

## Case Report

# Asymptomatic Osteoid osteoma in the Mandible - A Case Report

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### Abstract

Osteoid osteomas in the mandible are infrequent and most often symptomatic. This article describes a case of a 53-year-old female referred to our clinic with an asymptomatic unilateral bony outgrowth on the lingual side of the left mandible. CBCT imaging showed a bony mass with spongy bone, resembling an osteoid osteoma. Primary treatment consisted of surgical resection under local anesthesia. No recurrence was observed at 6 months follow up. This report also reviews the cases of osteoid osteomas reported in the literature in the last 10 years.

**Keywords:** Osteoma, mandible, jaw

### INTRODUCTION

Osteoid osteoma is defined as benign neoplasm [1]. It is the third most common benign bone tumor and account for 10-14% of all benign bone tumors after enchondroma and non-ossifying fibroma [2]. They occur most often in the lower extremities of the appendicular skeleton (80%) [3]. Their occurrence in the craniofacial skeleton is exceptionally rare [3,4]. The lesions are often symptomatic, and patients seek medical help due to pain. Young adults under 30 years of age are usually affected [2,3]. Several treatment modalities have been suggested for osteoid osteomas involving different types of surgical interventions and conservatively with anti-inflammatory drugs [2]. In the mandible, surgical resection has been reported to be the first choice of therapy [4].

I report a case of an asymptomatic osteoid osteoma in the mandible in an adult female and therefore contribute my experience to the literature which is reviewed.

### CASE REPORT

This case report has adhered to the tenets of the 1964 Declaration of Helsinki. Written informed consent for the publication of this report has been obtained from the patient.

A 53-year-old female was referred to the Department of Oral and Maxillofacial Surgery and Jaw Orthopedics, Karolinska University Hospital, from her general dentist with a bony outgrowth on the lingual side of the left mandible (Fig.1).

Due to its odd appearance, resembling a torus mandible but only uni-

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laterally, the dentist referred for a deepened investigation. The patient was in good health, reporting a history of fibromyalgia.

She reported no pain or obvious discomfort, not knowing when the outgrowth presented or started growing. A computed tomography examination of the mandible was performed, and the bony mass contained spongy bone, resembling a spongy osteoma. (Fig. 2). The radiological statement emphasized the lack of cortical bone, which otherwise is detected in torus mandibular investigations. The bony outgrowth was 4x4cm attached to the lingual cortex of the mandible in the region of tooth 35-36 with only 5mm of bone. With a tentative



Figure 1: Bony outgrowth in the mandible

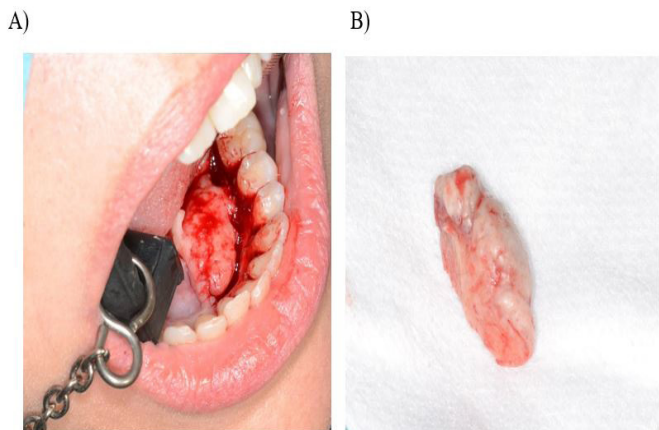


Figure 2: Radiological examination revealing a spongy osteoid bony mass.

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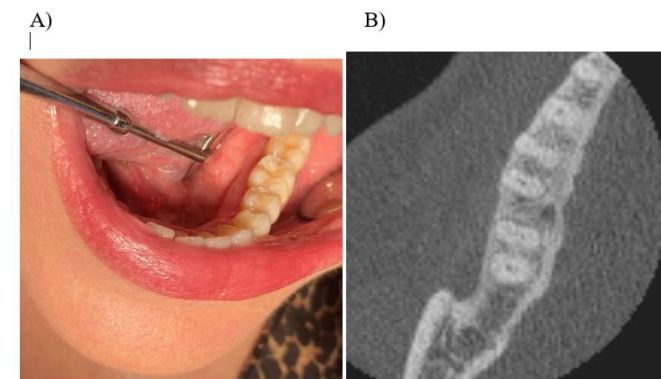
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**Figure 3:** Surgical exposure and resection of the bony mass.



**Figure 4**



**Figure 5**

diagnosis of osteoid osteoma, the patient wanted it removed due to interference with the tongue. The lesion was surgically removed under local anesthesia (Fig 3A,B). Post operatively, the mucous membrane covering the lesion underwent necrosis (Fig 4). Phenoxymethylpenicillin 1,6gx3 was prescribed for seven days and secondary healing of the tissue was uneventful. At 6 months recall, no clinical or radiological signs of recurrence was observed, and the patient was satisfied with her treatment (5A, B).

