

Unusual Stafne bone cavity mimicking infected cyst or neural origin tumor

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ABSTRACT

The radiographic diagnosis of typical Stafne bone cavity could be done easily with cyst-like round or oval radiolucency near the angle of the mandible, under mandibular canal with or without involving mandibular base, and no symptoms. However there are some atypical cases suggesting possible variations of this entity. We report a quite unusual case, where Stafne bone cavity was lastly included in the differential diagnosis list. Histological examination of salivary gland tissues confirmed the final diagnosis. (*Korean J Oral Maxillofac Radiol* 2007; 37 : 221-3)

KEY WORDS : Mandible; Bone Defect, Mandible; Salivary Glands, Bone Cysts; Salivary Glands

Stafne bone cavity, also known as lingual mandibular bone defect, was described for the first time in 1942 by Stafne,¹ who reported on 35 cases appearing as round or ovoid, well-defined, unilocular radiolucencies, located below the mandibular canal, between the first molar and the angle of the mandible. This entity shows male predominance, no symptoms, and diagnosed as an incidental finding.^{2,3} The bony defect may contain salivary gland, connective tissue, fat, lymphoid tissue, muscle or blood vessels and sometimes empty cavities have also been recorded.³⁻⁵ Diagnosis is important to prevent needless surgery. Many atypical cases have been reported in which defects were located higher² or posterior⁶ or anterior^{2,7,8} than typical cases. Multiple occurrence⁹ had also been reported. We report an unusually anteriorly located Stafne bone cavity.

Case report

A 47-year-old male admitted to our department with informed mandibular cystic lesion found during the examination for extraction of left mandibular third molar. Panoramic radiography (Fig. 1) showed a well-defined round radiolucency at the apices of left mandibular first and second premolars, recent extraction socket of left mandibular third molar with extensive condensing osteitis. The overall appearance of the lesion seem-

ed to be an infected radicular cyst of left mandibular second premolar or odontogenic keratocyst but periapical view (Fig. 2) showed rather intact lamina dura of left mandibular second premolar with small radiolucency maybe mental foramen, massive periodontal bone resorption of left mandibular first and second premolars. There was no special clinical symptom except mobility of left mandibular first premolar, but at EPT test, left mandibular first premolar, second premolar, and first molar proved to be non-vital. Axial CT scans in Figs. 3, 4 showed an extensive left mandibular lingual bone defect even thinning buccal cortical bone. Soft tissue CT axial scan in Fig. 5 also failed to show any evidence of pathologic change. Coronal CT scans in Fig. 6 confirmed the lingual cortical bone defect of the lesion. The left mandibular first and second premolars were endodontically treated and left mandibular first molar was extracted before surgery. The left mandibular posterior area was explored under general anesthesia only to find the bone depression without any cystic wall. The frozen biopsy examination reported normal salivary gland tissues.

Discussion

Diagnosis of Stafne bone cavity is important because needless treatment modalities such as endodontic treatment, bone trephining, and bone exploration may be conducted.⁷ Parvizi and Rout¹⁰ reported the location and features on a panoramic radiography made Stafnes bone cavity a possible diagnosis. Katz et al.⁷ suggested the CT scan as the most suitable non-invasive diagnostic and follow-up modality for this bony configuration. Segev et al.⁵ reported that panoramic radiograph

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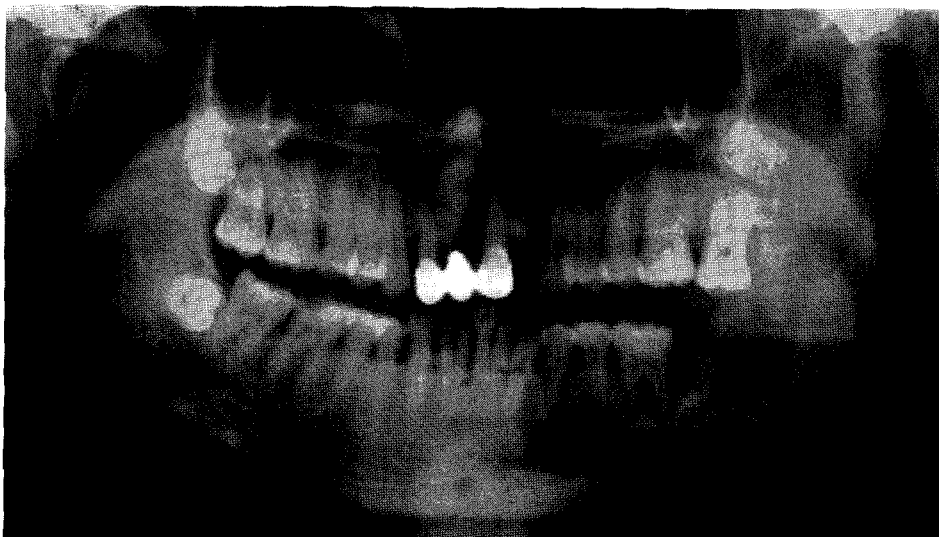


Fig. 1. Panoramic view showed a well-defined round radiolucency at the apices of left mandibular first and second premolars, recent extraction socket of left mandibular third molar with extensive condensing osteitis.



