



Osteochondroma – A Rare Entity in Maxillofacial Region

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Abstract

Osteochondroma, also known as Osteocartilagenous exostosis is regarded as the most common benign tumour of long bones, especially in the distal metaphysis of the femur and the proximal metaphysis of the tibia. It is relatively uncommon in the craniofacial region. Only about 1% of these occur within the head and neck region with more predilection towards females. In the Maxillofacial region both the condyle and coronoid tip are a common site of occurrence. Osteochondroma is not a true neoplasm but is thought to represent a developmental or hamartomatous process of bone. The most common clinical symptoms of Osteochondroma of condyle is malocclusion, with unilateral posterior open bite on the affected side and cross bite on the contra-lateral side and progressive facial asymmetry.

Here, we present a case of Osteochondroma of left mandibular condyle in a 30 years old female patient who reported to our institution with chief complaint of difficulty in mouth opening, deviation of lower jaw towards right side and hard swelling over left preauricular region. After clinical and radiographical diagnosis left condylectomy was performed using Alkayat Bramley incision and the mass was resected. Further histopathological examination confirmed the diagnosis of osteochondroma. Patient was followed up for 2 year and no recurrence or postoperative complications noticed.

Keywords: Osteochondroma, Condyle, bone tumor.

Introduction

Osteochondroma (OC) or osteocartilagenous exostosis, is a primary bone tumor commonly seen in long bones, such as femur and tibia, but it is rarely seen in maxillofacial region. As the

temporomandibular joint (TMJ) develops through endochondral ossification, the condyle is most susceptible site for the occurrence of this tumor^(1, 2). It constitutes approximately 35–50% of all benign tumors and 8–15% of all primary bone

tumors⁽³⁾. This pathology rarely occurs in oral and maxillofacial bones and it is mostly associated with the coronoid process⁽⁴⁾, followed by the condyle⁽⁵⁻⁷⁾. Female predilection is around 2:1 and generally occurs during the second and third decade of life.

The patient who presented to our department was a female in her third decade who complained of a progressive jaw deviation and hard swelling over left pre-auricular region. The diagnosis of this pathology is relatively easy through imaging modalities and this patient was treated by tumor resection successfully followed by physiotherapy.

Case report

A 30 years old female patient reported to the department of oral and maxillofacial surgery complaining of difficulty in mouth opening, deviation of lower jaw towards right side(Fig.1), clicking of the joint on left TMJ, and hard swelling over left preauricular region. The patient did not give any relevant history, other than a slow progression of the above mentioned symptoms.

Clinical examination revealed Swelling seen on left preauricular region, deviation of chin and rotation of mandible towards right side on mouth opening. Interincisal mouth opening was 25 mm with shift in the midline of mandibular occlusion towards right side. On palpation crepitus and bony hard swelling was present over left condyle region and no tenderness was elicited. Three dimensional CT images showed an irregular shaped bony growth anteromedially on the left condyle (Fig 2). After clinical and radiographical examination, the diagnosis of osteochondroma was made and surgery was planned under general anesthesia. The temporomandibular joint and the tumor was exposed through Al kayat Bramley incision (Fig.3) . Osteotomy was carried out above the neck of the condyle (condylectomy) and the tumor mass along with condyle were resected (Fig.4). The anatomic disc of condyle was identified and preserved. Temporalis fascia flap was sutured as an interpositional graft. The histology reports confirmed the features of a osteochondroma.

Follow-up examinations revealed no recurrences after two years and good facial symmetry (Fig.5), joint function and occlusion.



Figure 1- Deviation of chin to right side showing facial asymmetry.

