รายงานผู้ป่วย Case Report

Peripheral Mandibular Osteoma: A Case Report

Phornchai Triyarat, D.D.S.*
Teerawat Paipongna, D.D.S.**

Abstract

Osteoma is a benign, slow–growing tumor which rarely occurs in craniofacial region. It is characterized by the proliferation of mature compact and cancellous bone. It is commonly found in the second and fifth decades of life. Most of jaw osteomas are detected at the body or condyle of mandible. In this report, we present a rare case of peripheral osteoma at left body of mandible in a 36–year–old woman. This lesion was successfully managed by complete resection and mandibuloplasty without any complications. The surgical specimen was histologically confirmed as osteoma.

Keywords: Osteoma, Mandible, Benign neoplasm

* Dentist (Senior Professional Level), Dental Department, Sakon Nakhon Hospital, Thailand
** Dentist (Professional Level), Dental Department, Sakon Nakhon Hospital, Thailand

Introduction

Osteoma is a benign which almost arises in membranous bones. It is composed of mature compact bone or cancellous bone. They can be found in the bone surface (periosteal, peri pheral, or exophytic osteomas), within medullary bone (endosteal or central osteoma), or extra-skeleton osteomas (soft tissue osteoma)[1,2] The pathogenesis of osteoma is still controversial. Osteomas are associated with congenital cholesteatomas[3] embryonal cartilaginous rest or embryological periosteum[4] or hereditary problem (multiple osteoma associated with Gardner's syndrome)[5] However, the previous traumatic injury could be a cause of these tumors development.[6]

Osteoma is an asymptomatic slow–growing tumor. It commonly occurs in the second and fifth decades of life with non–gender preference. Most jaw osteomas are detected at the body or condyle of the mandible. The osteoma of body of mandible mostly occurs in posterior to premolar on the lingual surface. Osteoma of inferior border of angle of mandible and coronoid process are less common.[1,2,7,8,9,10]

In this case report, we present a peripheral mandibular osteoma at the left body of the mandible with clinicopathological and radiographic finding with differential diagnosis and treatment planning.

Case report

The patient's data was retrieved from medical record with the permission from the hospital director. The informed consent was obtained from the patient by mean of a written and signed informed consent form.

A 36–year–old woman presented to the dental department of Sakon Nakhon hospital with a history of painless swelling on the left side of mandibular region for 2 years. She had been complaining of unaesthetic and uncomfortable feeling on her face. There was no history of trauma or infection or remarkable medical history.

The physical examination revealed well–defined bony hard, swelling at the lower border of left body of mandible (Figure 1) measuring about 2.0x1.5 centimeter (cm.). The overlying skin was normal and the swelling was not tender. The mass could also be palpated intra-orally at the lingual surface of lower border of mandible.

The panoramic radiograph showed a well–defined homogeneous radiopaque, round mass, measured about 2.0x1.5 cm. at the lower border of the left body of the mandible (Figure 2). The computed tomography (CT) scan of facial bone revealed a dense, homogenous and calcified mass protruding from the lingual aspect of the lower border of the mandible without bone destruction (Figure 3).

The differential diagnoses were osteoma and fibrous dysplasia. After a consultation with the oral and maxillofacial surgeon, an excisional biopsy of the mass was planned due to benign clinical and radiological characteristic of the lesion.

Figure 1 Pre–operative extraoral photographs of patient revealing a swelling at left lower border of mandible.

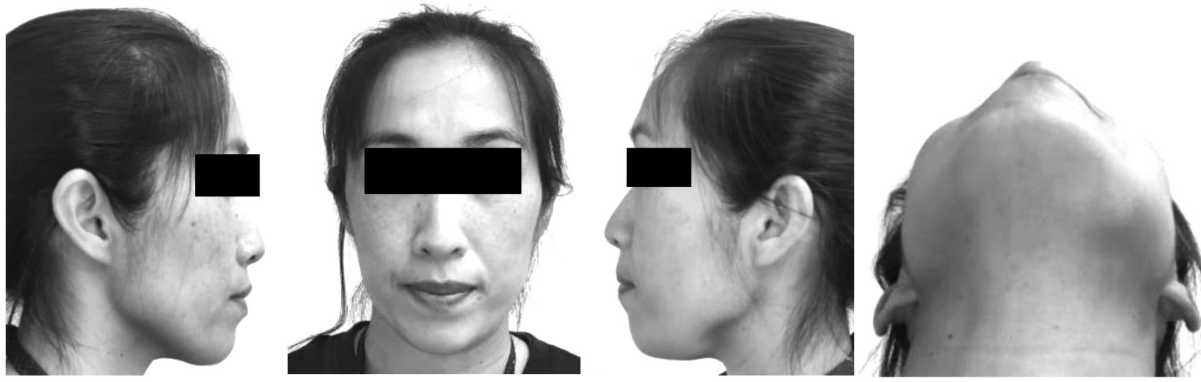


Figure 2 Panoramic radiograph showing a round, 2x2 cm, well–defined radiopaque mass at the lower border of left mandibular body.

