口腔病理科
Case Report

報告組別：Intern J 組
報告日期：103.05.27
指導醫師：林立民醫師、陳玉昆醫師、王文岑醫師、陳靜怡醫師
組員：陳孟泉、魏祥禮、劉婷瑜、黃羿涵
General Data

- Name: 蔡OO
- Sex: 女
- Age: 56 y/o
- Native: 高雄
- Marital status: 已婚
- Attending V.S.: OOO 醫師
- First visit: 103/01/21
Chief Complaint

Pain over left maxillary area

103/03/31
Present Illness

This 56 years old female suffered from pain over left maxilla, and she came to our OPD for further examination on 103/01/21, she said she had facial trauma on 98/09, treat in 長庚醫院(Left zygoma region, bone graft+ artificial bone), and she arrange CT, bun/cr, SGOT/SGPT examination first. On 103/02/21, patient arrange OP on 103/04/09 and arrange GA routine on 103/03/31.
Past History

- **Past Medical History**
  - Underlying disease: denied
  - Hospitalization (+)
  - Surgery under GA: denied
  - Denied any drug/food allergies

- **Past Dental History**

- **General routine dental treatment**

- **Attitude to dental treatment**: co-operative
Personal Habits

- Risk factor related to malignancy
  - Alcohol (-)
  - Betel (-)
  - Cigarette (-)
- Special oral habits: Denied
Intra-Oral Examination

- Size: 0.5 x 1 cm
- Surface: smooth
- Base: sessile
- Shape: dome
- Consistency: unknown
- Color: whitish
- Pain: positive
- Tenderness: unknown
- Induration: unknown

103/03/31
There is a well defined radiolucency with corticated margin over left maxilla, extending from tooth 26 distal side to the left posterior aspect of tuberosity, and from tooth 27 edentulous ridge to sinus floor, measured approximately 2 x 3 cm in diameter. There are miniplates over superior margin of radiolucency and infraorbital bone.
Panorex Radiography (2)

- Residual root: tooth 15 17 47
- Horizontal impaction: tooth 18
- Caires: tooth 45 46 36 22
- Missing: tooth 27 28 37
Differential Diagnosis

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

- Color: Pink(normal) $\rightarrow$ cyst or neoplasm
- Fever or local heat (-) $\rightarrow$ cyst or neoplasm
- Pain(+) $\rightarrow$ Inflammation
- Consistency(?)
- Fluctuation (?)
- Pus (?)
- Destruction with bony expansion(+) $\rightarrow$ cyst or neoplasm

---$\rightarrow$ Cyst or Neoplasm
Benign or malignant?

- Surface (Smooth) → Benign
- Pain (+)
- Tenderness (+)
- X-ray margin (Well-defined) → Benign
- Duration(?)
- Slow growing (+) → Benign

→ Benign
Peripheral or intrabony?

- Consistency (Firm to hard) → Intrabony
- X-ray margin (Well-defined) → Intrabony
- Induration (?)
- Bony destruction or expansion (+) → Intrabony

→ Intrabony
# Ameloblastoma (intraosseous)

<table>
<thead>
<tr>
<th></th>
<th>Our Case</th>
<th>Ameloblastoma (intraosseous)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Both</td>
</tr>
<tr>
<td>Age</td>
<td>56 y/o</td>
<td>20~70 y/o</td>
</tr>
<tr>
<td>Site</td>
<td>Left maxillary tuberosity</td>
<td>Mandible molar-ramus area</td>
</tr>
<tr>
<td>Symptom/Sign</td>
<td>Swelling and pain</td>
<td>Rare pain or paresthesia</td>
</tr>
<tr>
<td>Effects on tooth</td>
<td>Bony destruction and expansion and with mild root resorption</td>
<td>Adjacent teeth displaced, loosened, often resorbed, extensive expansion in all directions</td>
</tr>
</tbody>
</table>
Working diagnosis - Intrabony benign tumor or cyst

