(e) ISSN Online: 2321-9599

(p) ISSN Print: 2348-6805

CASE REPORT

SOLITARY OSTEOCHONDROMA OF THE MANDIBULAR ANGLE: A RARE CASE

Hicham Attifi[1], Mohammed Sina[2], Karim Nadour[1], Mounir Hmidi[1], Nabil Touihem[1], Ali Elboukhari[1], Tarik Ziadi[3]

[1]ENT Department, Military Hospital Moulay Ismail, Meknes, Morocco
[2]Pathological Anatomy Department, Military Hospital Moulay Ismail, Meknes, Morocco, [3]Department of Radiology, Military Hospital Moulay Ismail, Meknes, Morocco

ABSTRACT:
Background: Osteochondroma is a benign neoplasm which usually develops in long bones and very rarely occurs in craniofacial bones. In the craniofacial region, condyle and coronoid process of the mandible are the most commonly affected areas. Osteochondromas occurring in mandibular angle is extremely rare. **Case Report:** This paper is the first report of an osteochondroma of the mandibular angle in a Moroccan male. The patient presented with a painless bony hard swelling over the left side of the lower jaw. Computed tomography showed an irregular bony exostosis, with features suggestive of an osteochondroma. Osteotomy was carried out successfully along the lateral margin of the mandibular bone. The patient showed no signs of recurrence during the 2 years period following the surgical procedure. **Discussion**: Osteochondroma, is one of the commonest bony lesions of the axial skeleton, with an incidence exceeding 50% for all cases. Many cases of osteochondroma of the mandible have been reported in the English-language literature, but almost all cases have arisen from the condyle and the coronoid process, and only two cases at the angle of mandible have been reported. For treatment, radical excision including the surrounding periosteum is strongly recommended, and recurrence of osteochondroma is extremely rare. **Conclusion:** This article describes the details of a very rare case of OC of the mandibular angle. CT with histopathological examination confirmed the diagnosis. Local resection of the mass is more conservative for treating solitary osteochondroma.
Key words: Osteochondroma, Mandibular angle, Moroccan male

Corresponding author: Dr Hicham Attifi, Assistant Professor in ENT, Military Hospital Moulay Ismail, Meknes, Morocco.

This article may be cited as: Attifi H, Sina M, Nadour K, Hmidi M, Touihem N, Elboukhari A, Ziadi T. Solitary osteochondroma of the mandibular angle: A rare case. J Adv Med Dent Scie Res 2017;5(7):43-45.

Access this article online	
Quick Response Code	Website: www.jamdsr.com
	DOI: 10.21276/jamdsr.2017.5.7.10

INTRODUCTION

Osteochondroma (**OC**), also known as osteo-cartilaginous exostosis, is one of the most common benign tumors of the axial skeleton. It may arise in any bone that develops from endochondral ossification, and it is commonly found near the ends of long bones. OC is rare in maxillofacial region as most of the craniofacial skeleton develops from intramembranous ossification.[1]Reported areas of occurrence in the craniofacial skeleton have included the skull base, maxillary sinus, zygomatic arch, and mandible. In the mandible, the most common site is at the condyle followed by coronoid process.[2] OC occurring in the angle of the mandible is extremely rare and according to literature search, two cases have been reported.[1-3] This article presented a rare case of OC arising from the angle of the mandible, this is the first to be reported in a Moroccan male.

CASE REPORT

A 23-year-old male patient was referred to the ENT Department of Moulay Ismaïl Military Hospital of Meknes, for the management of painless bony hard swelling over the left side of the lower jaw. The patient had noticed a swelling in the region seven years previously, but did not seek medical attention. There was no history of trauma at the mandibular or cervical region. On Clinical examination, the face was asymmetric due to swelling at the angle of mandible. Palpation revealed a solitary painless hard swelling, well-localized, in projection of the lower border of mandible, measuring antero-posteriorly 3,5cm and superoinferiorly2 cm, Occlusion was satisfactory with maximal intercuspation and maximal mouth opening was 3 cm with a broad base. Computed tomography (**CT**) showed an irregularbony exostosis, measuring23×18×13mm in size, with features suggestive of an osteochondroma (**Figure1**).

The three-dimensional CT showed an osseous protuberance arising from the angle of mandible. The margin of the lesion is in continuity with the margins of the mandible (**Figure 2**).

The radiological diagnosis was OC, and the tumor was resected under general anesthesia, nasotracheal intubation and through extraoral approach. Osteotomy was carried outsuccessfully along the lateral margin of the mandibular bone. Bony margin were smoothened and closed in layers. Pressure dressing was placed. Histology revealed the characteristic features of osteochondroma,

cancellous bone proliferation and the presence of a cartilage cap, on which a diagnosis of osteochondroma of angle of mandible was made (**Figure 3**).

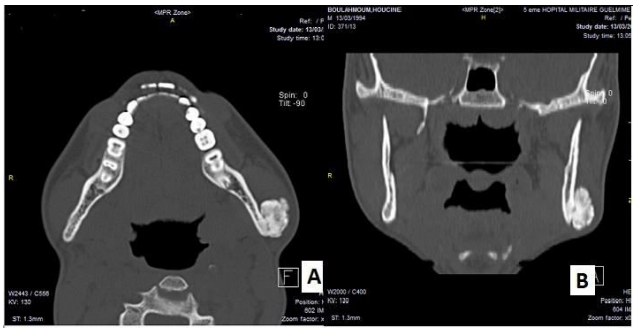

Figure 1: A the axial and B, coronal computed tomography cross section showing a bony exostosis at the left mandibular angle.

