# Case Report

Intern G組 林宜穎 謝宗叡 呂冠緯 郭仕斌

Date：101/03/27

Director：陳玉昆醫師 暨

口腔病理診斷科全體醫師

# General data

- Name：林XX
- Chart number ： 27******6
- Gender：Female
- Age：37 y/o
- Native ： Kaohsiung
- Marital status ： Unmarried
- Birthday ： 63.03.29
- First visit ： 100.11.11
- Attending VS：陳靜怡

# Chief Complaint

- Pain and swelling over lower left jaw for 2-3 weeks; referred from 大華牙科診所

# Present Illness

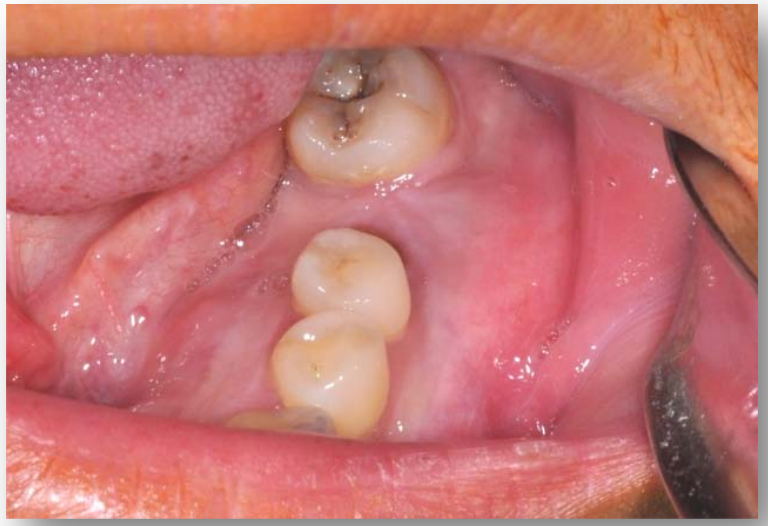
- The 37 y/o female felt discomfort over lower left teeth but ignored it. 2 to 3 weeks after(100/11/11), a swelling mass was noted over lower left area of her mandible.
- She went to 大華牙科診所 for examination and took a panorex:
  The dentist found a lesion over her lower left jaw and referred her to our OPD for further diagnosis.

# Extraoral findings

- Lower left facial swelling
  - Consistency: firm to hard
  - Redness (-)
  - Local heat (-)
  - Pain (+)

# Intraoral findings

- Gingival swelling and ridge expansion (bucco-ligually) from tooth 32 to 37, about 8.0 x 4.0 cm in diameter
- Lower left vestibule shallow
- Consistency: firm to hard
- Color: coral-pink
- Fluctuation(-)
- Pain(+), Tenderness (+)
- Tooth mobility:
  - 34, 35 mobility Grade II
  - 37 38 mobility Grade I



- EPT test (tooth 43 to 38 except 36):
  - 31(-), 33(-), others (+)
- Percussion pain : tooth 31 to 37 (+), except 36

# Medical and Dental History

## Medical History

- Systemic disease: denied
- Hospitalization: denied
- Food and drug allergy: denied

## Dental History

- OD restoration

# Medical and Dental History

Oral risk factors

- Alcohol drinking: (-)
- Betel nuts chewing: (-)
- Cigarette smoking: (-)

Oral Habits: denied any special oral habits

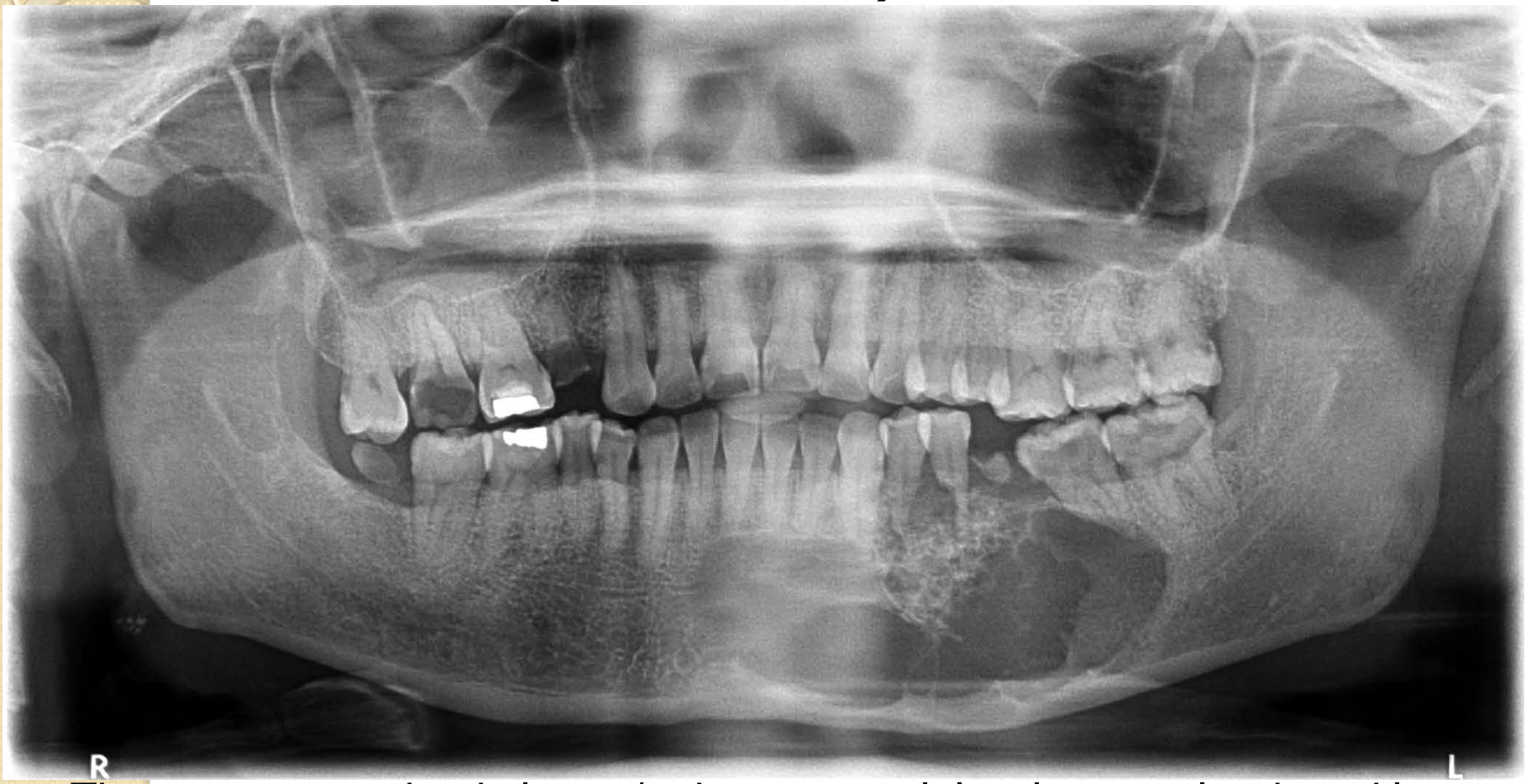
Attitude to dental treatment : fair to cooperative

