

原文題目(出處)：	Botryoid odontogenic cyst: A case report with immunohistochemical aspects. Asian J Oral & Maxillofacial Surg 2011;23:31-4
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內文：

Introduction :

- **Botryoid odontogenic cyst (BOC)** is a **polycystic lesion** in the **alveolar bone**
- Generally considered to represent a variant of the **lateral periodontal cyst (LPC)**
- Possibly the result of **cystic degeneration** and subsequent **fusion of adjacent foci of dental lamina rests**
- Although conservative **enucleation** of the BOC, as well as LPC, is the treatment of choice, a **significant recurrence rate** has been reported for BOC
- In the present study, we report an additional case of BOC with **histochemical** and **immunohistochemical** characteristics of the **cyst-lining epithelium**

Case report :

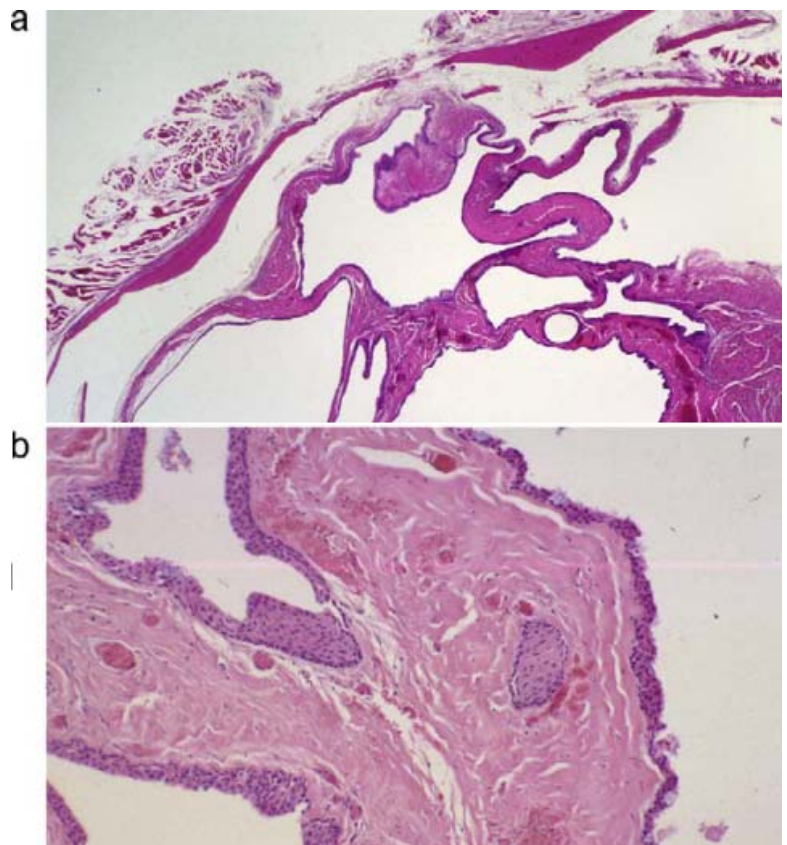
- A **59-year-old female** patient was referred to the hospital of Meikai University School of Dentistry for evaluation of a **swelling in the left anterior mandible**
- She had been aware of the **asymptomatic swelling** during the past **two years**
- At the time of dental examination, panoramic and dental radiographs revealed a **well-delimited, multi-locular radiolucent** lesion, **between the roots of the left mandibular lateral incisor and canine**
- The cystic radiolucency occupied **the lateral aspects of the teeth** and **extended to the apical region** with separation of the roots