- Keratocystic odontogenic tumor
- Ameloblastoma (intraosseous)
- Odontogenic myxoma
- Ameloblastic fibroma
- Central giant cell granuloma
<table>
<thead>
<tr>
<th>Radiographic features</th>
<th>Our Case</th>
<th>Keratocystic odontogenic tumor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>R/L</td>
<td>R/L</td>
</tr>
<tr>
<td>Border</td>
<td>Well-defined with corticated margin</td>
<td>Well-defined with corticated margin</td>
</tr>
<tr>
<td>Shape</td>
<td>Multilocular</td>
<td>Uni-/Multilocular</td>
</tr>
</tbody>
</table>
Keratocystic odontogenic tumor

<table>
<thead>
<tr>
<th></th>
<th>Our Case</th>
<th>Keratocystic odontogenic tumor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Male&gt;=Female</td>
</tr>
<tr>
<td>Age</td>
<td>56 y/o</td>
<td>10~40 y/o</td>
</tr>
<tr>
<td>Site</td>
<td>Left maxillary tuberosity</td>
<td>60~80% posterior mandible (Maxillary posterior: 26%)</td>
</tr>
<tr>
<td>Symptom/Sign</td>
<td>Swelling and pain</td>
<td>If large→Swelling and pain</td>
</tr>
<tr>
<td>Effects on tooth</td>
<td>Bony destruction and expansion and with mild root resorption</td>
<td>Rare root resorption 25~40% with unerupted tooth</td>
</tr>
<tr>
<td>Radiographic features</td>
<td>Our Case</td>
<td>Ameloblastoma (intraosseous)</td>
</tr>
<tr>
<td>-----------------------</td>
<td>----------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Density</td>
<td>R/L</td>
<td>R/L</td>
</tr>
<tr>
<td>Border</td>
<td>Well-defined with corticated margin</td>
<td>Scalloped, well-defined, well-corticated</td>
</tr>
<tr>
<td>Shape</td>
<td>Multilocular</td>
<td>Multilocular (soap-bubble or honeycombed)</td>
</tr>
</tbody>
</table>
# Odontogenic Myxoma

<table>
<thead>
<tr>
<th></th>
<th>Our Case</th>
<th>Odontogenic Myxoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>No predominant</td>
</tr>
<tr>
<td>Age</td>
<td>56 y/o</td>
<td>25-30 y/o</td>
</tr>
<tr>
<td>Site</td>
<td>Left maxillary tuberosity</td>
<td>Mandible (Maxillary posterior: 25%)</td>
</tr>
<tr>
<td>Symptom/Sign</td>
<td>Swelling and pain</td>
<td>Usually Painless</td>
</tr>
<tr>
<td>Effects on tooth</td>
<td>Bony destruction and expansion and with mild root resorption</td>
<td>Bony destruction and expansion Teeth displacement and root resorption</td>
</tr>
<tr>
<td>Radiographic features</td>
<td>Our Case</td>
<td>Odontogenic Myxoma</td>
</tr>
<tr>
<td>-----------------------</td>
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<td>--------------------</td>
</tr>
<tr>
<td>Density</td>
<td>R/L</td>
<td>R/L</td>
</tr>
<tr>
<td>Border</td>
<td>Well-defined with corticated margin</td>
<td>Well-defined Not specific</td>
</tr>
<tr>
<td>Shape</td>
<td>Multilocular</td>
<td>Unilocular or Multilocular Soap bubble Tennis rocket</td>
</tr>
</tbody>
</table>
## Ameloblastic Fibroma