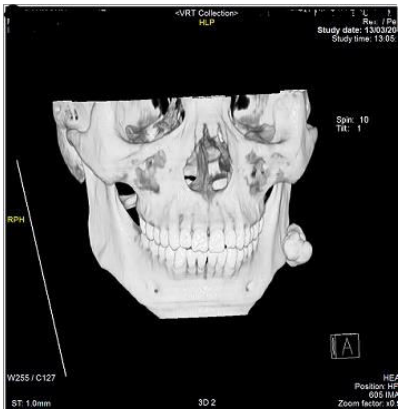

Figure 2: Three-dimensional CT showing, irregular bony outgrowth which is continuous with the mandibular bone

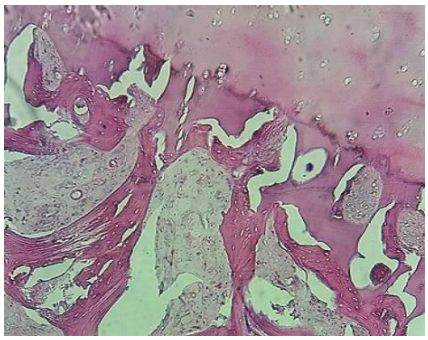

Figure 3: Histology of the excised lesion at high magnification showing a cancellous bone with a cartilaginous cap

The patient showed no signs of recurrence during the 2 year period following the surgical procedure.

DISCUSSION

Osteochondroma, also known as osteo cartilagenous exostosis, is one of the commonest bony lesions of the axial skeleton, with an incidence exceeding 50% for all cases.[2] It accounts for 35.8% of benign bony tumors.[3]

OC may occur in any bone which develops by endochondral ossification. It is frequently seen in distal metaphyseal region of long bones and also in ribs, scapulas, clavicles, vertebrae, femur and proximal metaphysis of tibia.[1] This tumour can occur singly like an exophytic lesions of bone arising from the cortex and covered by periosteum which is continuous with the adjacent bone or as part of an autosomal dominant syndrome known as osteochondromatosis.[4] OC is slightly more common in females and tends to occur a later age in the jaws than in long bones.Since the majority of the bones in the maxillofacial region develop through intramembranous ossification, this tumor is rare in the facial bone. Reported areas of occurrence in the craniofacial skeleton have included the skull base, maxillary sinus, zygomatic arch, and mandible.[5] Many cases of OC of the mandible have been reported in the literature, but almost all cases have arisen from the condyle and the coronoid process. OCoccurring in other regions of the mandible is extremely rare, the authors reported, for cases in symphysis, one case in angle region in the soft tissue not attached to mandible, and only two cases at the angle of mandible,our case is the third, but the first to be reported in Moroccan male.[1-3]

The clinical symptomatology of osteochondroma depends on its localization. Facial asymmetry and disorders of dental occlusion represent the constant signs of condylar localization and the limitation of the mouth opening is the major sign of the coronoid localization. The hard and painless pretraged swelling is rarely found because of the predominantly medial development of this tumor.[6]

To date, the etiology of OC is still unknown. A developmental, neoplastic, reparative or traumatic etiologies have been discussed.[5] It may also arise from the heterotrophic remnants of Meckel's cartilage. The other possibility is somatic mutation in chromosome 8 and 11.[1].

Histologically, OC needs to be distinguished from osteoma, benign osetoblastoma, chondroma, and chondroblastoma. the diagnosis criterias include chondrocytes of the cartilaginous cap arranged in clusters in parallel oblong lacunar spaces similarly to those of normal epiphyseal cartilage. Regular bony trabeculae produced by endochondral ossification are seen. The exostosis is covered by periosteum that is continuous with that of the adjacent bone.[7]

Various surgical approaches have been used, including a preauricular approach with or without extension to a temporal, hemicoronal incision, submandibular approach, preauricular and intraoral approach, and modified Blair incision.. In terms of resection, the conventional approach has been condylectomy in cases of condylar osteochondroma, particularly in older case reports. More recently, radical excision including the surrounding periosteum is strongly recommended, and recurrence of osteochondroma is extremely rare. Malignant transformation is also rare, but chondrosarcomas arise in 1–2% of all solitary osteochondroma.[3]

CONCLUSION

This paper describes the details of the firstcase of OC of the mandibular angle in a Moroccan male which was successfully treated with surgical resection by an intraoral approach. The choice of treatment greatly depends on the site and size of the tumour.

REFERENCES

1. Mamatha NS, Shah A, Narayan TV, Savita JK. Osteochondroma at the angle of mandible: A rare case. Journal of oral and maxillofacial pathology: JOMFP. 2015 Jan;19(1):110.
2. Sakai H, Minemura T, Ito N, Miyazawa H, Kurashina K. Isolated osteochondroma near the mandibular angle. International journal of oral and maxillofacial surgery. 2007 Mar 31;36(3):274-5.
3. Moon Y, Pyon JK. Endoscopic excision of osteochondroma of the mandibular angle. Archives of plastic surgery. 2015 Sep;42(5):663.
4. Tanaka E, Iida S, Tsuji H, Kogo M, Morita M. Solitary osteochondroma of the mandibular symphysis. International journal of oral and maxillofacial surgery. 2004 Sep 30;33(6):625-6.
5. Ashok KK, Omprakash TL, Goudar GN, Ravikumar R. Osteochondroma of mandibular condyle. J Dent Sci Res. 2010;1:57–66.
6. Derya I, Faruk A, Esin D, Pinar K, Kayhan O. A case report of osteochondroma of the mandibular condyle. Journal of Case Reports and Images in Dentistry. 2016 Feb 25;2:1-5.
7. Gnepp DR. Diagnostic Surgical Pathology of the Head and Neck E-Book. Elsevier Health Sciences; 2009 Apr 7.

Source of support: Nil **Conflict of interest:** None declared