# Dental examination

- Caries : tooth 17, 26, 27
- Missing: tooth 14
- Residual root: tooth 15, 36, 48
- OD Filling : tooth 16, 46 amalgam filling
- Tooth 18, 45 supra-eruption
- Tooth 37, 38 mesial tilting

# Radiographic Examination

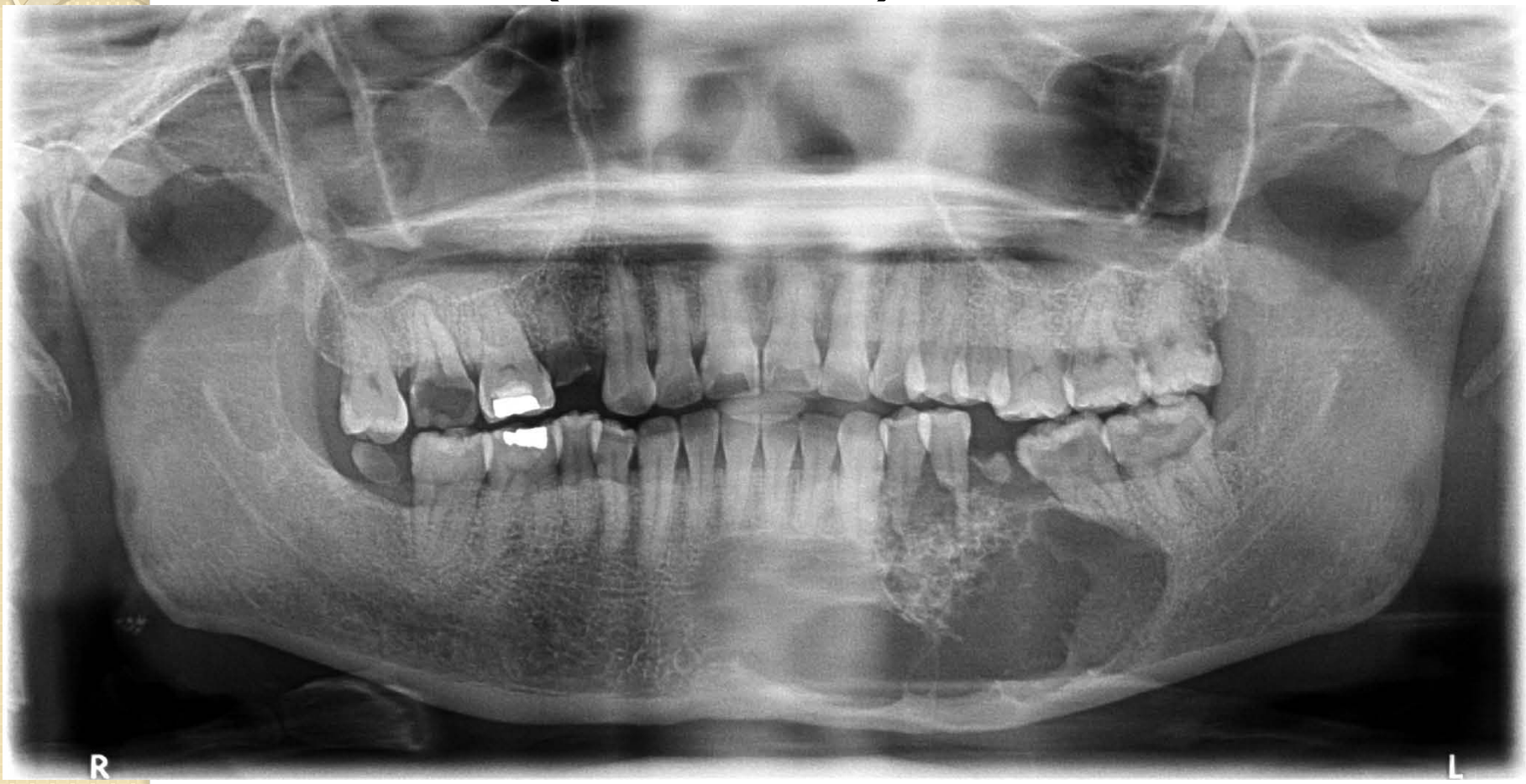
- **Panorex (100/11/11)**




There was a mixed radiolucent/radiopaque, multilocular, irregular-shaped lesion over lower L't mandible; the border of it was well-defined and corticated. Approximately 8.5*4.0 cm in diameter, the lesion extended from tooth 42 to distal of tooth 37, and from top of alveolar ridge down to the inferior border of mandible.

