A case of ameloblastoma
Part 1 – basic information
General Data

- Name: 陳新縣
- Sex: male
- Age: 52 y/o
- Native: 台南縣
- Marital status: 已婚
- Occupation: 機械修理
- Attending V.S.: 黃逸岳醫師
- First visit: 96.06.08
Chief Complaint

- Tooth mobility of tooth 31 32 33 34
The 52 y/o male suffered from the episode of tooth 31 32 33 34 mobility about a month. He had visited 家禾 LDC for help in the beginning of May in 2007. Then, periapical film was taken and the doctor found the RL cystic lesion over mandibular symphysis area. Therefore, the doctor referred him to our OPD for further examination and treatment.
Past History

- **Past Medical History**
  - Anemia
  - Denied any systemic disease
  - Denied any drug or food allergy
  - Hospitalization(-)

- **Past Dental History**
  - Extraction
  - OD
  - Prosthesis
  - Experience of dental treatment : fair
Personal History

- Risk factors related to malignancy
  - Alcohol: (+), ?瓶/天
  - Betel quid: (-)
  - Cigarette: (-)

- P’t likes to eat spicy food.
Family History

- Hereditary disease: Nil
- Family support: good
Intraoral Examination

- mobility of tooth 31 32 33 34
  - Duration: 1+ month
  - Smooth surface
  - Swelling over lingual side
  - Color: normal pink
  - No discharge
  - The adjacent mucosa seemed to be normal.
Intraoral Examination (cont.)

- Dental findings:
  - Missing: 16, 18, 28, 38
  - Bridge: 15x17 (metal)
  - Restoration: 46
  - Tooth mobility: 31 32 33 34
    grade(?)
Physical Examination

- EPT: $\frac{3}{3}$ $\rightarrow (+)$; $\frac{1234}{1234}$ $\rightarrow (-)$
- Consistency: bony hard
- Fluctuation (-)
- Pain (-)
- percussion pain(-) $\rightarrow$ tooth 31 ~ 37
- Tenderness (-)
- Induration (-)
- Fever or local heat (-)
- Lower lip paresthesia (-)
- Lymphadenopathy (-)
A well-defined, scalloped-shaped, unilocular radiolucency without corticated margin over mandibular symphysis, extending from the medial side of tooth 34 to the mesial side of tooth 43 and from middle third of tooth 33 root down to the 1/2 mandibular symphysis, measured approximately 4.0 x 2.0 cm in diameter. Lamina dura of involving root disappeared. Root resorption was noted at tooth 33, 34 and the lesion didn’t involve in L’t mental foramen.
- Missing: 16, 18, 28, 38
- Bridge: 15x17 (metal)
- Filling: 46
- Root resorption: 33, 34
- Total bone loss: 15
- Generalized periodontitis
- No other abnormalities were observed.
A well-defined, irregular shape, unilocular radiolucency without corticated margin, extending distally to the mesial side of tooth 35 and up from the alveolar crest. Lamina dura of involving root disappeared. Root resorption was noted at tooth 33, 34. Besides, vertical expansion was seen at the alveolar crest near 33 mesial side.
Radiographic Examination (Occlusal film)

Teeth crowding over lower ant. region
Treatment course (96/06/12)

- Biopsy:
  bone perforation was noticed over apex of tooth 41, 42

- Aspiration:
  clear with light yellowish discharge
Part 2 – Working Diagnosis
Working diagnosis

Inflammation? Cyst? Neoplasm?

- Fever or local heat (-)
- Duration: 1+ month
- Well-defined RL
- Swelling (+)
- Pain (-)
- Normal pink

Rule out inflammation

Cyst or Neoplasm
Central ? Peripheral?

- smooth surface
- adjacent mucosa → normal

- well-defined RL
- bone expansion
- Root resorption
- bone perforation

Central
Cyst? Neoplasm?