Fig. 2. Periapical view showed rather intact lamina dura of left mandibular second premolar with small radiolucency maybe mental foramen, massive periodontal bone resorption of left mandibular first and second premolars.

and CT were able to determine the outline of the cavity and its three dimensional shape, but failed to precisely diagnose the soft tissue content of the cavity, however, the MR imaging demonstrated that the bony cavity is filled with soft tissue that is continuous and identical in signal with that of the submandibular salivary gland.

Differential diagnosis with panoramic and periapical views only of our case included infected radicular cyst, infected odontogenic keratocyst, neural origin tumors like neurilemmoma and neurofibromatosis. Cysts were mostly suspected as initial impression, but neural origin tumors were also strongly suspected because on panoramic view the mental foramen, mandibular canal seemed to be widened. Since the CT scan showed absence of lingual cortical bone of the defect and the continuity from the base of the mandible, Stafne bone cavity were included in differential diagnosis. Extensive condensing osteitis resulting from the chronic inflammation of extracted left

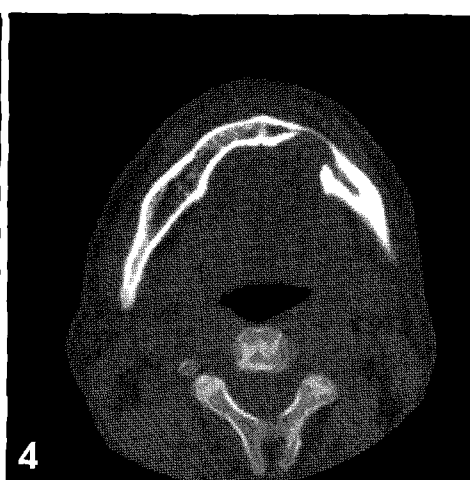
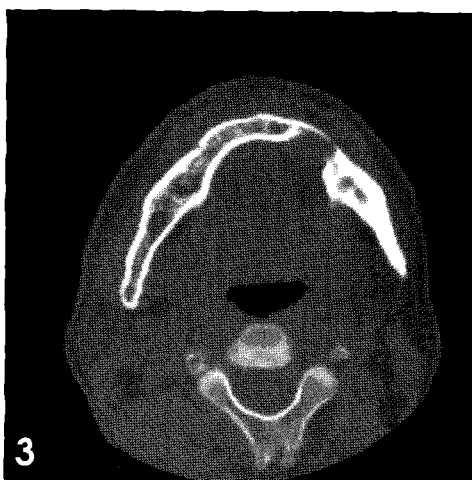


Fig. 3. Axial CT scan showed an extensive left mandibular lingual bone defect even thinning buccal cortical bone.

Fig. 4. Axial CT scan showed an extensive left mandibular lingual bone defect even thinning buccal cortical bone.

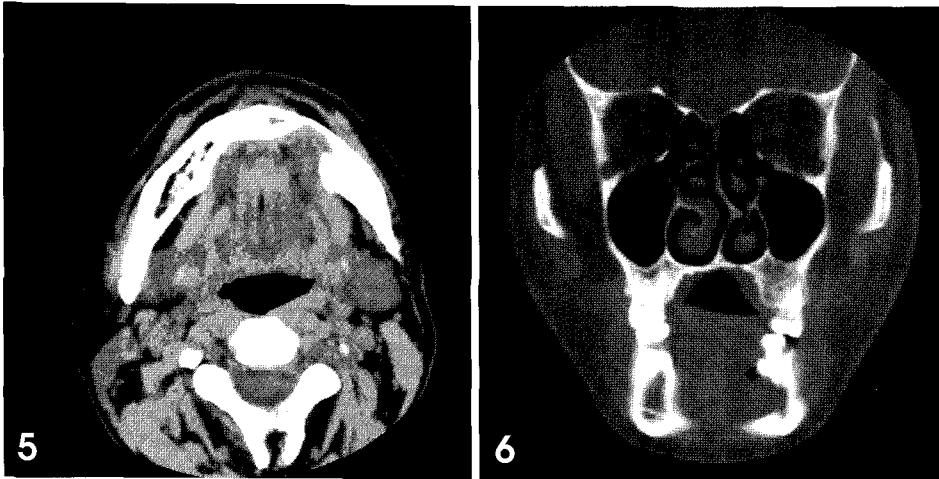


Fig. 5. Soft tissue CT axial scan did not show any evidence of pathologic change in the left mandibular bone defect area.

Fig. 6. Coronal CT scan confirmed the lingual cortical bone defect of the lesion.

mandibular third molar and the thinned buccal cortical plate caused peripheral burning out effect on panoramic view giving false impression of widened mental foramen and mandibular canal.

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