# Radiographic Examination

- **Panorex (100/11/11)**

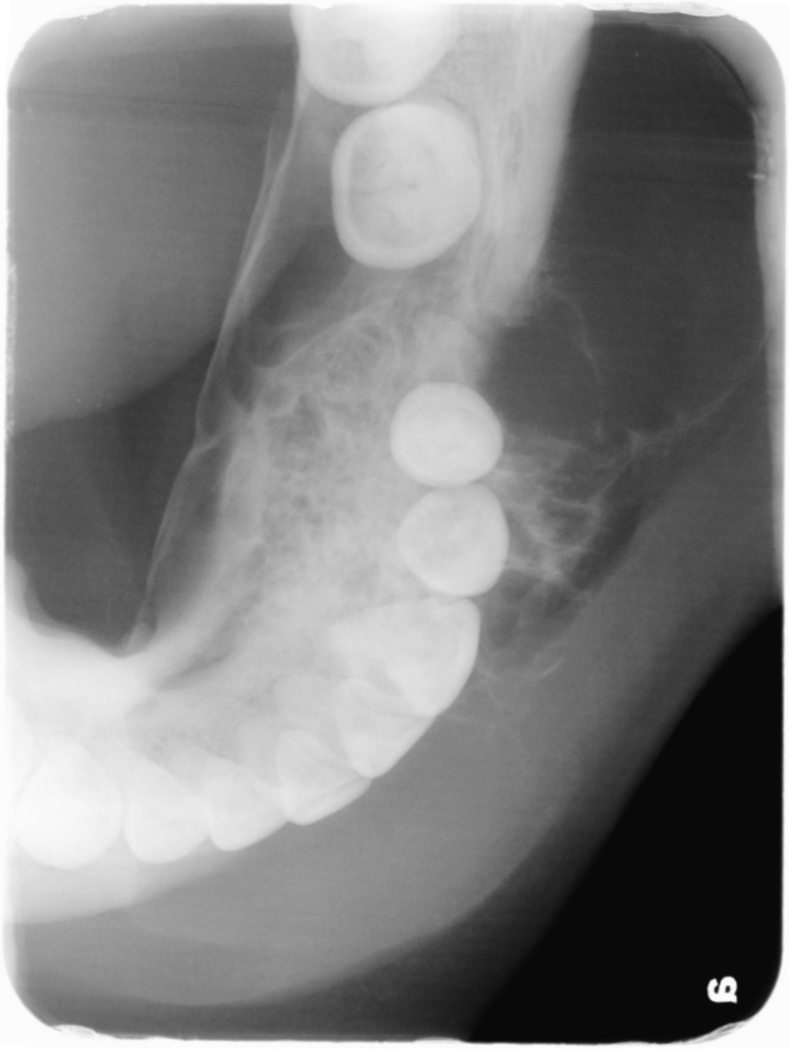



Root resorptions of tooth 34, 35, 37 and residual root of 36 were identified.
Vertical bone expansion was also noticed.
Left mandibular canal downward displacement was suspected.

# Radiographic Examination

- **Occulsal film (100/11/11)**

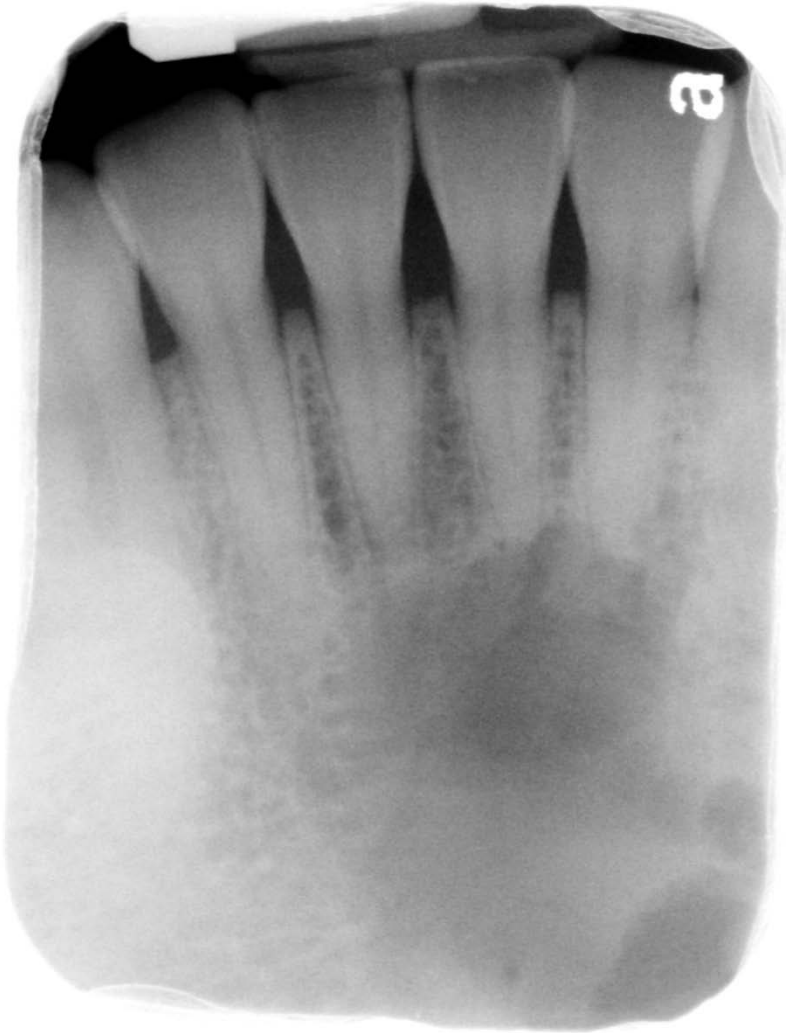
There was a mixed radiolucent/ radiopaque, multilocular, irregular-shaped lesion over lower L't mandible; the margin of it was well-defined but not obviously identified from this film except the inner corticated border.
It was measured to be approximately 4.0 cm buccolingually and 6.0 cm mesiodistally, from mesial of tooth 42 to tooth 38.
Distobuccal border was exceeded out of this film thus could not be recognized.



# Radiographic Examination

- **periapical film over tooth 31 (100/11/11)**

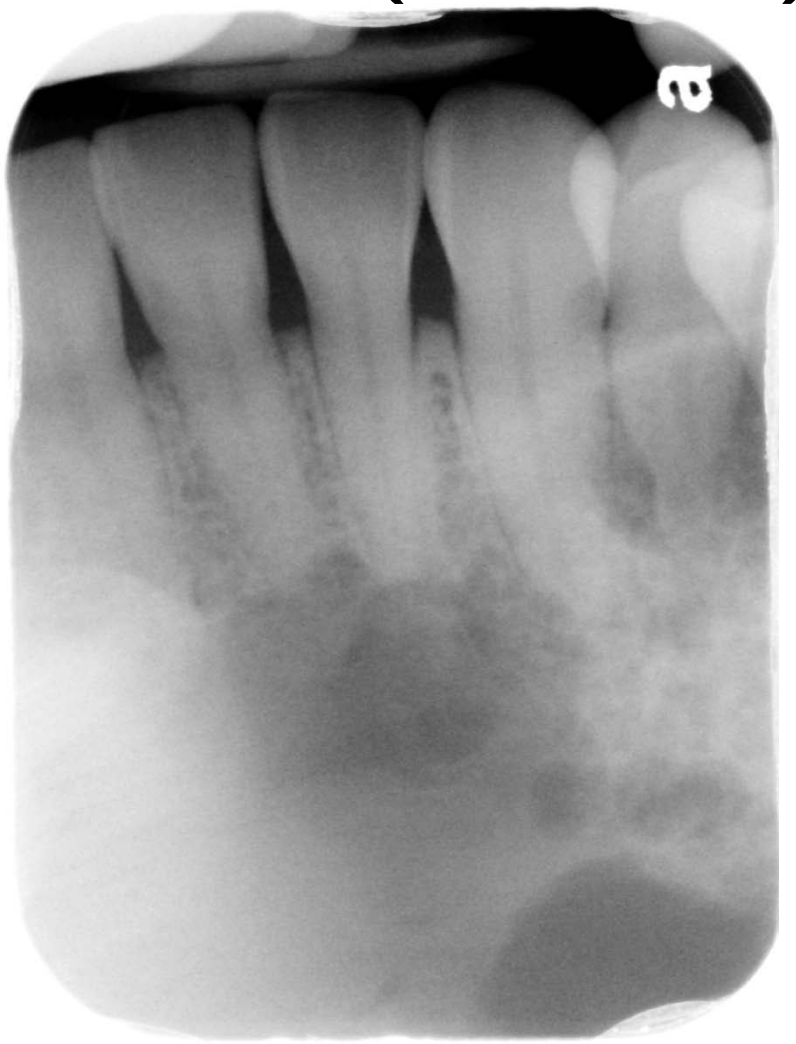
Part of this multilocular, mixed radiolucent/ radiopque lesion could be seen from this film. The mesiosuperior border of it could be identified. But the mesial margin was blur and ill-defined. Lamina dura of tooth 41, 31, 32 seemed to be disappeared at the apex.