Figure 3 Computed tomography showing a well circumscribed hyperdense homogenous calcified mass attached to medial aspect of lower border of left mandible.

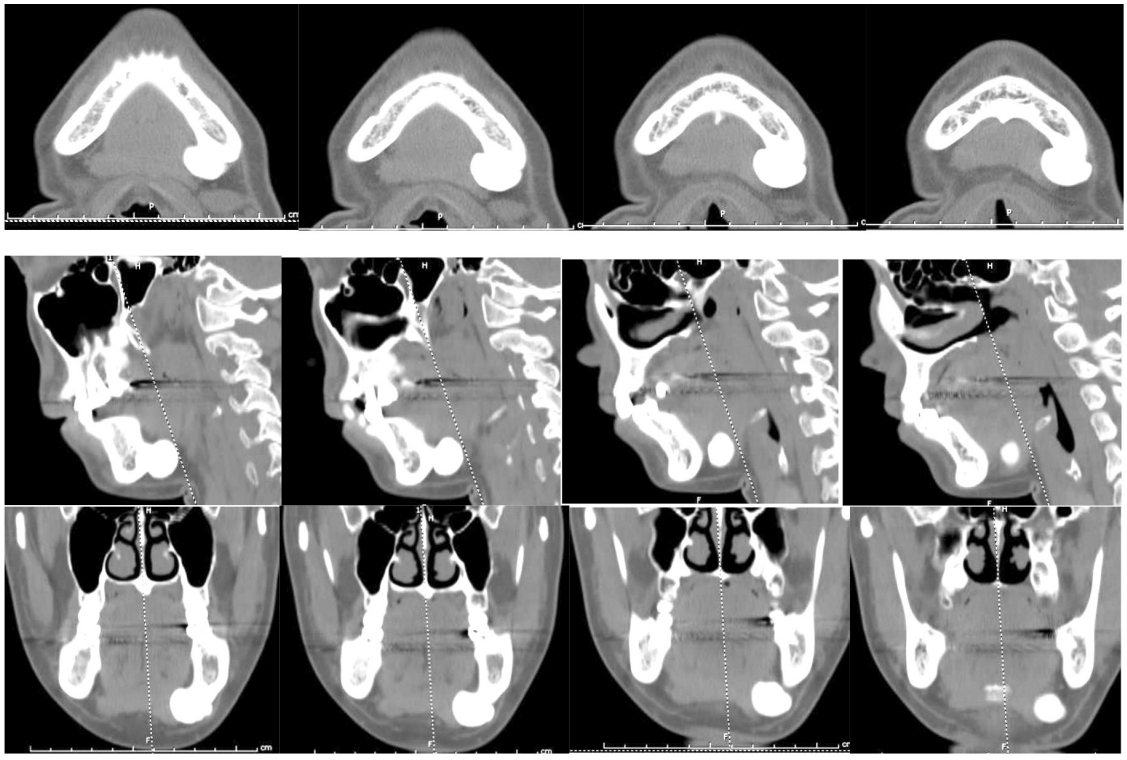


Figure 4 Surgical procedures (a) submandibular approach showing the bony mass at left lower border of mandible (b) and resection of osteoma (c) A gross specimen showing a piece of hard polypoid shape bony mass of size 2.2x2.0x1.3 cm.

(a)

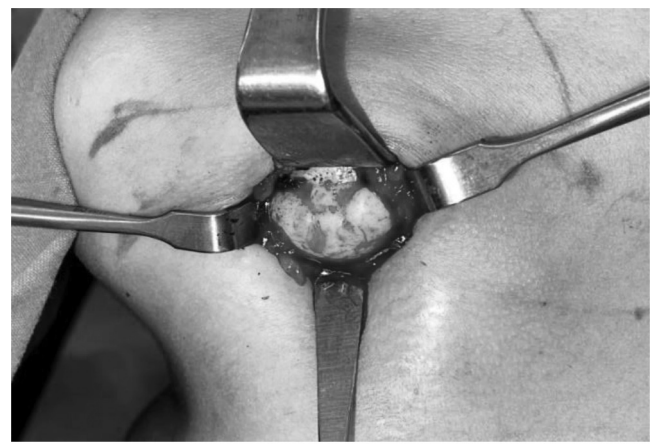
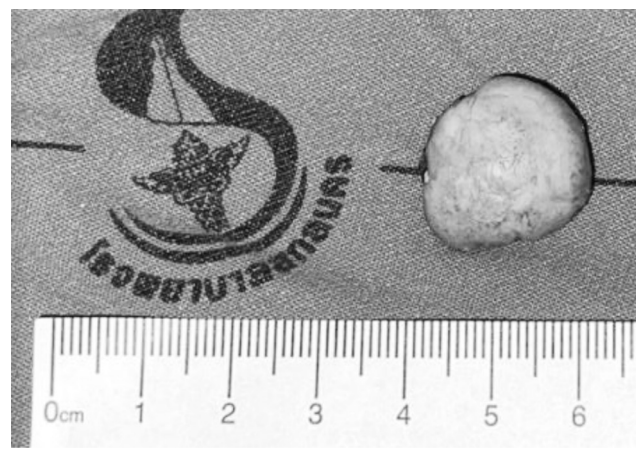


