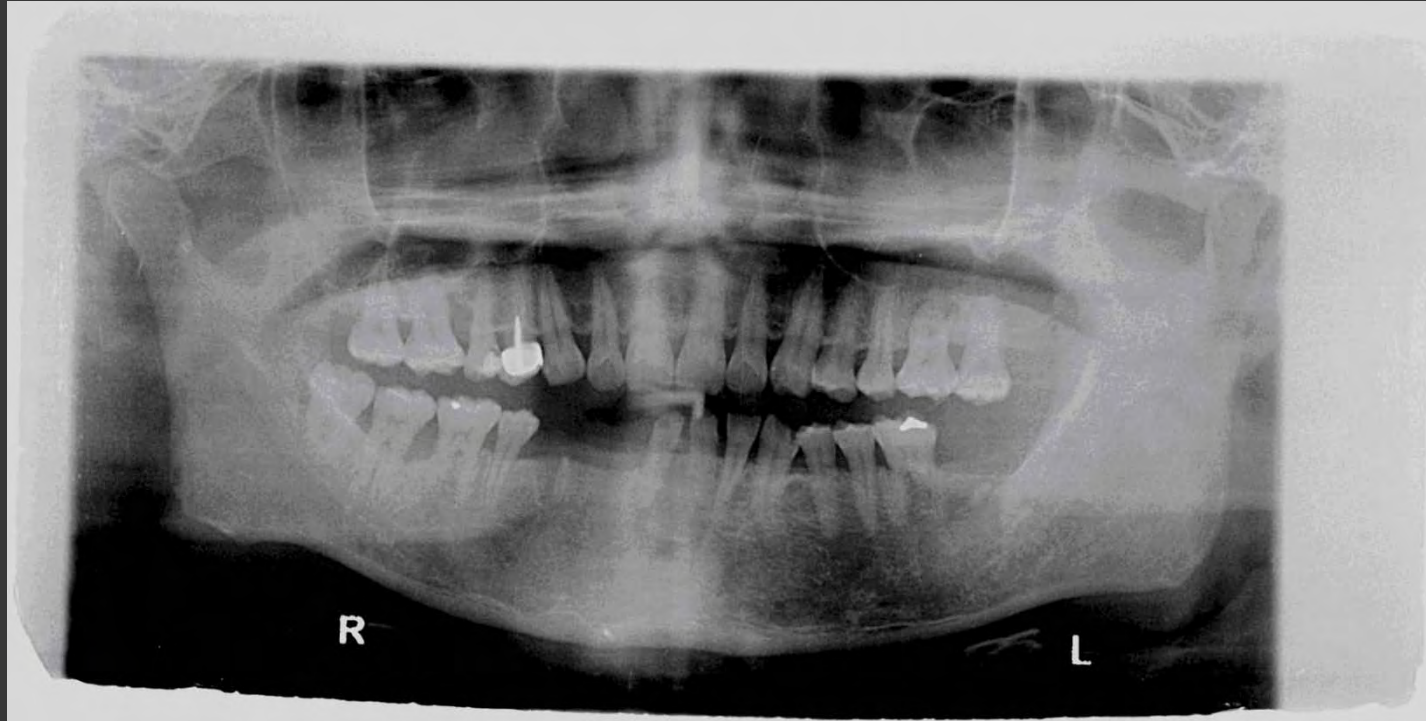




# Operation method

- Bone tumor excision + bone graft 2.5cc  
+ tooth 43 44 extraction

# Radiographic Examination



101.7.7

1. Lesion disappeared after excision and tooth extraction of 43 44
2. Right mandibular canal can be seen

# Pathologic diagnosis --101/7/9--

- ⦿ Bone, mandible, tooth 32-46 apical area, excision, keratocystic odontogenic tumor

- ⦿ **Gross Examination:**

The specimen submitted consists of 1 soft tissue fragment in 1 bag, measuring up to 1.8 x 1.5 x 0.7 cm in size, in fresh state. Grossly, it is gray in color and firm in consistency.

- ⦿ **Microscopic Examination:**

The slide contains two identical groups of irregular-shaped soft tissue specimens. Microscopically, it **shows keratocystic odontogenic tumor.**

# PROGNOSIS AND TREATMENT

# Prognosis

- Thin, friable cyst wall – difficult complete removal
- Often tend to recur after treatment
- Due to
  - remain of fragments of the original cyst
  - “new” cyst developed from dental lamina
- Recurrence rate: approximately 30%

# Treatment

- ⦿ Excision + bone trimming + tooth 43.44 extraction + FDBA graft
  - Marginal or partial resection
  - Chemical cauterization