# Radiographic Examination

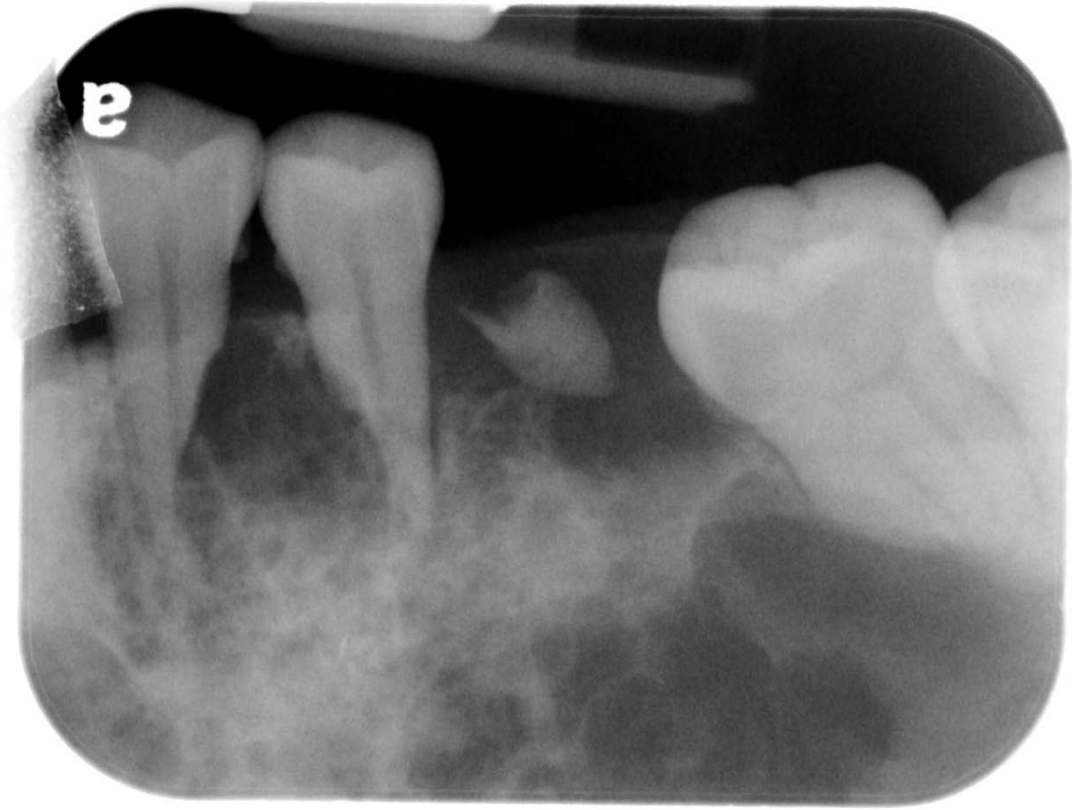
- **periapical film over tooth 33 (100/11/11)**

Part of this multilocular, mixed radiolucent/ radiopque lesion could be seen from this film. Lamina dura and PDL space of tooth 33 seemed to be disappeared at the apex. Radiopaque image was noticed beneath the apical region of tooth 33 and 34, appeared like a small zone of sclerotic-like bone or existence of calcified substances.



# Radiographic Examination

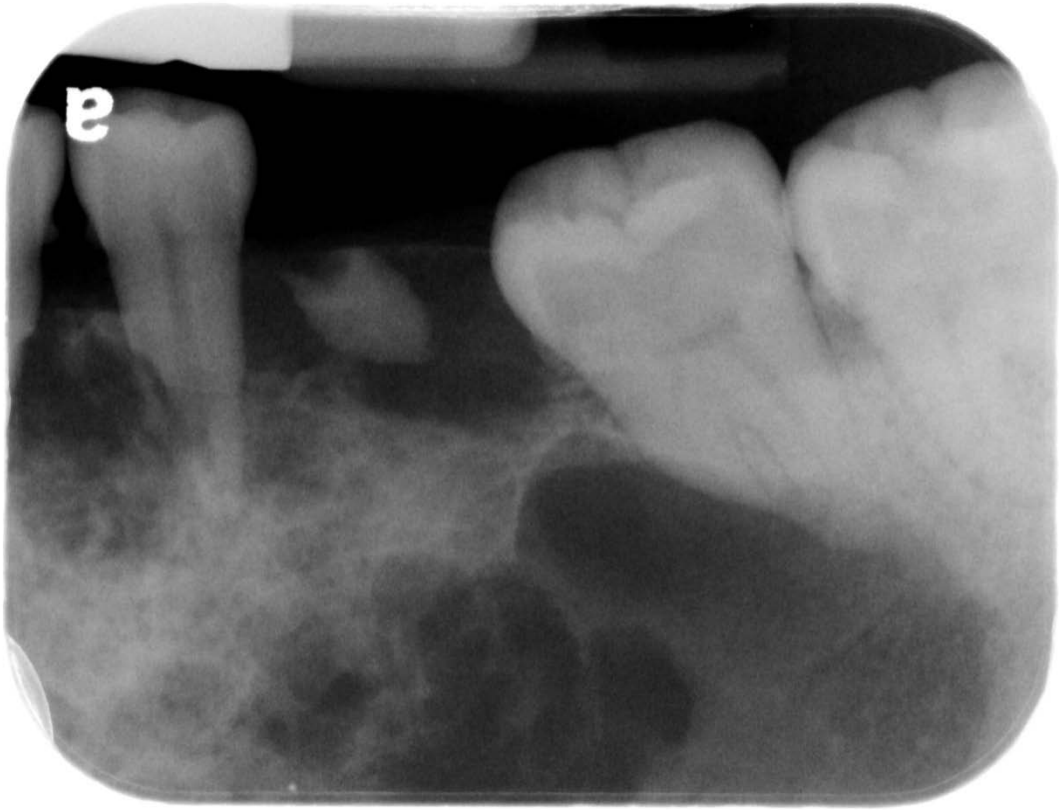
- **periapical film over tooth 34 (100/11/11)**



Part of this multilocular, mixed radiolucent/ radiopque lesion could be seen from this film. Superior bony expansion was noted. A radiopque band was extended from mesial side of tooth 34 to mesial side of tooth 37. Roots of tooth 34, 35 and 37 had been resorbed. Tooth 36 was found to be a residual root.