Figure 4 Surgical procedures (a) submandibular approach showing the bony mass at left lower border of mandible (b) and resection of osteoma (c) A gross specimen showing a piece of hard polypoid shape bony mass of size 2.2x2.0x1.3 cm.

(b)

(c)



The patient underwent a surgical procedure under general anesthesia via oral endotracheal intubation. The patient was operated by a left submandibular approach (Figure 4a). The intraoperative findings revealed the sessile bone mass at the left lower border of mandible. Excision of the mass and mandibuloplasty were performed with oscillating saws and electric bone files (Figure 4b). The wound was closed in layers after copious irrigation with normal saline solution. The surgical specimen was submitted for histopathological examination. There were no intraoperative complications.

The postoperative course was uneventful. The patient was discharge from the hospital at day 3 after the surgery. At 2–week follow–up visit, the patient had slightly visible scar at left submandibular area without facial nerve injury.

The microscopic examination of the resected specimen shows well-defined bony tissue composed of dense and compacted lamellar bone and broad trabeculae on paucicellular fibrous stroma without cytologic atypia (Figure 5). The final microscopic diagnosis was osteoma of the left body of mandible.

The patient was advised for a routine follow–up. A recurrence was not observed during 6–month follow-up.

Figure 5 Microscopic feature of osteoma consisted of dense, compacted lamella bone and broad trabeculae on paucicellular fibrous stroma (heamatoxylin–eosin).

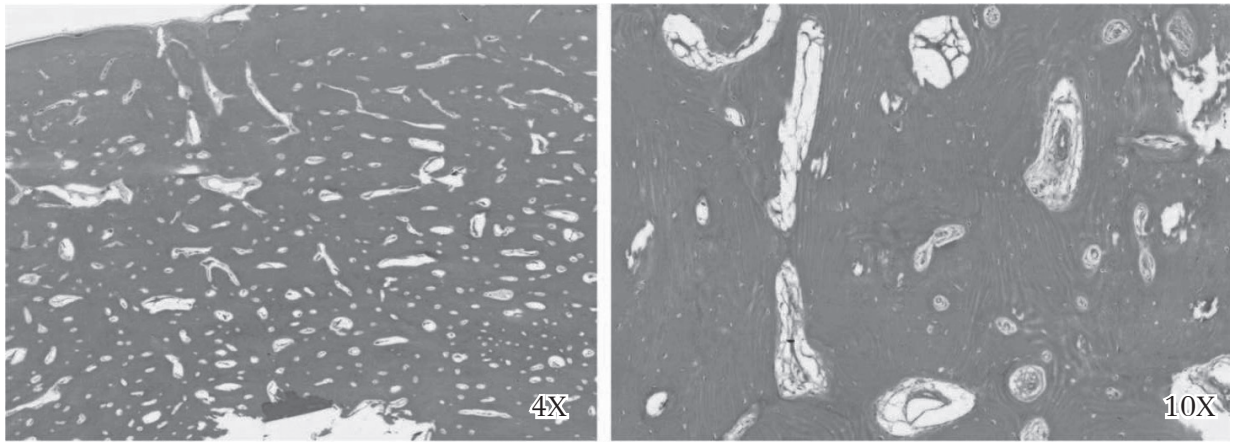


Figure 6 Postoperative panoramic radiograph at 3 months revealing a normal shape of lower border of mandible.