# Treatment

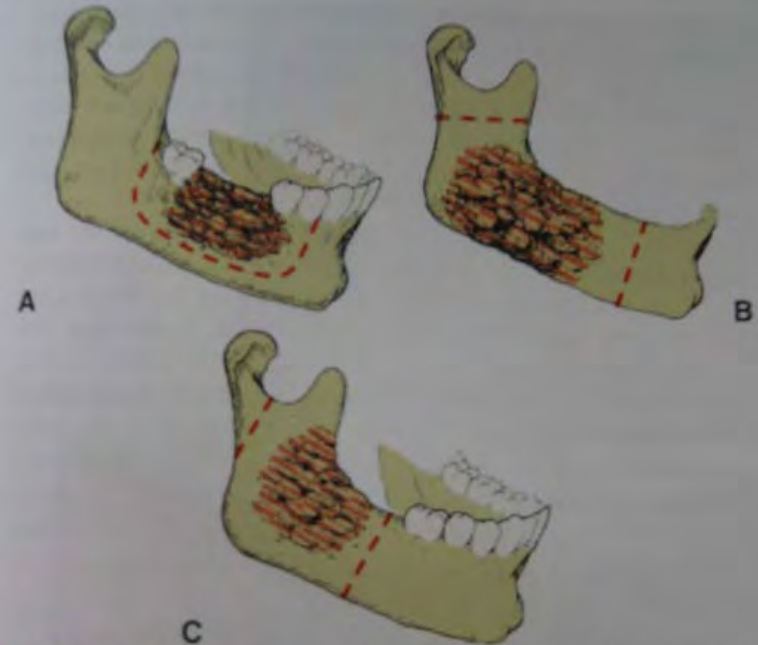
- Marginal or partial resection
- Chemical cauterization

# Marginal or partial resection

## BOX 22-1

### Types of Surgical Operations Used for the Removal of Jaw Tumors

- A. Enucleation and/or curettage: Local removal of tumor by instrumentation in direct contact with the lesion; used for very benign types of lesions
- B. Resection: Removal of a tumor by incising through uninvolved tissues around the tumor, thus delivering the tumor without direct contact during instrumentation (also known as en bloc resection)
  1. Marginal (i.e., segmental) resection: Resection of a tumor without disruption of the continuity of the bone
  2. Partial resection: Resection of a tumor by removing a full-thickness portion of the jaw (In the mandible, this can vary from a small continuity defect to a hemimandibulectomy. Jaw continuity is disrupted.)
  3. Total resection: Resection of a tumor by removal of the involved bone (e.g., maxillectomy and mandibulectomy)
  4. Composite resection: Resection of a tumor with bone, adjacent soft tissues, and contiguous lymph node channels (This is an ablative procedure used most commonly for malignant tumors.)



**FIGURE 22-9** Common types of mandibular resection. A, Marginal or segmental resection, which does not disrupt mandibular continuity. B and C, Partial mandibular resections, which disrupt mandibular continuity. Attempts to leave mandibular condyle to facilitate reconstruction are demonstrated.



# Marginal or partial resection

**TABLE 22-1**

## Types of Jaw Tumors and Primary Treatment Modalities

Enucleation and/or Curettage	Marginal or Partial Resection	Composite Resection*
<b>ODONTOGENIC TUMORS</b>		
Odontoma	Ameloblastoma	Malignant ameloblastoma
Ameloblastic fibroma	Calcifying epithelial odontogenic tumor	Ameloblastic fibrosarcoma
Ameloblastic fibroodontoma		Ameloblastic odontosarcoma
Adenomatoid odontogenic tumor	Myxoma	Primary intraosseous carcinoma
Calcifying odontogenic cyst	Ameloblastic odontoma	
Cementoblastoma	Squamous odontogenic tumor	
Central cementifying fibroma		
<b>FIBROUS LESIONS</b>		
Central ossifying fibroma	Benign chondroblastoma	Fibrosarcoma
Fibrous dysplasia (if necessary)		Osteosarcoma
Cherubism (if necessary)		Chondrosarcoma
Central giant cell granuloma		Ewing's sarcoma
Aneurysmal bone cyst		
Osteoma		
Osteoid osteoma		
Osteoblastoma		
<b>OTHER LESIONS</b>		
Hemangioma	Hemangioma	Lymphomas
Eosinophilic granuloma		Intraosseous salivary gland malignancies
Neurilemmoma		Neurofibrosarcoma
Neurofibroma		Carcinoma that has invaded jaw
Pigmented neuroectodermal tumor		

Note: These are generalities. Treatment is individualized for each patient and each lesion.

\*These lesions are malignancies and may be treated variably. For lesions totally within the jaw, partial resection may be performed without adjacent soft tissue and lymph node dissections. Radiotherapy and chemotherapy may also play a role in the overall therapy.