# Radiographic Examination

- **periapical film over tooth 37 (100/11/11)**



Part of this multilocular, mixed radiolucent/ radiopque lesion could be seen from this film. The distosuperior corticated border of the lesion could be identified.

# Differential Diagnosis

- Inflammation, cyst or neoplasm?
- Benign or malignant?
- Peripheral or intrabony?

# Inflammation, cyst or neoplasm?

| | Our case | Inflammation | Cyst | Neoplasm |
|---|---|---|---|---|
| Color | Pink to normal | Red | Normal | Variable |
| Fever | - | + | - | - |
| Consistency | Firm to hard | Rubbery | Soft | Variable |
| Discharge | - | + | - | +/- |
| Pain | + | + | - | +/- |
| Ulceration | - | - | - | + |
| Mobility | Fixed | Fixed | Fixed | Fixed |
| Duration | Unknown | Days | Years | Months |
| Bony destruction or expansion | + | - | + | + |

Cyst or neoplasm

# Benign or malignant?

| | Our case | Benign | Malignant |
|---|---|---|---|
| Surface | Smooth | Smooth | Rough |
| Ulceration | - | - | + |
| X-ray margin | Well-defined | Well-defined | Poor-defined |
| Mobility | Fixed | Movable | Fixed |
| LAP | - | - | + |
| Duration | Unknown | Years | Months |

Benign

# Peripheral or intrabony?

| | Our case | Peripheral | Intrabony |
|---|---|---|---|
| Consistency | Firm to hard | Rubbery | Firm |
| Ulceration | - | +/- | + |
| X-ray margin | Well-defined | Poor-defined | Well-defined |
| Induration | - | + | - |
| Mobility | Fixed | Fixed | Fixed |
| Bony destruction or expansion | + | - | + |

Intrabony

# Working diagnosis

Intrabony benign tumor or cyst

- Benign Tumor
  - Odontogenic
    - Ameloblastoma
    - Calcifying epithelial odontogenic tumor(CEOT), Pindborg tumor
    - Odontogenic myxoma
  - Non-odontogenic
    - Central giant cell granuloma
- Cyst
  - Odontogenic keratocyst
  - Calcifying Odontogenic Cyst (Gorlin Cyst)

# Working diagnosis

- The List(more possible → less)
  - Ameloblastoma (Desmoplastic type)
  - Odontogenic keratocyst ,hybrid Ameloblastic Fibro-odontoma
  - Calcifying Epithelial Odontogenic Tumor(CEOT), Pindborg Tumor
  - Calcifying Odontogenic Cyst (Gorlin Cyst)
  - Odontogenic myxoma
  - Central giant cell granuloma

# Ameloblastoma

- Etiology
  - A tumor of Odontogenic epithelium
- Ameloblastoma (Desmoplastic type)
  - Dense fibrous stroma
  - Radiographic features : R/L+R/O

# Ameloblastoma

| | Our Case | Ameloblastoma (Desmoplastic type) |
|---|---|---|
| Gender | Female | Both |
| Age | 37 y/o | 20~70 y/o |
| Site | Left mandibular body and symphysis<br>Cross the Midline | Anterior maxilla |
| Symptom/Sign | Swelling and pain | Rare pain or parethesia |
| Effects | Bony destruction and expansion<br>Teeth displacement and root resorption | Adjacent teeth displaced, loosened, often resorbed, extensive expansion in all directions |

# Ameloblastoma

| Radiographic features | Our case | Ameloblastoma (Desmoplastic type) |
|---|---|---|
| Density | R/L+R/O | R/L+R/O(Dense fibrous septa) |
| Border | Well-defined with corticated margin | Scalloped, well-defined, well-corticated |
| Shape | Multilocular, soap-bubble | Multilocular (soap-bubble or honeycombed) |

# Odontogenic keratocyst

- Etiology
  - Derived from dental lamina

# Odontogenic keratocyst ,hybrid Ameloblastic Fibro-odontoma

| | Our Case | Odontogenic keratocyst | Ameloblastic Fibro-odontoma |
|---|---|---|---|
| Gender | Female | Male>=Female | Both |
| Age | 37 y/o | 10~40 y/o | 10 y/o |
| Site | Left mandibular body and symphysis Cross the Midline | 60~80% posterior mandible | Posterior mandible |
| Symptom/Sign | Swelling and pain | If large→Swelling and pain | Painless swelling |
| Effects | Bony destruction and expansion Teeth displacement and root resorption | Rare root resorption 25~40% with unerupted tooth | Most with unerupted tooth |

# Odontogenic keratocyst ,hybrid Ameloblastic Fibro-odontoma

| Radiographic features | Our case | Odontogenic keratocyst | Ameloblastic Fibro-odontoma |
|---|---|---|---|
| Density | R/L+R/O | R/L | R/L+R/O |
| Border | Well-defined with corticated margin | Well-defined with corticated margin | Well-circumscribed |
| Shape | Multilocular, soap-bubble | Uni-/Multilocular | Most unilocular Rarely Multilocular |

# Calcifying Epithelial Odontogenic Tumor(CEOT), Pindborg Tumor

- Etiology
  - A tumor of odontogenic origin
  - The histogenesis is uncertain
  - Arises possibly from
    - Lamina remnants
    - Stratum Intermedium of enamel organ

# Calcifying Epithelial Odontogenic Tumor(CEOT), Pindborg Tumor

| | Our case | CEOT |
|---|---|---|
| Gender | Female | Not predominant |
| Age | 37 y/o | 30-50 y/o |
| Site | Left mandibular body and symphysis<br>Cross the Midline | Most on Mandible(57%) |
| Symptom/Sign | Swelling and pain | Slow-growing swelling<br>Painless |
| Effect | Bony destruction and expansion<br>Teeth displacement and root resorption | Bony destruction and expansion |

# Calcifying Epithelial Odontogenic Tumor(CEOT), Pindborg Tumor

| Radiographic features | Our case | CEOT |
|---|---|---|
| Density | R/O + R/L | R/O + R/L |
| Border | Well-defined<br>corticated margin | Well-defined<br>20% corticated margin<br>(20% Ill-defined)<br>Scalloped |
| Shape | Multilocular<br>soap-bubble | Unilocular<br>Multilocular<br>soap-bubble<br>Often with impacted 3rd molar<br>Driven snow appearance |

