

**Peripheral Osteoma: A Case Report about a Mandibular Localization**Mariem Meddeb<sup>1\*</sup>, Sameh Sioud<sup>2</sup>, Raja Chebbi<sup>3</sup>, Abdellatif Chokri<sup>4</sup>, Adel Bouguezzi<sup>5</sup>, Radhia Ben Ali<sup>6</sup>, Jemil Selmi<sup>7</sup><sup>1,2,4,5,6,7</sup>Department of Medicine and Oral Surgery of the Dentistry Clinic, Monastir, Tunisia<sup>3</sup>Department of occlusodontic of Dentistry Clinic, Monastir, Tunisia**\*Corresponding author**

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**Abstract:** Osteoma is a benign osteogenic tumor arising from the proliferation of cancellous, compact bone or their combination. It can be of a central, peripheral, or extraskeletal type. The peripheral type arises from the periosteum and is rarely seen in the mandible. The etiology of this lesion is still unknown; some investigators thought that it may be a true neoplasm or a developmental anomaly. Clinically, peripheral osteomas are frequently asymptomatic, discovered during routine radiograph incidence. Hence, surgery is generally not required.

**Keywords:** Osteoma, osteogenic tumor, neoplasm.

**INTRODUCTION**

According to world health organization “WHO” 2017 Osteoma is a benign, osteogenic neoplasm composed of well-differentiated mature bone tissue. The solitary osteoma may be classified as: peripheral (paraosteal, periosteal or exophytic) when arising from the surface of the bone periosteum, central (endosteal), when arising from the bone medullary and extraskeletal when arising in soft tissue usually develops within the muscle. The peripheral osteoma is most common [1-4].

The aim of this article is to report a case of peripheral mandibular osteoma which be diagnosed at the department of Medicine and Oral Surgery of the Dentistry Clinic of Monastir, Tunisia.

**CASE REPORT**

An 87-year-old female patient with physical disability consulted the department of Medicine and Oral Surgery with the chief complaint of ulceration in the left lateral border of the tongue which appeared over recent days.

Extraoral examination yielded no abnormal findings on inspection and palpation of left mandibular bone. Intraoral examination showed, Firm, mass fixed on the left lingual cortical. The overlying mucosa of the mass was normal. The left side of the tongue was erythematous and ulcerated. The traumatic ulceration was caused by a dilapidated lower left molar (Figure-1).

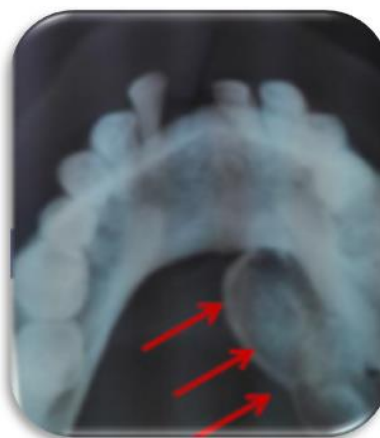
The occlusal radiograph, showed large unilocular radio opaque lesion causing expansion of the left lingual cortex (Figure-2).

Axial cone-beam computed tomography exhibited, well-defined, rounded, hyperdense mass similar to normal bones, attached to the left buccal surface of the lower border of the mandibular body. There is no cortical bone destruction or any abnormality in the surrounding tissues (Figure-3a, 3b). Face to this lesion, clinical and radiographic signs may evoke peripheral osteoma.

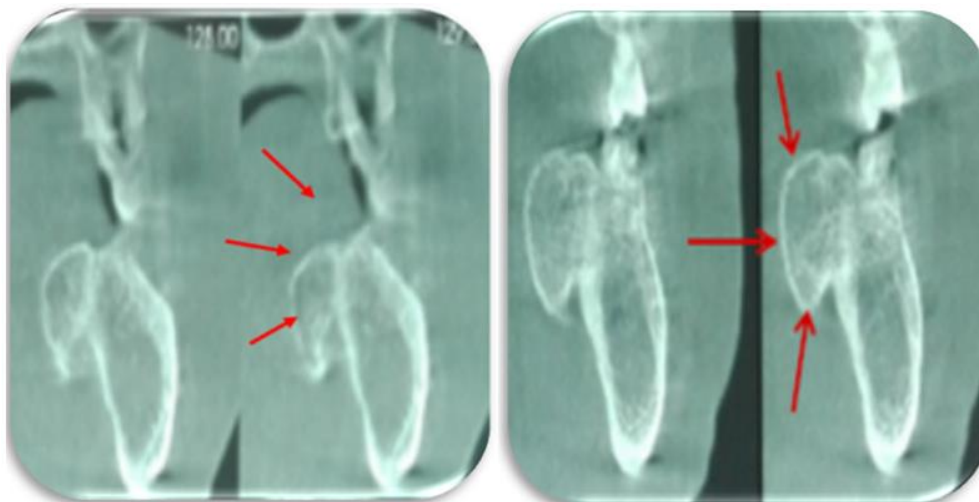
For Therapeutic approaches, the surgical removal of this lesion was judged unnecessary in this case because it was asymptomatic, non progressing and also because of the old age of our patient. It can be just followed-up with physical and radiological examinations.