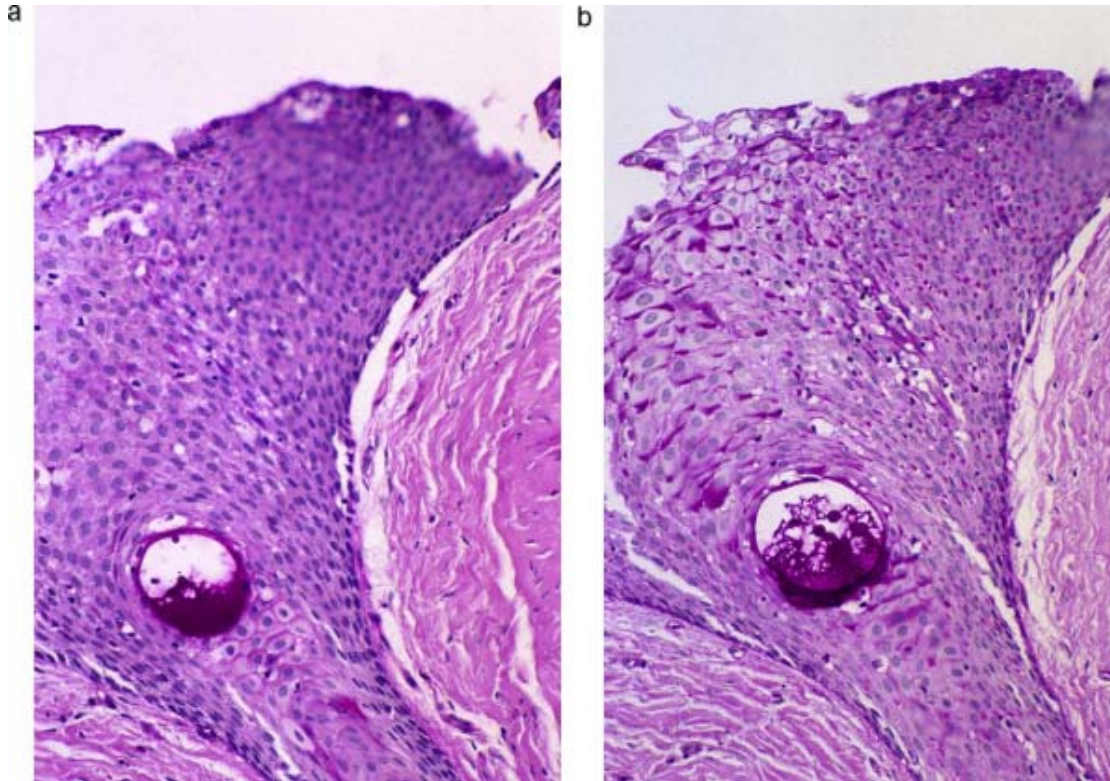
- An **excisional biopsy** was performed.

Histopathologically, the lesion showed a **multicentric cystic configuration** lined by **thin layer of squamous epithelium** (*a*)

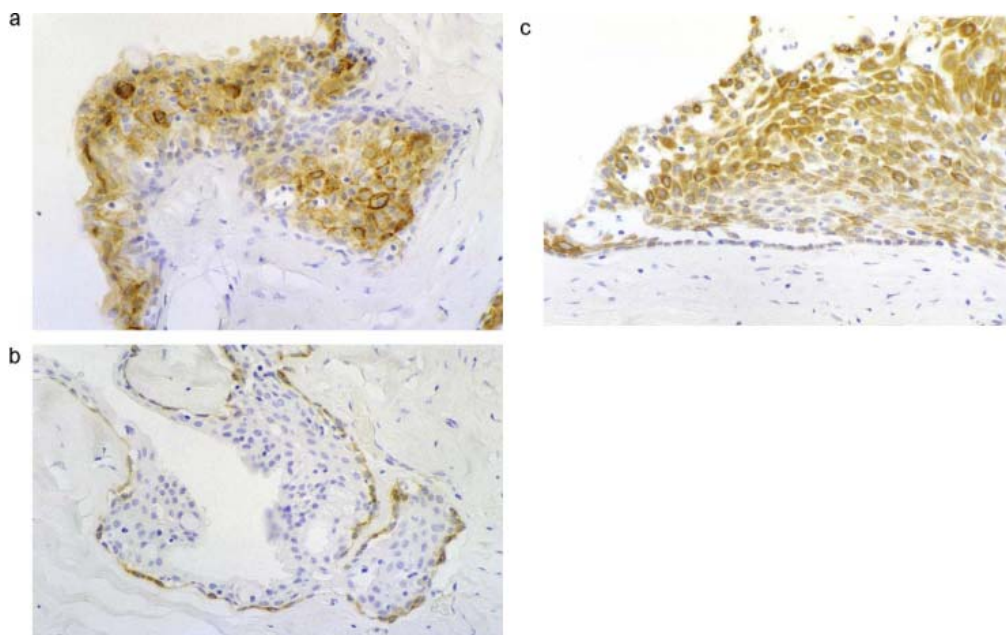
- The **fibrous connective tissue** wall was relatively free of inflammatory cells (*b*)
- The epithelium exhibited **localized plaques** with many **clear cells** containing centrally placed **ovoid nuclei** (*b*)
- The superficial layer of the epithelium showed **cuboidal to columnar cells** that were sometimes ciliated (*b*)