<table>
<thead>
<tr>
<th></th>
<th>Our Case</th>
<th>Ameloblastic Fibroma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Male &gt;= Female</td>
</tr>
<tr>
<td>Age</td>
<td>56 y/o</td>
<td>0~20 y/o</td>
</tr>
<tr>
<td>Site</td>
<td>Left maxillary tuberosity</td>
<td>Posterior Mandible (75% unerupted tooth )</td>
</tr>
<tr>
<td>Symptom/Sign</td>
<td>Swelling and pain</td>
<td>Painless</td>
</tr>
<tr>
<td>Effects on tooth</td>
<td>Bony destruction and expansion and with mild root resorption</td>
<td>Bony expansion &amp; facial swelling</td>
</tr>
<tr>
<td>Radiographic features</td>
<td>Our Case</td>
<td>Ameloblastic fibroma</td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------------------------</td>
<td>----------------------------------------------------------</td>
</tr>
<tr>
<td>Density</td>
<td>R/L</td>
<td>R/L</td>
</tr>
<tr>
<td>Border</td>
<td>Well-defined with corticated margin</td>
<td>Well-defined</td>
</tr>
<tr>
<td>Shape</td>
<td>Multilocular</td>
<td>Unilocular or Multilocular (usually combined impacted tooth)</td>
</tr>
</tbody>
</table>
# Central Giant Cell Granuloma

<table>
<thead>
<tr>
<th></th>
<th>Our Case</th>
<th>Central Giant Cell Granuloma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Female</td>
<td>Female</td>
</tr>
<tr>
<td>Age</td>
<td>56 y/o</td>
<td>&lt; 30 y/o</td>
</tr>
<tr>
<td>Site</td>
<td>Left maxillary tuberosity</td>
<td>Anterior mandible Cross the Midline</td>
</tr>
<tr>
<td>Symptom/Sign</td>
<td>Swelling and pain</td>
<td>Usually Painless</td>
</tr>
<tr>
<td>Effects on tooth</td>
<td>Bony destruction and expansion and with mild root resorption</td>
<td>Unspecific</td>
</tr>
<tr>
<td>Radiographic features</td>
<td>Our Case</td>
<td>Central Giant Cell Granuloma</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>Density</td>
<td>R/L</td>
<td>R/L</td>
</tr>
<tr>
<td>Border</td>
<td>Well-defined with corticated margin</td>
<td>Well-defined Non-corticated</td>
</tr>
<tr>
<td>Shape</td>
<td>Multilocular</td>
<td>Unilocular or Multilocular</td>
</tr>
</tbody>
</table>
Clinical Impression

Keratocystic odontogenic tumor, left tuberosity
Histological Pathologic Report

- Pathologic diagnosis:
  - Bone, maxilla, tooth 24,25,26,27 apical area, cystic enucleation, keratocystic odontogenic tumor

- Microscopic Examination:
  - Microscopically, it shows keratocystic odontogenic tumor.
Treatment procedure

● Fist visit at OS(103/01/21)
  - Taked pano film
  - Arranged CT scan on 103/02/13
● OS(103/02/21)
  ○ Arranged OP schedule on (103/04/09)
● OS(103/03/31)
  ○ Asked for left maxillary lesion excision
  ○ GA routine
• OP procedure (103/04/09)
  ○ Cyst enucleation in sinus + 15, 16, 17, 35, 36, 38, 47 ext.
• OS (103/04/18)
  o OP wound f/u
  o Suture removed
  o Check H-P report: Keratocystic odontogenic tumor
Discussion

Keratocystic Odontogenic Tumour
Definition of KCOT

“A benign uni- or multicystic intraosseous tumour of odontogenic origin, with a characteristic lining of parakeratinized stratified squamous epithelium and potentially aggressive, infiltrative behaviour. It may be solitary or multiple. The latter is usually one of the stigmata of the inherited naevoid basal cell carcinoma syndrome (NBCCS).”