# Indication

- Lesion is known to be aggressive
- When total removal by enucleation, curettage, or both would be difficult

# Technique

- Lesion and 1-cm bony margins
- Full thickness mucoperiosteal flap
- Section the bone and remove segment
- If tumor perforated the cortical plate
  - sacrifice soft tissue to eradicate tumor

# Chemical cauterization

- Carnoy's solution is composed of
  - 60% ethanol
  - 30% chloroform
  - 10% glacial acetic acid
- Applied directly following enucleation for the treatment of keratocystic odontogenic tumors



# DISCUSSION

# Nevoid basal cell carcinoma syndrome

- Also called Gorlin syndrome
- Major clinical features
  - Multiple basal cell carcinomas
  - Odontogenic keratocysts
  - Palmar/plantar pits
  - Calcified flax cerebri
  - Rib anomalies
  - Mild ocular hypertelorism

# Nevoid basal cell carcinoma syndrome

Box 15-2

## Major Clinical Features of the Nevoid Basal Cell Carcinoma Syndrome

### 50% OR GREATER FREQUENCY

- Multiple basal cell carcinomas
- Odontogenic keratocysts
- Epidermal cysts of the skin
- Palmar/plantar pits
- Calcified falx cerebri
- Enlarged head circumference
- Rib anomalies (splayed, fused, partially missing, bifid)
- Mild ocular hypertelorism
- Spina bifida occulta of cervical or thoracic vertebrae

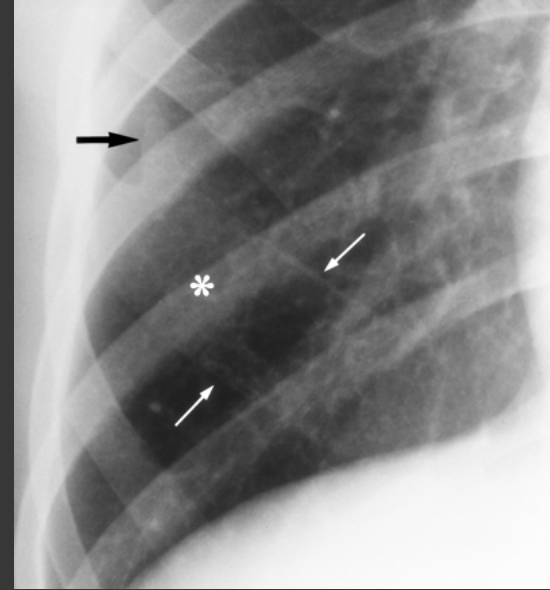
### 15% TO 49% FREQUENCY

- Calcified ovarian fibromas
- Short fourth metacarpals
- Kyphoscoliosis or other vertebral anomalies
- Pectus excavatum or carinatum
- Strabismus (exotropia)

### LESS THAN 15% FREQUENCY (BUT NOT RANDOM)

- Medulloblastoma
- Meningioma
- Lymphomesenteric cysts
- Cardiac fibroma
- Fetal rhabdomyoma
- Marfanoid build
- Cleft lip and/or palate
- Hypogonadism in males
- Mental retardation

# Nevoid basal cell carcinoma syndrome





# Treatment and prognosis

- Most anomalies are minor, not life threatening
- Prognosis depends on the behavior of skin tumors

# 醫學倫理與病人安全

# 醫學倫理與病人安全

- 醫學倫理：一種道德思考、判斷和決策，以倫理學的觀點出發，以期能做出對病人最有利益、最能符合道德倫理規範的醫療決策
- 醫病關係的轉變：醫師中心模式轉變為病人中心模式 (physician-centered model → patientcentered model)

# 醫學倫理原則

- ◎ 由Tom Beauchamp & James Childress在1979提出
- ◎ 自主原則(Autonomy)
- ◎ 不傷害原則(Non-maleficence)
- ◎ 行善原則(Beneficence)
- ◎ 公義原則(Justice)

# 自主原則(Autonomy)

- 原則：一位具理性思考能力的病人，在完全瞭解醫療處置方針的利弊得失下，有權決定自己的行為，包括決定及選擇醫療專業人員和治療方式
- 臨床意義
  - (1) 病人之自主行為不應遭受他人之操控或干預
  - (2) 指醫療人員應提供充分且適當之資訊，以促成病人針對診療方式主動作一抉擇

# 不傷害原則(Non-maleficence)

- 源自希波克拉底之醫師誓約，即醫師之職責：  
「最首要的是不傷害」
- 原則：不殺害病人、不能侵害病人權益和福祉以及平衡利害得失，使痛苦減到最低
- 臨床意義
  - (1) 醫療上是必須的，或是屬於醫療適應症範圍，因所施行的各種檢查或治療而帶來的傷害應符合不傷害原則
  - (2) 權衡利害原則 → 兩害相權取其輕
  - (3) 保護病人的生命安全