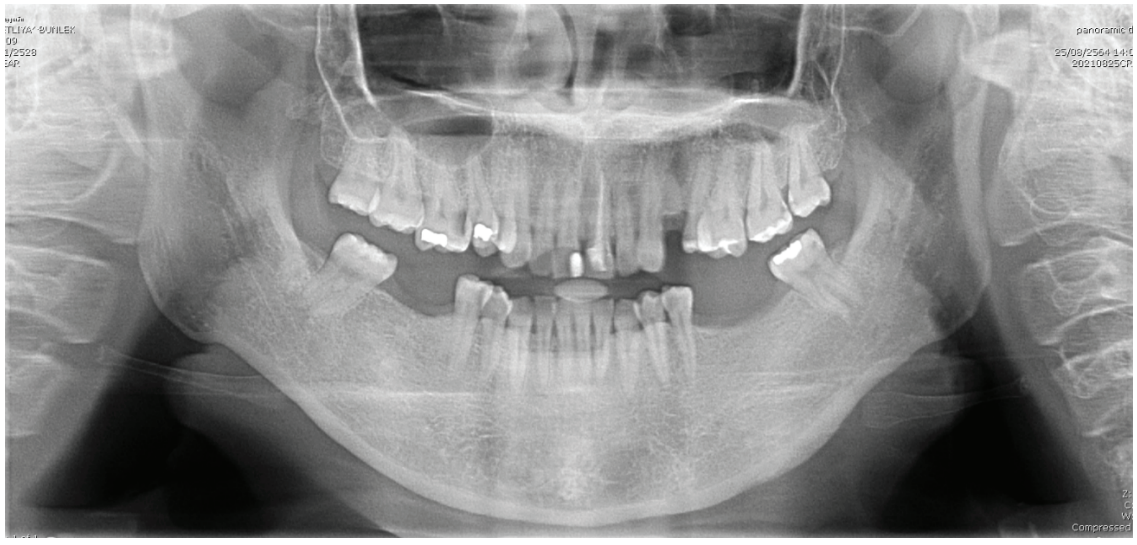


Figure 7 Three months post–operative extraoral photographs of patient showing a slightly visible scar at left submandibular region and normal mandibular contour.

Discussion

Swelling of the mandible is a common presentation of benign tumor. The peripheral osteoma usually presents as a bony hard, well–circumscribed, unilateral painless swelling and well–circumscribed lesion. Differential diagnosis includes intrabony and extrabony lesions such as bone exostoses, osteoblastoma, osteoid osteoma, fibro–osseous lesion or complex odontoma. The peripheral osteoma is rare. The surgical removal of osteoma is not always necessary. Facial unesthetic and functional impairment are indications for surgical removal. Although the peripheral osteomas are benign lesions, complete excision at the base of the lesion is mainstay of management. The CT scan is the best imaging modality for preoperative evaluation the location and boundary of the lesion. The surgical approach depends on the location of lesion. The extraoral approach is preferred for the removal of the peripheral osteoma at the posterior region and lower border of mandible. Because the lesion of this patient was located at the lingual surface of lower border of mandible, an extraoral approach was used. In the case of multiple osteoma lesions, Gardner's syndrome should be always considered. The lesion is not commonly recurrence and malignant transformation has not been reported. The radiographic follow–up every 6 months for 2–3 years is recommended.

References

1. Neville BW, Damm DD, Allen C, Chi AC. Oral and maxillofacial pathology: Elsevier Health Sciences; 2015.
2. Slootweg PJ, El–Naggar AK. World Health Organization 4th edition of head and neck tumor classification: insight into the consequential modifications. Virchows Arch 2018; 472(3):311–313.
3. Yamasoba T, Harada T, Okuno T, Nomura YJAoOH, Surgery N. Osteoma of the middle ear: report of a case 1990;116(10):1214–6.
4. Miller NR, Gray J, Snip R. Giant, mushroom–shaped osteoma of the orbit originating from the maxillary sinus. Am J Ophthalmol 1977;83(4):587–91.
5. Brucoli M, Giarda M, Benech A. Gardner syndrome: presurgical planning and surgical management of craniomaxillofacial osteomas. J Craniofac Surg 2011;22(3):946–8.
6. Kim SH, Lim DS, Do Hun Lee KPK, Hwang JH, Kim KS, Lee SY. Post–traumatic peripheral giant osteoma in the frontal bone. Arch Craniofac Surg 2017;18(4):273.
7. Kaplan I, Calderon S, Buchner A. Peripheral osteoma of the mandible: a study of 10 new cases and analysis of the literature. J Oral Maxillofac Surg 1994;52(5):467–70.
8. Gundewar S, Kothari DS, Mokal NJ, Ghalme A. Osteomas of the craniofacial region: a case series and review of literature. Indian J Plast Surg 2013;46(03):479–85.
9. Halawi AM, Maley JE, Robinson RA, Swenson C, Graham SM. Craniofacial osteoma:

clinical presentation and patterns of growth. Am J Rhinol Allergy 2013;27(2):128–33.

10. Larrea–Oyarbide N, Valmaseda–Castellón E, Berini–Aytés L, Gay–Escoda C. Osteomas of the craniofacial region. Review of 106 cases. J Oral Pathol Med 2008;37(1):38–42.