**DISCUSSION**

This paper describes an unusual osteoid osteoma of the mandible. Osteoid osteomas were first described as an entity in 1935 for the first time[5]. It was described as a slowly evolving benign lesion, often symptomatic, taking months to grow before being demonstrable on x-rays as a radiolucent nidus[2]. The pathogenesis is unknown but thought to be a neoplasm due to its active osteogenesis or due to an inflammatory process [1,2, 6].

The lesion consists of a periphery with solid mature bone, containing immature woven bone and fibrous connective tissue that separates

**Table 1**

Study	Trauma	Location	Symptoms	Treatment	Recurrence	Radiologi	Follow up time	Age
Singh & Solomon 2013 <sup>3</sup>	Not reported	Left mandibular body	Pain	Surgical resection	No	Orthopantogram & Occlusal radiograph	6months	20
Matthies L et al 2019 <sup>4</sup>	No	Corpus mandibulae	Pain (alleviated by NSAID)	Enucleation	No	CBCT	Not reported	18
I.Mohammed et al 2013 <sup>5</sup>	No	Left mandibular body	Pain (alleviated by NSAID)	Surgical resection	No	Orthopantogram and intraoral periapical radiographs	12months	20
Bajpai 2018 <sup>8</sup>	No	Right mandibular body	Pain	Surgical resection	No	Intraoral periapical radiographs	8months	54
Seo-Young An et al 2013 <sup>9</sup>	Not reported	Right mandibular body	Not reported	Surgical resection	No	CT	5.5years	10
Sasha J Betz et al 2017 <sup>10</sup>	No	Right mandibular body	Discomfort	Surgical resection	no	CBCT	14 months	18
Gadre et al 2016 <sup>11</sup>	Not reported	Base of the corpus mandibulae	Pain/discomfort	Surgical resection	No	CBCT	24 months	30
Infante-Cossio P. et al 2016 <sup>12</sup>	No	Right mandibular body	Pain	Surgical resection	No	CT	5 years	44
Thopte S et al 2018 <sup>13</sup>	No	Left condyle	None	Surgical resection	No	CBCT, PET-CT, MDP bone scan	18months	21

the trabeculae, somewhat atypical with numerous thin-walled blood channels [7,8].

The classification is dependent on its location; cortical, subperiosteal, and cancellous. The most common lesion is intracortical [2,9]. This case presents a subperiosteal osteoma.

Most lesions occur in appendicular skeleton (80%) where more than half develop in the lower extremities[9]. However, they have been described in the spine, ribs, and exceptionally rare in the facial skeleton. 70% of osteoid osteomas occur in the third decade of life with a male predominance [2]. They are usually symptomatic, and the pain is described as dull, constant aching with varying severity, usually alleviated with salicylates and NSAID [2,10].

The course of the disease is unpredictable and the treatment of choice depends on its location and the symptoms. CT is the superior modality of choice for the diagnosis of osteoid osteomas with a detection rate of almost 100%. Plain radiographs detect only up to 66%. MRI is inferior to CT scan due to the risk for misdiagnosis but can be beneficial if there is soft tissue spread. Nuclear imaging can be beneficial in the diagnosis in areas with complex anatomy. The lesions usually have grooves in the periphery representing the arterioles supplying blood to the tumor mass [2] (Fig 3B).

There are several procedures suggested in the literature to treat osteoid osteomas, both surgical and minimal invasive. The surgical procedures constitute of a complete en bloc resection of the tumor with a success rate of 88-100% [2]. Complications described are fractures, delayed functional recovery, osteomyelitis, nerve damages and the need for bone graft.

Minimal invasive techniques such as CT guided percutaneous excision, cryoablation, and microwave ablation have been described in the literature with good outcomes (83-100% success rate)[2].

Nowadays, osteomas are, if possible, treated conservatively with NSAIDs or salicylate and regress within 2-6 months. Some regress spontaneously within 2-6 years. They are surgically treated in case of failure or if medical treatment is contraindicated [2,10].

In the mandible, surgery is the main treatment reported in the literature. Probably due to its rare occurrence and the relatively easy surgical access in the body of the mandible.

In the last ten years, only 9 cases of osteoid osteomas in the mandible have been reported on PubMed (Table 1). In six cases, the patients presented with pain [3,4,6,8,11,12]. In five of nine cases, a CBCT or CT scan was used for diagnosis and judged as a suitable modality [4,9,10,11,12,13]. All cases presented an osteoma on the body of the mandible, except one case in the condyle [13]. All were treated by surgical resection and no recurrences were observed. Only one case needed secondary surgery, due to occlusal disturbances after surgery of the condyle [13]. Osteoblastoma is a typical differential diagnosis in the mandible due to its similar clinical and histopathological features [15].

## CONCLUSION

Osteoid osteomas are benign lesions that rarely occur in the mandible. They are most often symptomatic and easily treated by surgical resection when easily accessed surgically. Recurrences rarely seem to occur. More reports of the lesions in the craniofacial area are of value for further understanding.

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