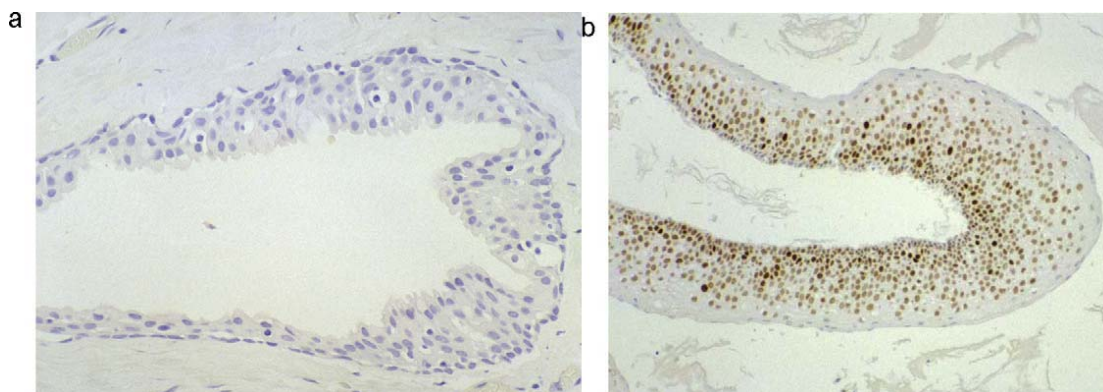
- These epithelial elements showed a **diastase digestible PAS reaction**, indicating the presence of **glycogen**
- PAS reactions with (a) or without (b) diastase digestion reveal the presence of glycogen in the cyst-lining epithelium



- Positive immunoreactivities were obtained for **CKs 10/13, 14 and 19**
- There was expression on **CK 10/13 and CK 19 in the spinous and surface layers (a,c)**
- **CK 14 in the basal cell layer. (b)**



- In addition to the cytokeratin profiles, immunostaining for **proliferating cell nuclear antigen (PCNA)** was also performed. PCNA-reactive cells were **insignificant in the epithelium of BOC (a)**
- As compared to that of the **odontogenic keratocyst (OKC) (b)** (currently termed keratocystic odontogenic tumor; 2005, WHO)



Discussion :

- The BOC was originally described by Weathers and Waldron.
- The BOC has a distinct proclivity for **occurrence in the mandible anterior to the first molar**
- Radiographically, it is often **multilocular and larger** than the typical LPC
- Often **extends into the periapical regions** of the related teeth
- **BOC and LPC** lesions share some **histologic similarities**
- They contain characteristic **thickened epithelial plaques** or **clear cell nests in the epithelial lining**
- Due to the similarity in histologic features and site of occurrence, the BOC has been considered a variant of the LPC

