

## Solitary radiolucency near the angle of mandible

Tanvi Bihani<sup>1</sup>, Karandeep Singh Arora<sup>2,\*</sup>, Vineet Kumar<sup>3</sup>, Shreeyam Mohapatra<sup>4</sup>

<sup>1</sup>Senior Demonstrator, <sup>2,3</sup>Senior Lecturer, <sup>4</sup>Senior Resident, <sup>1</sup>Dept. of Orthodontics & Dentofacial Orthopaedics, <sup>2,4</sup>Dept. of Oral Medicine and Radiology, <sup>3</sup>Dept. of Prosthodontics, <sup>1</sup>PGIDS Rohtak, Haryana, <sup>2</sup>Bhojia Dental College and Hospital, Bhud, Baddi, Himanchal Pradesh, <sup>3</sup>Crown and Bridge & Implantology, Rajasthan Dental College and Hospital, Jaipur, Rajasthan, <sup>4</sup>SCB Dental College, Cuttack, Bhubaneswar, Odisha, India

**\*Corresponding Author:**

Email: drkaranarora@gmail.com

### Abstract

Stafne's Bone cavity is a radiolucent unilaterally located cavity normally present in posterior mandibular region, between the angle of mandible and the third molar, below the mandibular canal and above the inferior border of mandible. It originates from glandular tissue pressure on the lingual cortical plate. Orthopantomograph can first identify this entity as a radiolucent image. But advanced imaging like CT should be done to confirm the diagnosis. The present article focuses to report a case of Stafne's bone cavity encountered incidentally on an orthopantomograph.

**Keywords:** Stafne bone cavity, Mandibular bone depressions, Tomography, Lingual mandibular bone defect.

### Introduction

In 1942 for the first time, Stafne described, 35 asymptomatic, radiolucent cavities, unilaterally present in the posterior mandibular region, between angle of mandibular and the third molar, below the mandibular canal and slightly above the inferior border of the mandible.<sup>(1)</sup>

Stafne bone cyst has also been known as static bone cavity, latent bone cyst, lingual mandibular bone cavity, mandibular embryonic defect, idiopathic bone concavity of the mandible, and developmental submandibular gland defect of the mandible. Such cavities generally appear in the area between the mandibular first molar and the mandibular angle. One of their primary radiological diagnostic features is the characteristic location below the mandibular canal.<sup>(2)</sup>

Knowledge about the etiology and pathogenesis of these bone depressions has for long been limited and confusing which is reflected in the terms used for the past many years: static bone cavity or defect,<sup>(3)</sup> latent bone cavity,<sup>(4)</sup> idiopathic bone cavity,<sup>(5)</sup> ectopic submandibular or sublingual gland in the mandible<sup>(18,19)</sup> lingual cortical mandibular defect<sup>(6)</sup> lingual mandibular bone concavity<sup>(7)</sup> idiopathic lingual mandibular bone 'depression',<sup>(8)</sup> developmental bone defect of the mandible, and Stafne's idiopathic bone cavity or Cyst.<sup>(9)</sup>

The purpose of reporting this case is that a very few such cases have been reported from the Indian sub-continent. So to add to the literature and to highlight the importance of diagnosing this lesion.

### Case Report

A 71 year old male patient reported to the Department of Oral Medicine and Radiology with missing maxillary and mandibular teeth. A pre-treatment radiograph for prosthetic rehabilitation was obtained. On analyzing the orthopantomograph (Fig. 1), apart from the dentate and edentate areas, a solitary,

well defined round in shape, radiolucency measuring around 1.5 cm in its greatest diameter, with hypersclerotic border was observed near the right angle of mandible, situated between the inferior alveolar canal and the inferior border of the mandible. On the bases of radiological examination a diagnosis of Stafne's Bone Cavity was established for this radiolucency present at the mandibular angle region.



**Fig. 1: Orthopantomograph showing a well-defined solitary radiolucency with sclerotic borders**

### Discussion

The Stafne bone cavity is seen in 5th or 6th decade of life, although it has been described between 11 and 87 years of age.<sup>(10-13)</sup> This follows a male predilection with a male: female ration of 6:1.<sup>(10)</sup>

It has been assumed by authors that this entity originates from pressure exercised by glandular tissue on the lingual cortical plate of the mandible.<sup>(10,14,15)</sup> The posterior variant is related to submandibular gland and anterior variant is related to the sublingual gland.<sup>(15)</sup>

It was discovered during routine dental examination and had no associated symptoms. Mostly presented as well-defined radiolucencies, many with hypersclerotic borders. Size ranged from 0.5 to 2 cm.<sup>(2)</sup>

On an Orthopantomograph this entity appears as a radiolucent image with a well defined sclerotic border

situated at a posterior location of the mandible below the inferior alveolar canal.<sup>(12)</sup> In case of atypical location i.e. other than the posterior mandibular region, orthopantomograph is not a reliable test and higher imaging modalities should be employed.<sup>(15)</sup>

M Shimizu *et al.* had analyzed the CT images/features of Stafne's bone cyst on the bases of the mesiodistal location, the superoinferior location, the maximum buccolingual length, the maximum mesiodistal length, the superoinferior height, the existence of expansion of the buccal cortical bone, the inner content of the defect and the location of submandibular glands both on the defect side and on the contralateral side.<sup>(16)</sup> Magnetic resonance (MR) is a test also referred to in the literature.<sup>(10)</sup>

Sialography in the posterior mandible, may be useful for diagnosis, in cases with salivary gland content. The disadvantages including invasiveness and the inability to diagnosis cases with a non-salivary gland content. In the anterior mandible, where the sublingual gland is involved sialography is scarcely performed due to presence of numerous ducts. Hence sialography is recommended only for posterior mandible.<sup>(9)</sup>

The differential diagnosis includes radicular cyst, residual cyst, and non – inflammatory odontogenic cyst. Whereas simple (traumatic) bone cyst, lateral periodontal cyst can also be considered as a differential diagnosis.<sup>(17)</sup>

It has been suggested by many studies that surgery is not indicated. But superimposed pathology can develop in the entrapped salivary gland. Thus, it is important that the patient undergoes proper radiographic follow-up. So that any changes if occur can be noticed and intercepted at the right time.<sup>(9)</sup>

To conclude it has to be mentioned that although the diagnosis of posterior Stafne's bone cavity can often be established with plain radiographs, but the defect situated on the anterior side has to be confirmed by CT imaging. And the diagnosticians should have a knowledge of such radiolucencies.

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