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The three-dimensional reconstruction of case 1 showed a clear cavity in the right lingual cortical of the mandible. Page 53 JOURNAL OF FAMILY DENTISTRY

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## Stafne's Cyst: Case Report

### Shui-Sang Hsue<sup>1</sup>, Jui-Ting Hsu<sup>1</sup>, Chi-Sen Huang<sup>2</sup>, Chang-Lin Sung<sup>3</sup>, Yuk-Kwan Chen<sup>4,5,6</sup>, Chung-Wei Wu<sup>3</sup>

School of Dentistry, China Medical University, Taichung, Taiwan.<sup>1</sup> Fame Dental Clinic, Kaohsiung, Taiwan.<sup>2</sup>

Department of Oral and Maxillofacial Surgery, Kaohsiung Medical University, Kaohsiung, Taiwan.<sup>3</sup>

Division of Dentistry, Department of Oral Pathology, Kaohsiung Medical University Hospital.<sup>4</sup>

Department of Oral Pathology, Faculty of Dentistry, College of Dental Medicine,

Kaohsiung Medical University, Kaohsiung, Taiwan.<sup>5</sup>

Center of Excellence for Environmental Medicine, Kaohsiung Medical University.<sup>6</sup>

Panoramic film has becomes a routine radiological examination in dental clinic in Taiwan. The objective was to describe the clinical and radiological characteristics of patients with Stafne's defect. The most cases have been reported in middle aged and old adults. The entity was diagnosed incidentally during a routine radiology in this case report. The surgical intervention don't offer much help to confirm the diagnosis. Grandular tissue and tiny connective tissue was found within the lesions. The computer tomography and three-dimentional reconstruction demonstrated the conservation of the lingual cortical and the peripheral origin of the lesion. No progressive changes were found in our cases. Stafne's bone cavity was an incidental finding, presenting no progressive changes. Complementary technique such as CT are sufficient to establish a certain diagnosis. (J. Family Dent. 4(2): 51-56, 2009 )

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Received: February 9, 2009 Revised: February 18, 2009 Accepted: February 27, 2009 Correspondence to: Dr. Chung-Wei Wu, Department of Oral and Maxillofacial Surgery, Kaohsiung Medical University, Kaohsiung, Taiwan. 100, Shih-Chuan 1st Road,Kaohsiung, 80708, Taiwan Tel: 07-3121101 ext.7001 E-mail: on.water@msa.hinet.net

#### Introduction

Stafne defect is known as Stafne bone cyst, also known as lingual mandibular salivary gland depression; latent bone cyst; static bone cyst; static bone defect or lingual cortical mandibular defect<sup>1-5</sup>. In 1942, Stafne<sup>6</sup> described a series of asymptomatic radiolucent lesions located near the mandible. The lesions represent a focal concavity of the cortical bone on the lingual surface of the mandible. Similar lingual cortical defects also have been noted more anteriorly in the mandible<sup>7-9</sup>. These rare defects have been related to aberrant salivary gland tissue. In addition, one report has implicated the parotid gland as the cause of an apparent cortical defect in the upper mandibular ramus.

The classic Stafne defect presents as an asymptomatic radiolucency below the mandibular canal in the posterior mandible, between the molar teeth and the mandibular angle<sup>1,3,4</sup>. The lesion is typically well circumscribed with a sclerotic border. Most Stafne defects are unilateral, although bilateral cases may be seen. Posterior Stafne defects are not rare, having been reported in 0.3% of panoramic radiographs. A striking male predilection is observed, with 80% to 90% of all cases seen in men. Although the defect is believed to be developmental in nature, it does not appear to be present from birth. Most cases have been reported in middle aged and old adults<sup>1,3,10</sup>, with children rarely affected. Stafne defect typically remain stable in size; hence the name static bone cyst.

The diagnosis can usually be made on a clinical basis by the typical radiographic location and lack of symptoms. It can be confirmed by CT scans, MRI or sialography<sup>10,11</sup>. Biopsy is usually not necessary to establish the diagnosis of Stafne defects of the posterior mandible. If biopsy is performed, normal submandiblar gland tissue is usually seen. However, some defects contain muscle, blood vessels, fat, connective tissue, or lymphoid tissue. Because anterior lingual salivary defects may be difficult to recognize, biopsy may be necessary to rule out other pathologic lesions.

No treatment is necessary for patients with Stafne defects of the posterior mandible, and prognosis is excellent. Here we present three cases of Stafne defect.

