

Case Report

Peripheral osteoma of the body of mandible in a 23-year-old female

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ABSTRACT

Mandibular osteomas are rare, benign, slow-growing bone tumors most commonly found in the craniofacial region. Although typically asymptomatic, they can cause localized swelling, pain, or functional disturbances, such as difficulty chewing, when they grow large enough to impact surrounding structures. Peripheral osteomas, which arise on the external surface of the mandible, represent a distinct variant of these tumors. The lesion typically grows slowly and, on radiographs, presents as a well-defined radiopaque mass. Mandibular osteomas are often discovered incidentally due to their slow growth and lack of symptoms. However, as demonstrated in this case, they can lead to significant functional impairment, such as chewing difficulties, when they grow large enough. Surgical excision remains the treatment of choice, offering excellent outcomes with minimal risk of recurrence. Early diagnosis and appropriate surgical intervention are crucial in managing peripheral osteomas of the mandible. With proper treatment, patients can expect favourable outcomes and minimal complications.

Keywords: Peripheral osteoma, Benign bone tumor, Mandibular osteoma, Oral and maxillofacial surgery

INTRODUCTION

Mandibular osteomas are rare, benign, slow-growing bone tumors commonly found in the craniofacial region. Epidemiologically, comparable more common in men between the ages groups of 30 and 50 years.^{1,2} It can originate from the periosteum (peripheral), endosteum (central), or even extraskeletal soft tissue. Peripheral osteomas primarily involve the frontal bone and mandible.³ They are often asymptomatic but may cause swelling, pain, or functional disturbances such as difficulty chewing. Skull is the most common site of osteoma to develop in maxillofacial region.^{4,6} Osteoma is a rare benign osteogenic neoplasm that occurs in approximately 0.43-1% of the population.⁷ The exact pathogenesis of osteoma remains unclear, leading to several proposed hypotheses regarding its controversial etiology. In this regard, osteomas are considered either a true neoplasm, a developmental defect, or a reactive lesion induced by trauma or infection.⁹

CASE REPORT

A 23-year-old female presented with a chief complaint of bony hard swelling on the right side of the oral cavity, persisting for 3-4 years, along with difficulty in chewing food for the past 1-2 years. The swelling was initially painless and grew slowly over time. Gradually, the patient began experiencing difficulty in chewing, particularly on the right side. There was no history of trauma, systemic illness, or familial bone disorders. On clinical examination A firm, non-tender, bony hard swelling was noted in the right mandible, with no associated mobility or pain upon palpation (Figure 1). The overlying mucosa appeared normal.

Radiographic findings

Imaging, computed tomography (CT), revealed a well-defined exophytic bone density with lobulated borders measuring 4.0 AP×1.6 TR×2.2 CC cm. in the lingual

surface of mandible. Lesion is extending medially into ipsilateral sublingual space, displacing ipsilateral tongue muscles (Figure 2). The lesion had a smooth, regular margin and no signs of malignancy or bone invasion. Radiopaque lesion in the medial aspect of the right mandible along with the size of the lesion, along with the patient's symptoms, suggested that the osteoma was large enough to cause local discomfort and functional disturbance. Based on clinical and radiographic findings, the patient was diagnosed with a mandibular osteoma.



Figure 1: Clinical picture of intra-oral hard swelling in lingual surface of body of mandible.



Figure 2 (A-C): Radiological image of well-defined exophytic bone density in lingual surface of mandible.

Treatment

The patient was counseled about her condition and the available treatment options. Given that the lesion was causing functional difficulties, including difficulty chewing, and had a well-defined and non-malignant appearance, surgical excision was recommended. The patient consented to the procedure, and the surgery was scheduled under general anesthesia (Figure 3).

An intraoral approach was used to expose the lesion (Figure 4). The osteoma was located on the external surface of the mandible, and careful dissection was performed to preserve the surrounding soft tissues. The bony mass was completely removed without causing any damage to the adjacent teeth or neurovascular structures. The defect left by the excised osteoma was smooth, and primary closure of the surgical site was achieved.