# Calcifying Odontogenic Cyst (Gorlin Cyst)

- Etiology
  - Rare uncommon lesion among odontogenic cysts
- Clinical behavior
  - Variable, some are more like neoplasm

# Calcifying Odontogenic Cyst (Gorlin Cyst)

| | Our case | Calcifying Odontogenic Cyst (Gorlin Cyst) |
|---|---|---|
| Gender | Female | No predominant |
| Age | 37 y/o | Diagnosed between 20-30y/o, average 33 y/o |
| Site | Left mandibular body and symphysis<br>Cross the Midline | No predominant on Mandible or Maxilla<br>Most on Incisors and Canine areas(65%) |
| Symptom/Sign | Swelling and pain | Unspesific |
| Effect | Bony destruction and expansion<br>Teeth displacement and root resorption | Bony destruction and expansion<br>Teeth displacement and root resorption |

# Calcifying Odontogenic Cyst (Gorlin Cyst)

| Radiographic Features | Our case | Calcifying Odontogenic Cyst(Gorlin Cyst) |
|---|---|---|
| Density | R/L + R/O | R/L + R/O |
| Border | Well-defined with corticated margin | Well-defined |
| Shape | Multilocular | Unilocular<br>Occasionally Multilocular |

# Odontogenic Myxoma

- Etiology
  - A tumor of odontogenic ectomesenchyme
  - Mesenchymal tissue resembles the pulp tissue and dental follicle

# Odontogenic Myxoma

| | Our case | Odontogenic Myxoma |
|---|---|---|
| Gender | Female | No predominant |
| Age | 37 y/o | 25-30 y/o |
| Site | Left mandibular body and symphysis<br>Cross the Midline | Mandible |
| Symptom/Sign | Swelling and pain | Usually Painless |
| Effect | Bony destruction and expansion<br>Teeth displacement and root resorption | Bony destruction and expansion<br>Teeth displacement and root resorption |

# Odontogenic Myxoma

| Radiographic features | Our case | Odontogenic Myxoma |
|---|---|---|
| Density | R/O+R/L | R/L |
| Border | Well-defined with corticated margin | Well-defined<br>Not specific |
| Shape | Multilocular, soap-bubble | Unilocular or Multilocular<br>Soap bubble<br>Tennis rocket |

# Central Giant Cell Granuloma

- Etiology
  - Unknown, not a true neoplasm
  - (No neoplasm-like behavior)

# Central Giant Cell Granuloma

| | Our case | Central Giant Cell Granuloma |
|---|---|---|
| Gender | Female | Female |
| Age | 37 y/o | < 30 y/o |
| Site | Left mandibular body and symphysis<br>Cross the Midline | Anterior mandible<br>Cross the Midline |
| Symptom/Sign | Swelling and pain | Usually Painless |
| Effect | Bony destruction and expansion<br>Teeth displacement and root resorption | Unspecific |

# Central Giant Cell Granuloma

| Radiographic Features | Our case | Central Giant Cell Granuloma |
|---|---|---|
| Density | R/L + R/O | R/L |
| Border | Well-defined with corticated margin | Well-defined Non-corticated |
| Shape | Multilocular | Unilocular or Multilocular |

# Histological Pathologic Report

送檢時間：100/11/16　　報告時間：100/11/18　送檢醫師：許瀚仁醫師

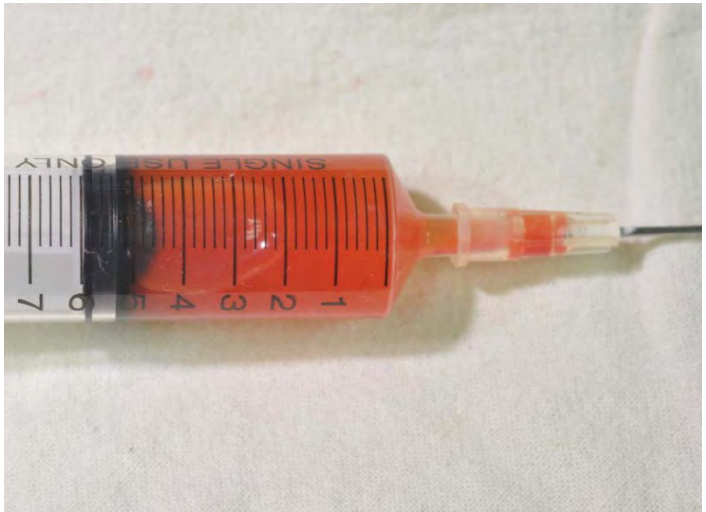
- Pathological diagnosis:
  - Bone, mandible, left, incision, compatible with odontogenic keratocyst
- Gross Examination :
  - the specimen submitted consisted of 3 soft tissue fragments in 1 bottle, measuring up to 1.0 x 0.7 x 0.3 cm, fixed in formalin. Grossly, they are brownish in color and rubbery in consistency
- Microscopic Examination :
  - The slide contains two identical groups of irregular-shaped soft tissue specimens. Microscopically, it shows a picture compatible with **odontogenic keratocyst**.

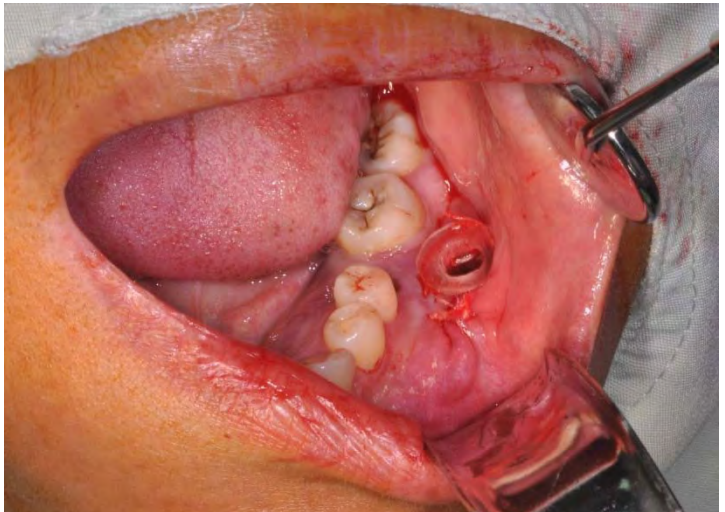
# Treatment procedure

- Fist visit at OM(100/11/11)
  - Radiographic exam : PE, pano and occlusal film
  - Clinical exam, EPT test
  - Refer to OS for biopsy