**Fig-1: Firm, mass fixed on the left lingual cortical, covered by normal mucosa**



**Fig-2: The occlusal radiograph: unilocular radio opaque lesion causing expansion of the left lingual cortex**



**Fig-3a & 3b: Axial cone-beam computed tomography: well-defined hyperdense mass similar to normal bones, attached to the left buccal mandibular bone surface. There is no cortical bone destruction or any abnormality in the surrounding tissues**

## DISCUSSIONS

An osteoma is a benign neoplasm of bone tissue characterized by very slow, continuous growth. The overall incidence of osteoma is low, affecting 0.01–0.04% of the population; osteomas comprise 12.1% of

benign bone tumors and 2.9% of all bone tumors. Most of the osteomas occurring in the mandible are dense osteomas, and the cancellous one is comparatively rare [4-7].

Peripheral osteoma often located in the frontal, ethmoid and maxillary sinus, but rarely occurs in the jaws. Instead, in mandibular bone, lesions most frequently develop in the condyle, angle and less commonly involve the ramus. The lingual surface and lower border of the body are the most common locations of these lesions [1, 5, 8].

They usually occur between 2nd and 5th decade; however, may be seen at any age. It has been reported that osteomas have no sex predilection [1, 7].

The pathogenesis of peripheral osteoma has not been elucidated. Three hypotheses can be proposed according to its cause, including the developmental theory, the neoplastic theory, and the reactive theory. The developmental theory, suggests that peripheral osteomas result from developmental abnormalities, but this is not convincing because most patients have passed their growth phase. The neoplastic theory contradicts the fact that osteoma proliferates extremely slowly. The reactive theory can explain the case of osteoma that occurs after trauma [1, 2, 9, 10, 11].

Clinically, peripheral osteoma appears as an unilateral and well-circumscribed mass. They are often asymptomatic and discovered incidentally during radiological and clinical examinations. Symptoms vary depending on the size and location. Peripheral osteoma may cause facial deformity, swelling, headache, exophthalmos, mandible deviation [5, 9, 12].

The suspicion for Gardner syndrome rises with a facial osteoma detection. Gardner syndrome may present with rectal bleeding, diarrhea and abdominal pain. It's characterized with colorectal polyposis, multiple osteoma, skin and soft tissue tumors, multiple impacted or supernumerary teeth [1, 7, 11].

On imaging examination, the osteoma appears as a unilateral, pedicled, and well-defined oval or circular mushroom-shaped mass with radio-opacity similar to that of normal bones. These lesions usually do not cause destruction of the adjacent bone tissue [1, 6, 8].

In occlusal radiographs the peripheral osteoma of the mandible is classically well-circumscribed, oval, radiopaque with a narrow contact area at the vestibule and with a density similar to normal bone [2].

Panoramic radiography and computed tomography (CT) can be used for the imaging. But, CT is very useful for detection of the location and extension of the mass and also guidance for surgery. On CT images, peripheral osteomas are well-demarcated, round or oval mushroom-like hyperdense masses. Sessile lesions are often attached to the cortex with a broad base, whereas, pedunculated lesions have a thin contact area with compact bone [8, 9].

Histologically, osteomas have two distinct variants. One is made up of relatively dense compact bone with scarce medullary tissue, while the other has lamellar or cancellous bone trabeculae with abundant medullary spaces of fibrous-adipose tissue. Osteoblastic activity is usually prominent [11, 12].

Exostoses, osteoblastoma, osteoid osteoma, ossifying fibroma, late-stage central ossifying fibroma, complex odontoma, periosteal osteosarcoma, and focal sclerosing osteomyelitis should be considered in the differential diagnosis [8, 9].

The surgical removal of asymptomatic peripheral osteoma is not generally necessary. However, surgical removal is indicated only large, deforming and progresif osteomas to cause facial asymmetry or functional malfunction. Extraoral approach is preferred for larger tumors that located posterior of the mandible. In the case of mandibular peripheral osteomas, an intraoral approach is preferable to an extraoral approach mainly for cosmetic reasons [1, 6, 10, 13].

Recurrence after resection is very rare and malignant transformation has not been reported in the literature. Radiographic follow-up every 6 months for 2-3 years with annual radiographs, is advised [5, 9].

## CONCLUSION

Asymptomatic, small, non progressing soliter osteomas can be just followed-up with physical and radiological examinations. Surgery is indicated only for large, painful and deforming osteomas [9].

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