Postoperative course

The patient had an uneventful postoperative recovery. She was instructed to follow a soft diet for the first two weeks and was given analgesics for pain management. The surgical site healed well without any complications such as infection or wound dehiscence. Follow-up visits over the next six months showed no signs of recurrence, and the patient reported complete resolution of her symptoms, including improved chewing function.

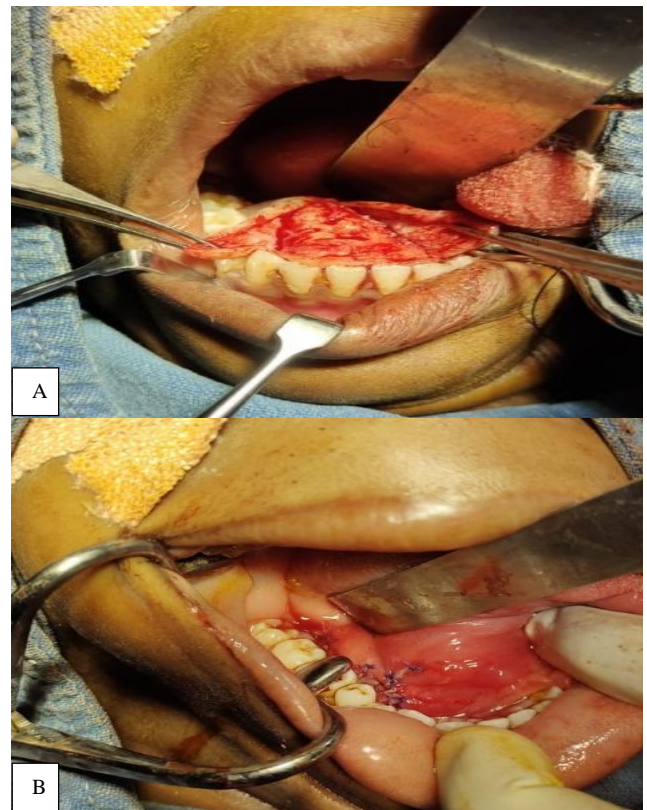


Figure 3 (A and B): Intra-op image showing mass was meticulously removed from the lingual surface of the right side of the mandible.



Figure 4: Operative sample approx. size 8×4 cm.

DISCUSSION

Mandibular osteomas are rare, benign tumors that arise from the outer surface of bones often incidental findings due to their slow growth and asymptomatic nature.⁷ The mandible is one of the most common sites for peripheral osteomas, particularly the body and angle. However, they can cause significant functional problems, as seen in this case, where chewing difficulty prompted the patient to seek treatment. It is important to note that CT is the most effective imaging modality for diagnosing, determining the size, and identifying the anatomical location of the lesion.⁸ Surgical excision is the treatment of choice, especially in symptomatic cases or when there is interference with normal function. Surgical indications are based on the degree of disfigurement, limitation or loss of function, or desire for a definitive histopathologic diagnosis.⁴ The etiology of peripheral osteomas is not fully understood, though it is thought that they may result from a developmental anomaly or trauma. Histologically, they consist of mature bone tissue, typically without any signs of malignant transformation. Surgical excision is the treatment of choice, and the prognosis is excellent, with low recurrence rates.

CONCLUSION

Peripheral osteomas of the mandible are rare benign lesions that can lead to functional impairment if they grow large enough. This case highlights the importance of considering benign bony tumors like osteomas in young patients presenting with long-standing, painless swelling in the oral cavity. Surgical excision of the tumor

resulted in a full recovery with resolution of symptoms. Early diagnosis and timely surgical intervention are critical for managing these tumors and preventing potential complications. With appropriate treatment, patients can expect excellent outcomes with minimal risk of recurrence.

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