# 行善原則(Beneficence)

- 原則：行善原則包括不傷害原則的反面義務(不應該做的事)和確有助益的正面義務(應該做的事)，包括維護和促進病人的健康、利益和福祉，為基本倫理原則，也是醫護人員的基本義務
- 臨床意義
  - (1) 勿施傷害：不得故意對他人施予傷害或惡行
  - (2) 預防傷害：應該預防傷害或惡行
  - (3) 移除傷害：應該移除傷害或惡行
  - (4) 維持善行：應該致力於行事或維持善行

# 公義原則(Justice)

- 原則：強調資源合理分配、賞罰分明以及合乎正義之事。醫療上公平原則指基於正義與公道，以公平合理的態度來對待病人、病人家屬和受影響的社會大眾
- 臨床意義
  - (1) 公平地分配不足的資源
  - (2) 尊重病人的基本權利
  - (3) 尊重道德允許的法律,法律之前人人平等
  - (4) 先來先服務與急重症優先



# 臨床案例討論

- ◎ X光照射量在醫療上對病人的影響
- ◎ 47歲陳先生於今年5月時前往小港醫院接受全口14張X-ray拍攝，由一名clerk為其拍攝，由於該生未熟悉拍攝方法與技巧導致多張拍攝失敗，且當時報章雜誌報導牙科X-ray對腦部有不好影響，故陳先生放棄重新拍攝並離開診間

# 輻射劑量對一般民眾的影響

- 一次牙科單齒X光攝影劑量：0.005毫西弗
- 一次頭部X光攝影劑量：0.01毫西弗
- 台北搭飛機往返美國西岸一趟劑量：0.09毫西弗
- 台灣地區民眾每年接受天然背景輻射劑量：1.6 毫西弗
- 一次胸部電腦斷層掃描劑量：7毫西弗

(註：1西弗=1000毫西弗 1毫西弗=1000微西弗)

# 報章雜誌對牙科X光的說法

## ● 牙科X光易致腦膜瘤 (天下雜誌 2012.04)

耶魯大學Elizabeth Claus的研究顯示，你可能是對的。富有國家裡，每20萬個男人就有5人患有腦膜瘤，女性患病率則是男性的2倍；只有2%的腦膜瘤是惡性腫瘤，但良性腦膜瘤還是會致命，約30%的人會在診斷出良性腦膜瘤後5年內死亡。

由過去的研究來看，腦膜瘤最重要的成因是游離輻射，而在今日，游離輻射最重要的來源既非核戰、也不是放射線治療，而是牙科的X光。令人意外的是，這方面的研究並不多，Claus博士和她的同事試圖填補這個缺口，他們研究了1433名患有腦膜瘤的美國人，並與1350名年齡、性別、居住地組成相似、但沒有腦膜瘤的人進行比較。

結果發現，腦膜瘤患者曾接受過至少一次牙科X光照射的機會，是非腦膜瘤患者的2倍。更讓人擔心的是，曾在十歲以下接受過環口放射線影像檢查 (panorex) 的人，出現腦膜瘤的機率是正常風險的4.9倍。

Claus博士指出，過去30多年，牙科X光的輻射劑量已經減少約一半；少部分牙醫改用輻射量更低的數位式檢查，但其他牙醫則使用錐束電腦斷層等輻射水準較高的新技術。

此外，美國牙醫協會的指導方針指出，健康成人每二或三年最多只能接受一次牙科咬翼片X光檢查，沒有相關症狀的病人也不該接受X光檢查。但如果Claus博士的研究對象沒有說謊，那就表示部分牙醫並未遵照此指導方針；大多數研究對象表示自己每年至少接受一次X光檢查。X光有其危險性，牙醫應該只在必要時使用，擔心健康的病人也不見得是在胡思亂想。

# 醫源性傷害

- ◎ 由資料顯示，全口14張X-ray總照射劑量約0.07毫西弗，而台灣民眾每年接受的天然背景輻射約為1.6毫西弗，換算起來每天接受的輻射量約為0.044毫西弗。至於目前尚無更多證據顯示出腦膜瘤確實和頭頸部X-ray照射有關

# 此案例違背了哪些原則？

- ◎ 自主原則(Autonomy)：該生並未告知病人自己為實習醫學生，所以使病人無法選擇是否要讓clerk為其拍攝X-ray
- ◎ 不傷害原則(Non-maleficence)：由於不純熟的技巧導致多張拍攝失敗而需要重照，會使病人暴露於比原先預期更多的輻射量中，違反ALARA原則

# 總述

- ◎ 在這一年的intern生涯中要學習的不只是臨床技術與學識，更重要的還有對病人的安全與醫學倫理方面的學問，空有良好的技能與知識卻無法合乎倫理的對待病人，充其量只能算是一台醫療機器而非醫師，期許未來的這一年我們能做得更好

**THANKS FOR YOUR ATTENTION!**