# Treatment procedure

- OS (100/11/15)
  - Incisional biopsy with decompression button placement
    - 術前已有 left lower lip numbness (+)
    - Aspiration line over left vestibular area / fluid: 稻草色
    - Rx: Amoxicillin 500mg, 1#, Q6Hx III days
      Panadol 500mg, 1#, QIDx III days





# Treatment procedure

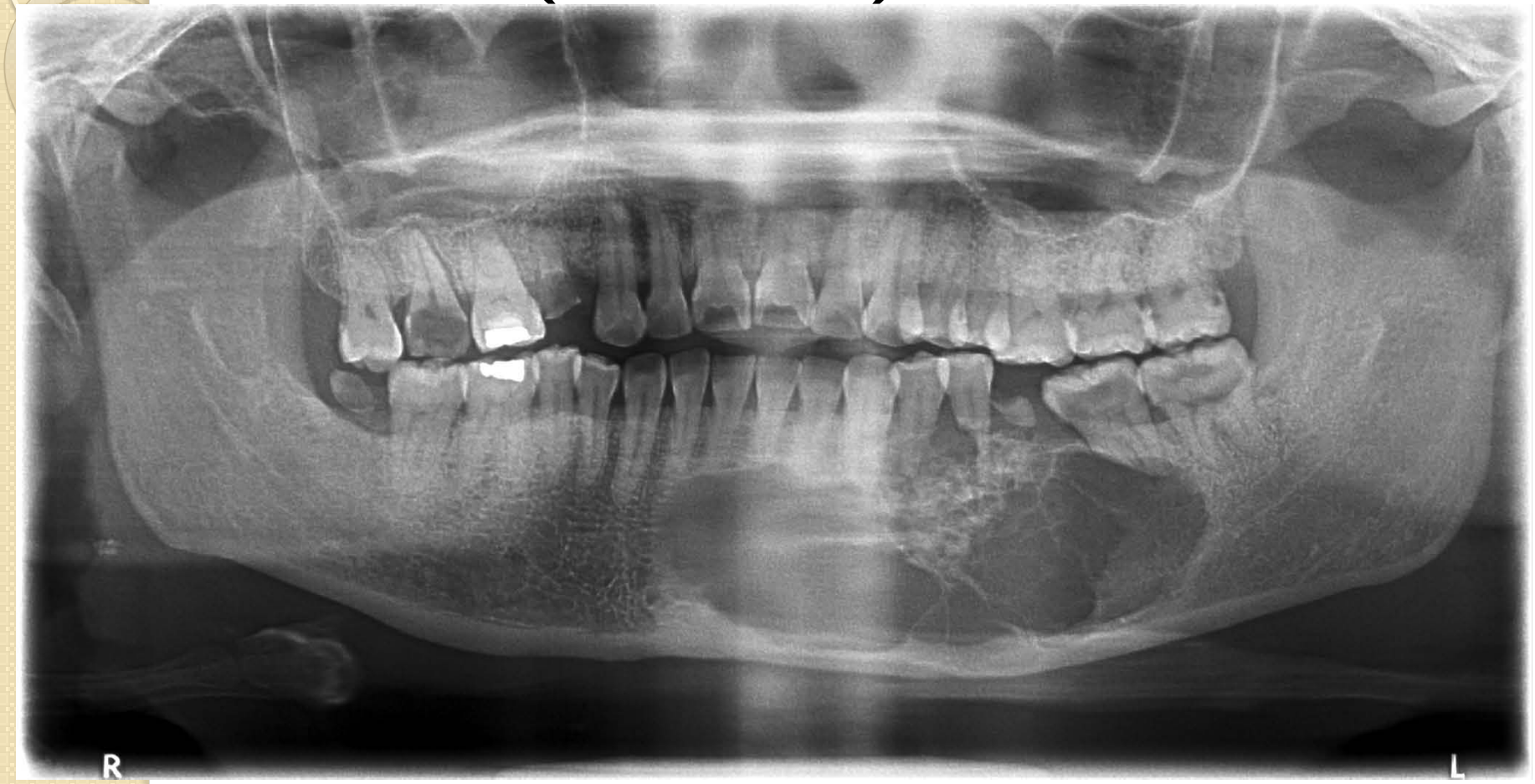
- OS (100/11/16)
  - N/S Irrigation
    - L't cheek swelling(+)
    - pus(+), debris(+), blood clot (+/-), pain(-), tenderness(+/-)
- OS (100/11/18)
  - Appointment for F/U
    - L't cheek swelling(+)
    - Rounding of decompression button due to mild irritation

# Treatment procedure

- OS (100/11/25)
  - H-P report : Odontogenic keratocyst
  - N/S Irrigation
  - Suture removal
- OS (100/12/30)
  - Check panorex :
    - No obvious size decrease
    - Mild increase in central portion of the cyst

# Radiographic Examination

- **Panorex (100/12/30)**




Compare with the original panorex, size and range of the lesion remained the same.