- Fluctuation (-)
- Aspiration (+)
- well-defined RL
- Induration (-)
- adjacent mucosa \(\rightarrow\) normal
- Lymphadenopathy (-)
- Duration: 1+ month
- paresthesia (-)
- Smooth surface
- pain (-)
- tenderness (-)

- Lower Tooth mobility
- Bone perforation
- Bone expansion
- Root resorption

Cyst

Or

Benign tumor
(cystic change)
Cyst (central type)

- Odontogenic
  - Radicular cyst
  - Odontogenic keratocyst
  - Glandular odontogenic cyst
  - Dentigerous cyst

- nonodontogenic
  - Scallop-shaped margin
  - No-associated unerupted teeth
  - Teeth nonvital (EPT-)
  - Teeth mobility & root resorption
  - Aspiration: clear to yellow

Simple bone cyst
Aneurysmal bone cyst

Rule out

Working diagnosis
### Clinical feature
- EPT(-) : 31 ~ 34
- Smooth surface
- Adjacent mucosa ➔ normal
- Swelling(+)
- tooth mobility
- Color : normal pink
- Consistency : bony hard
- Fluctuation (-)
- Duration : 1+ month
- Pain (-)
- Percussion pain(-)
- Tenderness (-)
- Induration (-)
- Aspiration (+) ➔ clear with light yellowish discharge

### X-ray feature
- Periapical radiolucency
- well-defined RL without corticated margin
- bone expansion
- Lamina dura of involving root disappear
- Root resorption

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**Radicular cyst**

**Odontogenic keratocyst**

**Glandular odontogenic cyst**
Neoplasm (central type)

- Odontogenic
  - Teeth nonvital (EPT-)
  - Teeth mobility & root resorption
  - Aspiration (+): clear to yellow
- Unicystic ameloblastoma
- Ameloblastoma (solid type)
- Cemento-ossifying fibroma
- Cemento-ossifying dysplasia

- Nonodontogenic
  - Teeth nonvital (EPT-)
  - Teeth mobility & root resorption
  - Aspiration: clear to yellow
- Central giant cell granuloma
- Hemangioma

Rule out
### Benign tumor

#### Clinical feature
- EPT(-) : 31 ~ 34
- Smooth surface
- Adjacent mucosa → normal
- Swelling(+)
- Tooth mobility
- Color : normal pink
- Consistency : bony hard
- Fluctuation (-)
- Duration : 1+ month
- Pain (-)
- Percussion (-)
- Tenderness (-)

#### X-ray feature
- Periapical radiolucency
- Well-defined RL without corticated margin
- Bone expansion
- Lamina dura of involving root disappear
- Root resorption

---

**Conventional solid ameloblastoma (cystic change)**

**Unicystic ameloblastoma**
Cyst

- Radicular cyst
- Odontogenic keratocyst (OKC)
- Glandular odontogenic cyst
Benign tumor

- Conventional solid ameloblastoma (cystic change)
- Unicystic ameloblastoma
Part 3 – Differential Diagnosis
Differential Diagnosis

- Conventional solid ameloblastoma (cystic change)
- Unicystic ameloblastoma
- Radicular cyst
- Odontogenic keratocyst (OKC)
- Glandular odontogenic cyst
Conventional solid ameloblastoma (cystic change)
### Conventional solid ameloblastoma vs. Our case