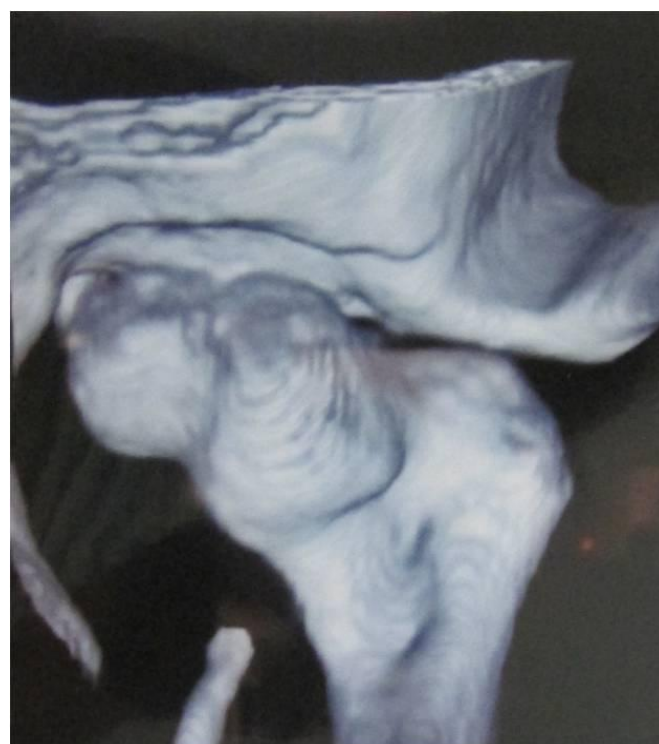


Figure 2 - 3DCT showing irregular shaped bony growth of left condyle.



Figure 3 – Exposure through Al kayat Bramley incision



Figure 5- Postoperative view showing restoration of facial symmetry.

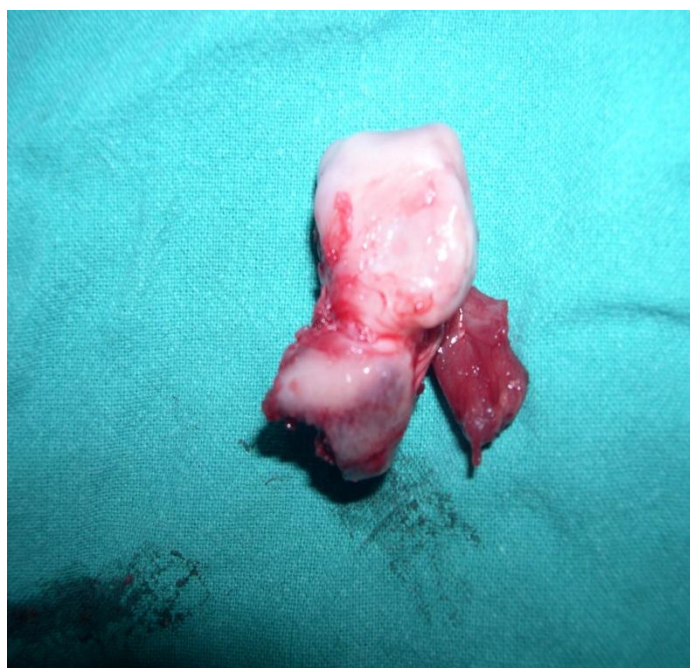


Figure 4 – Resected mass of the tumor.

Discussion

This tumor is of frequently occurrence on the metaphysis of long bones like femur and tibia but is rarely seen in the craniofacial region. The conditions that predispose to the development of this pathology in the skeleton are observed in cases of hereditary multiple exostoses. Langer-Giedion syndrome is another condition accompanied by learning difficulties, redundant skin, multiple exostoses, characteristic facial features and cone-shaped phalanges⁽⁸⁾.

Sarcomatous degeneration of an exostosis can occur, but it has not been reported in the skull. Although the average osteochondroma is predominantly osseous, the lesion is considered as one of the cartilaginous tumors since the bony mass is produced by progressive endochondral ossification of its growing cartilaginous cap. As most of the craniomaxillofacial bones develop by intramembranous ossification, osteochondromas are relatively infrequent in head and neck lesions⁽⁹⁾.

The differential diagnosis includes osteoma, fibro-osteoma, chondroma, bone hyperplasia and the pathogenesis of this tumor is still controversial.

The literature suggests that inflammation and trauma could lead to the initiation of this primary bone tumor⁽¹⁰⁾. Also a change in periosteum and osteochondral layer leading to production of cartilage and ossification of the same has been explained. The common clinical symptoms like malocclusion, derangement of occlusion and progressive facial asymmetry were similar to the symptoms our patient presented with.

This pathology has a very low recurrence rate and is usually treated by resection of the tumor mass. Due to the presence of vascular structures medially the resection of tumor done along with condylectomy is quoted as a safer option. In the case presented here, the growth of the pathology was in antero-medial direction and therefore, the treatment included condylectomy along with resection of the osteochondroma. There were no intraoperative or postoperative complications. The patient was relieved of all the preoperative symptoms. Good improvement was seen in the facial symmetry and no recurrence after 2 years of follow up.

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