# Treatment procedure

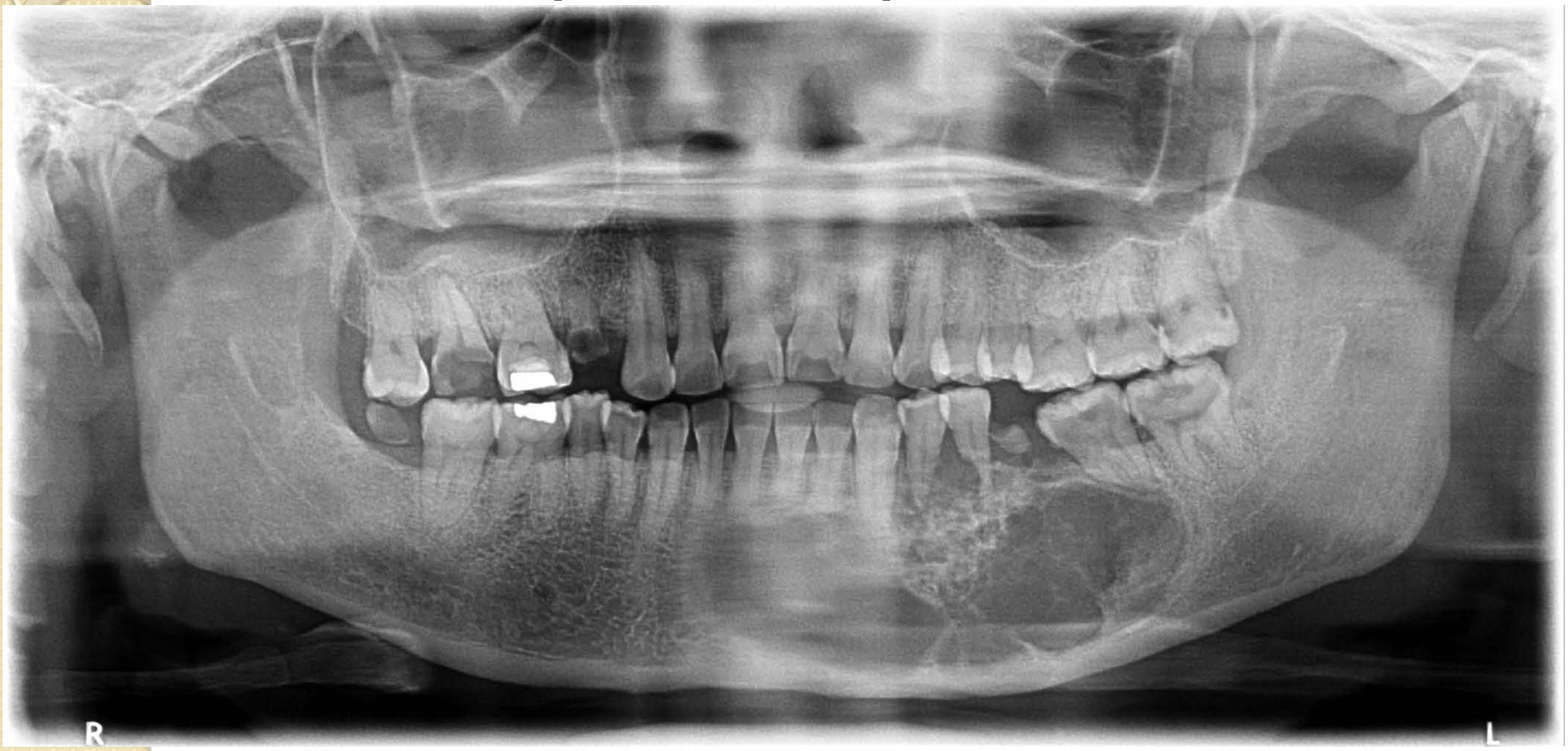
- OS (101/01/03)
  - Put 2nd decompression button over lower incisor area
    - Lesion expansion over anterior border (+)
    - Straw fluid was noted while approaching the lesion
    - Suture with silk
    - Rx: Amoxicillin 500mg, 1#, Q6Hx III days
      Panadol 500mg, 1#, QIDx III days
- OS (100/01/06)
  - Appointment for F/U
    - Check wound: OK
    - 2 decompression button (+) with normal function

# Treatment procedure

- OS (101/01/10)
  - Suture removal
- OS (101/02/10)
  - Appointment for F/U
    - Swelling over left mandible and mandibular symphysis was decreased; s/s improved
- OS (101/03/09)
  - Appointment for F/U
    - Swelling over left mandible and mandibular symphysis was decreased; s/s improved
    - Check panorex
    - NV: 2 months later, check panorex

# Radiographic Examination

- **Panorex (101/03/09)**




Compare with the previous panoramic films, the lesion was more radiopaque generally. Its size remained the same, but the border seemed to become thicker and more corticated.
Root resorption of tooth 31, 32, 41, 42 was more obvious.

# 醫學倫理討論

以**Jonsen架構**檢視這次病例的治療模式
是否符合醫學倫理

# Tom Beauchamp &James Childress 六大原則- 1979

- **1. 行善原則(Beneficence)**，亦即醫師要盡其所能延長病人之生命且減輕病人之痛苦。
- 2. 誠信原則(Veractity)，亦即醫師對其病人有「以誠信相對待」的義務。
- **3. 自主原則(Autonomy)**，亦即病患對其己身之診療決定的自主權必須得到醫師的尊重。
- **4. 不傷害原則(Nonmaleficence)**，亦即醫師要盡其所能避免病人承受不必要的身心傷害。
- 5. 保密原則(Confidentiality)，亦即醫師對病人的病情負有保密的責任。
- 6. 公義原則(Justice)，亦即醫師在面對有限的醫療資源時，應以社會公平、正義的考量來協助合理分配此醫療資源給真正最需要它的人。

# Jonsen架構

- Jonsen, Siegler and Winslade; *Clinical Ethics: A Practical Approach to Ethical Decisions in Clinical Medicine* (3rd edition McGraw-Hill 1992 )
- 1. 醫療現況
- 2. 病人抉擇
- 3. 生命品質
- 4. 社會脈絡

# 醫療現況
# Medical indication for intervention

- 林小姐因切片診斷出其左下顎骨有Odontogenic keratocyst，因此要考慮治療的選擇。考慮接受囊袋切除術與否，需考慮若切除與否預後各是如何？
- 是否有其他替代治療以維護病人自主選擇的權益？
- 拉長治療期間合併使用囊袋減壓術對她的預後是否受益？

# 醫療現況
# Medical indication for intervention

- 若不處理病灶區，若為較侵犯性的OKC可能無法被控制下來，持續侵犯周圍組織；且可能有惡性轉變的可能性
- OKC較難完整的一次性移除，因此復發的機率也來的高，復發率從5%~62%不等，因此長期的追蹤也是必要的
- 囊袋移除時合併做骨修整、Chemical cauterization(Carnoy's solution)有助於降低復發率，應列入病人選擇項目
- 使用囊袋減壓術可使病灶較容易完整移除，提供較低的復發率

# 病人抉擇
# Preference of the patient

- 林小姐並無心智失能且在法律上有能力，理應選擇對她最有利的治療方式，並需被告之治療可獲得的利益及其風險，且病歷記載中並無記錄病人於術前表示其喜好，並於之後排定治療流程中皆相當配合，於此方面應無違反醫療倫理。

# 生命品質
# Quality of life

- 若施行囊袋切除術合併移除因病灶而牙根吸收的牙齒34,35,36,37，病人即使治療成功，病人需面對該處咬合重建的問題，醫療提供者是否將此考慮進去並告知病患，是否會影響病人對此病灶處理方式的態度？
- 若不治療，則病患是否能行使正常生活不受病灶影響？

# 社會脈絡
# Contextual issues

- 林小姐目前未婚，無丈夫子女等家庭因素影響治療，但病歷上並未詳載病人使否有經濟、宗教、文化上之因素會影響病人選擇治療。其餘法律因素、社會資源應對此病例無影響，且無利益衝突者介入醫療過程。

# 醫學倫理總結

- 應多注意病歷記載，特別對於病灶之治療計畫及病人態度，以了解此案例在醫療現況及病人抉擇上是否合乎醫學倫理原則。
- 此病人需手術介入，並需長期配合及考慮家庭支持之因素，應更詳盡詢問病人社會脈絡部分。

# Reference


- Oral & Maxillofacial pathology 3rd ed
- 台灣臨床倫理網絡

  http://www.tcen.org.tw/index.asp