<table>
<thead>
<tr>
<th>Feature</th>
<th>Conventional solid ameloblastoma</th>
<th>Our case</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>30~70</td>
<td>52</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>No predilection</td>
<td>Male</td>
</tr>
<tr>
<td><strong>Site</strong></td>
<td>Md. Molar-ramus</td>
<td>Md. Anterior</td>
</tr>
<tr>
<td><strong>Symptom</strong></td>
<td>Painless swelling</td>
<td>Painless swelling</td>
</tr>
<tr>
<td><strong>Margin</strong></td>
<td>Well-defined with corticated margin</td>
<td>Well-defined without corticated margin</td>
</tr>
<tr>
<td>X-ray feature</td>
<td>Conventional solid ameloblastoma</td>
<td>Our case</td>
</tr>
<tr>
<td>---------------------</td>
<td>----------------------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td></td>
<td>Multilocular or unilocular</td>
<td>Scallopung unilocular</td>
</tr>
<tr>
<td>Bony expansion</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>root resorption</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>other</td>
<td>Associated with unerupted tooth</td>
<td>-</td>
</tr>
</tbody>
</table>
Unicystic ameloblastoma
<table>
<thead>
<tr>
<th></th>
<th>Unicystic ameloblastoma</th>
<th>Our case</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td>Male</td>
<td>Male</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>2nd decade (23)</td>
<td>52</td>
</tr>
<tr>
<td><strong>Site</strong></td>
<td>90% mand. Post. area</td>
<td>Md. Anterior</td>
</tr>
<tr>
<td><strong>Symptom</strong></td>
<td>Asymptomatic</td>
<td>Painless swelling</td>
</tr>
<tr>
<td></td>
<td>Painless swelling</td>
<td></td>
</tr>
<tr>
<td><strong>Margin</strong></td>
<td>Well-defined with corticated margin</td>
<td>Well-defined without corticated margin</td>
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<td>X-ray feature</td>
<td>Unicystic ameloblastoma</td>
<td>Our case</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>X-ray feature</td>
<td>unilocular</td>
<td>Scalloping unilocular</td>
</tr>
<tr>
<td>Density</td>
<td>radiolucence</td>
<td>radiolucence</td>
</tr>
<tr>
<td>Bony expansion</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>root resorption</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Effects on surrounding structure</td>
<td>No effect Large lesion – bony expansion</td>
<td>Root resorption Bony expansion and perforation</td>
</tr>
<tr>
<td>other</td>
<td>Associated with unerupted tooth</td>
<td>-</td>
</tr>
</tbody>
</table>
Radicular cyst
<table>
<thead>
<tr>
<th></th>
<th>Radicular Cyst</th>
<th>Our case</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td>Male (Slightly)</td>
<td>Male</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td>Unspecific</td>
<td>Asian</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>Medium age(30~50 y/o)</td>
<td>52</td>
</tr>
<tr>
<td><strong>Site</strong></td>
<td>apex of nonvital tooth</td>
<td>Mandibular ant.</td>
</tr>
<tr>
<td><strong>Symptom</strong></td>
<td>Asymptomatic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secondary infection or too large → swelling</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Swelling(+)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fluctuation(-)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aspiration(+)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pain(-)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tenderness(-)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Smooth surface</td>
</tr>
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<td>Our case</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----------------------------------------</td>
<td>-----------------------------------------</td>
</tr>
<tr>
<td><strong>Margin</strong></td>
<td>well-defined, with corticated margin</td>
<td>well-defined, without corticated margin</td>
</tr>
<tr>
<td><strong>X-ray feature</strong></td>
<td>Unilocular</td>
<td>Scalloping unilocular</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>Usually $&gt; 2\text{cm}$</td>
<td>4.0 x 2.0 cm</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>Radiolucency</td>
<td>Radiolucency</td>
</tr>
</tbody>
</table>
| **Effects on surrounding structure** | no effects  
Or teeth displacement, tooth resorption, bone expansion | Root resorption  
Bone expansion and perforation |
Odontogenic Keratocyst
<table>
<thead>
<tr>
<th><strong>OKC</strong></th>
<th><strong>Our case</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td>Wide range (10～40 y/o &gt; 60%)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>Male (Slightly)</td>
</tr>
<tr>
<td><strong>Site</strong></td>
<td>Posterior mandibular body + ramus</td>
</tr>
<tr>
<td><strong>Symptom</strong></td>
<td>asymptom or pain, swelling, drainage</td>
</tr>
<tr>
<td><strong>Bone expansion</strong></td>
<td>Rare, 通常是A-P方向的extension</td>
</tr>
<tr>
<td><strong>X-ray feature</strong></td>
<td>Unilocular／multilocular</td>
</tr>
<tr>
<td></td>
<td><strong>OKC</strong></td>
</tr>
<tr>
<td>----------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Density</td>
<td>Radiolucence</td>
</tr>
<tr>
<td>Margin</td>
<td>Well-defined with corticated margin</td>
</tr>
<tr>
<td>Root resorption</td>
<td>Rare</td>
</tr>
</tbody>
</table>
Glandular odontogenic cyst
<table>
<thead>
<tr>
<th></th>
<th><strong>GOC</strong></th>
<th><strong>Our case</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ages</td>
<td>Middle age adult (Avg:49y/o)</td>
<td>52</td>
</tr>
<tr>
<td>Gender</td>
<td>unknown</td>
<td>Male</td>
</tr>
<tr>
<td>Site</td>
<td>Strong predilection: Jaw anterior region (many cross midline )</td>
<td>Mandibular ant.</td>
</tr>
<tr>
<td>Symptom</td>
<td>Small lesion may asymptomatic</td>
<td>Pain(-) swelling(+)</td>
</tr>
<tr>
<td></td>
<td>Large -may pain and parethesia(+)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>GOC</td>
<td>Our case</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Bone expansion</td>
<td>Large(+)</td>
<td>bony expansion and perforation</td>
</tr>
<tr>
<td>X-ray feature</td>
<td>Unilocular/multilocular more commonly</td>
<td>Scalloping Unilocular</td>
</tr>
</tbody>
</table>
Clinical impression

- Ameloblastoma, intraoral, mandibular symphysis area, apex of tooth 42 ~ 35
~Thanks for your attention