Symptoms

- Swelling, pain, or a combination of both (82.4% of all cases)
- No symptoms
Epidemiology

● 4-12% of all odontogenic cysts (often compared to odontogenic cysts even though WHO classifies as tumor)
● Peaks in second and third decade of life, but can occur over wide age range
● 90% are solitary
● Multiple tumors seen in Neviod Basal Cell Carcinoma Syndrome / Gorlin’s Syndrome
Sites

- Mandible (65-85%)
- Most common: posterior mandible
- In some cases, associated with impacted teeth
- Rarely occurs in soft tissue
(a) KCOT with typical parakeratinized stratified squamous epithelial lining with corrugated surface (H and E, x20)
Histopathologic Features

(b) Photomicrograph showing an irregular eosinophilic mass and calcospherulite type of mineralization in the connective tissue capsule (H and E, x20)
Histopathologic Features

(d) calcospherulite - type of mineralization at higher magnification (H and E, original magnification ×40)
Radiology

- Well-defined unilocular or multilocular radiolucency
- Smooth and often corticated margins
- Unerupted tooth involved (25-40%)
- Tend to grow in anteroposterior direction within the medullary cavity of the bone without causing obvious bone expansion
Radiology

- Small lesions often unilocular radiolucent lesion, variable sclerotic margins
- Larger lesions often multilocular, variable scalloped margins
Panoramic radiograph shows a well-defined unilocular radiolucency in the left mandibular body region
Treatment for KCOT

- Decompression alone
- Enucleation with possible curettage
- Chemical curettage with Carnoy’s solution
- Marsupialization
- Resection

Treatment must balance minimizing recurrence rate with morbidity associated with an extensive resection
Table 3  Summary of treatment related to recurrence rate

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Lesions</th>
<th>Recurrences</th>
<th>Recurrence rate; %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enucleation</td>
<td>465</td>
<td>141</td>
<td>30</td>
</tr>
<tr>
<td>Enucleation + Carnoy’s</td>
<td>122</td>
<td>11</td>
<td>9</td>
</tr>
<tr>
<td>Enucleation + peripheral osteotomy</td>
<td>11</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Enucleation + Carnoy’s + peripheral osteotomy</td>
<td>83</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Enucleation + cryotherapy</td>
<td>29</td>
<td>11</td>
<td>38</td>
</tr>
<tr>
<td>Marsupialization</td>
<td>18</td>
<td>6</td>
<td>33</td>
</tr>
<tr>
<td>Marsupialization + cystectomy</td>
<td>108</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Resection</td>
<td>39</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Prognostic factors

- Recurrence rates of 20% to 56% with enucleation alone
- Resection is widely reported to have no recurrences, but may be considered excessive for a benign entity
- Multiple lesions can occur when associated with Gorlin’s Syndrome / Nevroid Basal Cell Carcinoma Syndrome
Reference


醫學倫理討論
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。
行善原則(Beneficence)

符合行善原則：
❖ 發現病灶後在短時間內即安排手術移除
❖ 拔除所有預後不好的牙齒
誠信原則 (Veracity)

符合誠信原則：
❖ 誠實的告知病人疾病的嚴重程度，盡告知的義務
❖ 術前解釋清楚疾病病程、治療計畫、預後、風險
❖ 讓病人了解牙齒拔除後會有假牙製作的考量
❖ 六年前骨折在長庚開刀時是否已發現這個病灶而未告知？？
自主原則(Autonomy)

符合自主原則：
❖ 詳細說明完手術、麻醉的風險後，確定病人充分了解並讓病人自主選擇是否接受治療
❖ 是否要一併拔除預後差的牙齒
不傷害原則 (Nonmaleficence)

符合不傷害原則：
❖ 術中盡量避免造成不必要的醫源性傷害
❖ 詳實告知病人疾病治療的狀況，以減輕病人的心理壓力
保密原則 (Confidentiality)

符合保密原則：
❖ 有告知病人疾病狀況
公義原則 (Justice)

符合公義原則：
❖ 確認病灶後即安排住院開刀
醫學倫理總結

❖ 以不違反醫學倫理原則下進行治療
❖ 詳實告知病情，積極處置，不延宕治療
❖ 手術風險務必讓病人充分了解，並和病人討論拔除多顆牙齒後的後續假牙製作考量
THANKS FOR YOUR ATTENTION!