- The significance of separating the BOC from LPC is based on the size and gross appearance
- the **BOC is more expansive** than the LPC because of its **multicentric nature**
- The **higher recurrence rate of BOC** is not because of the cell growth activity, but because of **difficulty in complete surgical removal** of a **multilocular** lesion
- Therefore, an **extended postsurgical follow-up** is recommended clinically

- Because of the presence of **mucous cells and surface columnar cells**, BOC shows some microscopic similarities to the **glandular odontogenic cyst (GOC)** or **sialo-odontogenic cyst (SOC)**
- The presence of **mucous cells** does not detract from **an odontogenic origin**

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- This feature has been reported in a variety of **odontogenic cysts** such as the dentigerous cyst as a **metaplastic phenomenon**
 - Furthermore, **immunohistochemical studies** have suggested that the **GOC is a histologic variant of BOC**.

 - Immunohistochemical analysis on the BOC was performed by Heikinheimo et al.
 - An **odontogenic origin** is supported the presence of **CK 19 immunoreactivity** of the **cyst-lining epithelium**
 - Also observed a **heterogeneously positive immunoreactions** of **CK 18**, which has been recognized as a marker of **simple ductal and glandular epithelia**
 - They stressed the **origin odontogenic cell of BOC** in which **patchy distribution** of **CKs 13 and 16** could be found
 - **CKs 7, 13, 14 and 19** are present in human **enamel organ**

 - Crivelini et al.
 - Concluded that **typical intermediate filament** of **odontogenic epithelium** is **CK 14**
 - **CKs 13 and 19** appear in **squamous differentiation** or **epithelial cells near the surface epithelium**
 - In the present study, we also observed **positive staining** for **CKs 10/13, 14 and 19** in the **respective layers of the cyst-lining epithelium**
 - Considering these evidences, it is apparent that the **epithelial cells of BOC** are of **odontogenic origin**

 - Several investigators have identified the sporadic presence of **glycogen**, detected as **periodic acid-Schiff (PAS) positive, diastase digestible** material in the **lining epithelium**
 - In the present study, **glycogen** was detected in the **cyst-lining epithelium** and in the **epithelial plaques**, but not always in the **clear cells**, although some of these cells were **PAS positive**
 - In a review of the English literature, **no reports** could be found which demonstrated the **proliferative activity** of the **BOC**
 - In this study, we could detect an **insignificant PCNA immunoreactivity** in the **cyst-lining epithelium** in comparison with that of odontogenic keratocyst
 - It can therefore be speculated that the **cyst-lining epithelial cells**, in which an **amount of glycogen** was detected, are **biologically inactive**

 - Altini and Shear
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- suggested that the reason for the **limited growth potential** of the **LPC** (and that of the **BOC** as well), compared with the **odontogenic keratocyst(OKC)**
- **LPC(BOC)** arises from **prefunctional cells** of the **dental lamina**
- **OKC** presumably arises from that part of the **dental lamina** still possessing **marked growth potential**.

題號	題目
1	Botryoid odontogenic cyst is generally considered to which Odontogenic cyst? (A) Dentigerous (follicular) cyst (B) Glandular odontogenic cyst (C) Lateral periodontal cyst (D) Odontogenic keratocyst
答案 (C)	出處：Brad W. Neville, Douglas D. Damm, Carl M. Allen, Jerry E. Bouquot. <i>Oral and Maxillofacial Pathology</i> . 3 rd ed.
題號	題目
2	What is true about Botryoid odontogenic cyst? (A) Occurs in someone younger than age 30 (B) Most in mandibular premolar-canine-lateral incisor area (C) Radiographically, appears as a ill-defined radiolucenct (D) Often an symptomatic lesion
答案 (B)	出處：Brad W. Neville, Douglas D. Damm, Carl M. Allen, Jerry E. Bouquot. <i>Oral and Maxillofacial Pathology</i> . 3 rd ed.