#### Case report

#### Case 1

A 44 years old male was referred from local dental clinic because of a radiolucent lesion over right anterior mandible. This 44 y/o male went to local dental clinic for a regular health checkup of oral cavity on April 9, 1998. The dentist took a panorex for him. Then a radiolucent lesion was found. So he was referred to KMUH out patient department for further treatment. Review his past medical history, he is a carrier of hepatitis B and has hypertension without medication control. He has no other specific oral habits but drinking. Oral examination reveals no symptom or sign, no bony expansion and the mucosa is intact. Panorex reveals a well circumscribed with a sclerotic border beneath the inferior alveolar nerve canal nearby the 43 and 44 apical area. Incisional biopsy was performed and the lesion was empty. The histopathological examination showed unremarkable tiny bone fragments and connective tissue. Computer tomography was arranged and it revealed a depression over the lingual side. The three-dimensional reconstruction showed a cavity in the lingual cortical of the mandible. Stafne defect was diagnosed.

#### Case 2

A 67 years old male patient was referred to our OPD for further diagnosis because there was a radiolucent lesion over left mandible. The triangular shape lesion was well circumscribed with a sclerotic border beneath the inferior alveolar nerve canal nearby the left lower cortex causing thinning of the cortex. Stafne defect was impressed in clinically. Neither CT scans nor sialography were performed. Incisional biopsy was done. Microscopically, it showed unremarkable bone fragments with tiny connective and salivary gland tissue.

#### Case 3

A 40 years old male patient was present to Fame Dental Clinic for oral rehabilitation. Intraoral examination found a sinus tract due to the infected right lower first molar. The panoramic radiography showed a periapical pathosis of lower right first molar with incomplete endodontic treatment, and a well-defined oval shaped radiolucent shadow near the right lower cortex causing thinning of the cortex and discontinuity of inferior wall of right lower nerve canal. Stafne defect was suspected clinically. Because this patient had to work overseas, no biopsy and further examination was arranged.

#### Discussion

Stafne defect were found accidentally from routine panoramic radiography. Although no further CT or sialography to confirm the diagnosis, the diagnosis could be made based on the typical radiographic location and lack of symptoms. The Stafne bone cavity is generally detected in patients in the 5<sup>th</sup> or 6<sup>th</sup> decade of life. The patient of the case 1 was arranged for CT examination and the three-dimentiomal reconstruction showed a depression over the lingual cortical of the mandible. The patient of case 2 was only performed incisional biopsy. The patient of case 3 will be back for further treatment for oral rehabilitation and further image examination will then be arranged. So far these three cases have no progressive changes. Currently, complementary technique such as CT are sufficient to establish a certain diagnosis.



 Fig 1. The panoramic film of case 1 reveals a well circumscribed with sclerotic border radiolucent lesion near 43 and 44 apical area beneath the inferior alveolar nerve.



Fig 2. Incisional biopsy of case 1 revealed the empty cavity of the lesion.



Fig 3. The three-dimensional reconstruction of case 1 showed a clear cavity in the right lingual cortical of the mandible.



• Fig 4. A triangular shaped well circumscribed with sclerotic border radiolucent lesion near left mandibular angle (Case 2).



• Fig 5. Close view of the Figure 2.



• Fig 6. The intra-oral view of case 3. There was a sinus tract over the right lower first molar.



• Fig 7. Panoramic radiography showed a periapical pathosis of lower right first molar with incomplete endodontic treatment, and a well-defined oval-shaped radiolucent shadow near the right lower cortex causing thinning of the cortex and discontinuity of inferior wall of right lower inferior nerve canal.



<sup>®</sup> Fig 8. Closed view of the lesion (case 3).

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## 病例報告 - Stafne's cyst

薛水上<sup>1</sup>·許瑞廷<sup>1</sup>· 黃志勝<sup>2</sup> 宋昌霖<sup>3</sup>·陳玉昆<sup>4</sup>·吳崇維<sup>3</sup> 中國醫藥大學牙醫系<sup>1</sup> 亞田牙醫聯盟<sup>2</sup> 高雄醫學大學附設紀念醫院口腔外科<sup>3</sup>

高雄醫學大學附設紀念醫院口腔病理診斷科

環口放射線片已經成為台灣牙醫常規的檢查項目,本文主要是描述Stafne缺陷的臨床及放射線影像 的特徵。這類缺陷最常在中年病患常規的放射線檢查中意外被診斷出來。手術方式對於診斷並沒有太大 的助益,由手術取得的組織在病理學的檢查顯示一些分泌腺或是結締組織。藉由電腦斷層及立體影像重 建可以比較保性的診斷出此類舌側缺陷是源自於周圍組織。此類的缺陷不會發生惡性變化。因此由保守 性的電腦斷層檢查就足以做出診斷,這種病灶為發育性的缺陷,而非顎骨內的腫瘤,定期的檢查追蹤即 可,不須要進一步的手術治療。(J. Family Dent. 4(2): 51-56, 2009)

關鍵詞:Stafne骨內囊腫、下顎舌側唾液腺凹陷、潛在性骨囊腫、固定骨缺陷、下顎舌側缺陷

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聯絡地址:高雄醫學大學口腔預面外科 高雄市三民區十全一路100號 吳崇維
電話:07-3121101 轉 7001 電子信箱:on.water@msa.hinet.net

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