

Osteochondroma of the Mandibular Condyle

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ABSTRACT

Osteochondroma is the most common benign bone tumor but rare in the head and neck region because of intramembranous origin of craniofacial bones. In the head and neck it occurs most commonly at tip of coronoid or condylar process. Clinically features can mimic condylar hyperplasia. This case report adds to the growing knowledge about this rare tumor.

Keywords: Osteochondroma, Mandible, Condyle.

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INTRODUCTION

Osteochondroma, also called osteocartilaginous exostosis, is the most common benign bone tumor.¹ It is characterized by a cartilage-capped osseous projection protruding from the surface of the affected bone.² Osteochondromas in the head and neck appear rarely because of the intramembranous origin of most craniofacial bones.³ This rare disease of the jaws usually occurs at the condyle or the tip of the coronoid process.⁴ Malocclusion and progressive facial asymmetry are common presenting physical signs.³ Osteochondroma of the condyle can be treated by selective tumor excision or total condylectomy with or without reconstruction.

CASE HISTORY

A 42-year-old male patient was referred for evaluation of asymmetrical enlarged mandible of 1 year duration. On examination, there was gross facial asymmetry with chin



Fig. 1: Gross facial asymmetry with chin deviated to the left

deviated toward the left (Fig. 1). The midline was shifted 10 mm to the left and there was crossbite in centric relation (Fig. 2). Orthopantomogram (OPG) showed radiopacity located at the right condyle region (Fig. 3). Computed tomography (CT) scan showed a bony lesion arising from the condylar head and situated superomedially (Fig. 4). A provisional diagnosis of osteochondroma was made. The bony mass was almost twice the size of the condyle. A total condylectomy was planned.

Under nasoendotracheal intubation, a modified Al kayat and Bramley incision was taken. The incision was extended to the temporal fascia. At the root of the zygomatic arch, the superficial layer of the temporalis fascia was incised anterosuperiorly at 45° angle. The periosteum was then incised to expose the zygomatic arch. Incision was made over the capsule and condyle and bony mass was exposed (Fig. 5). The lateral pterygoid attachment was cut and



Fig. 2: Occlusion showing shift of lower midline to left with crossbite



Fig. 3: OPG showing radiopacity in relation to right condyle

detached from the condyle. A bony cut was made at the level of neck of condyle, removing tumor along with part of the condyle (Fig. 6). The remaining condylar stump was smoothed. Disk was left *in situ* and the capsulorrhaphy was performed. Postoperatively, patient developed slight contralateral open bite which was corrected conservatively with intermaxillary guiding elastics. Patient was reviewed after 6 months and there was no malocclusion or asymmetry present (Figs 7 and 8). Histopathology confirmed the bony mass to be an osteochondroma (Fig. 9).

DISCUSSION

Osteochondroma can be confused with condylar hyperplasia as clinical presentation can be similar. Condylar hyperplasia is seen in a younger population and consists of a progressive generalized enlargement of the entire condyle, which arrests after the growth period. Osteochondromas are pedunculated or sessile lesions that generally grow away from the native

site of growth, usually along the muscles and tendons attached to the native bone. They continue to grow even after the patient attains skeletal maturity.⁵

The presentation varies with the size of the tumor and its main vector of growth. The usual signs of facial deformity are related to displacement of the chin point to the contralateral side from the lesion with an ipsilateral open bite. In some cases, asymmetric prognathism may occur along with bowing of the lower border of the mandible on the ipsilateral side, while compensatory down growth of the maxilla on the ipsilateral side to compensate for the open bite may give rise to a cant of the maxillary occlusal plane. These types of facial asymmetry are also seen in condylar hyperplasia and hemifacial hypertrophy, which has to be distinguished from osteochondroma.³

The treatment protocol for this disease is still controversial. Conventional approach has been to undertake total condylectomy. Intermaxillary elastics are required after condylectomy for 3 to 4 weeks to guide the patient occlusion. Due to exophytic nature of this lesion, a conservative approach has been advocated recently with excision of tumor and preservation of as much condyle as possible.^{6,7} The arguments against a conservative approach are possible inadequate removal of the tumor with recurrence of the lesion or possible malignant change. The recurrence rate of osteochondroma generally is 2% irrespective of the type of procedure and malignant change may occur in about 5% of cases with multiple hereditary lesions but is very rare in solitary lesions (<1%).^{8,9}

A costochondral graft or vertical osteotomy of ramus may be used after total condylectomy for reconstruction. In case where growth modulations have already occurred, gnathic procedures are required to correct asymmetry of the face.¹⁰



Fig. 4: Three-dimensional CT scan showing bony mass arising from condylar head and growing in a superomedial direction

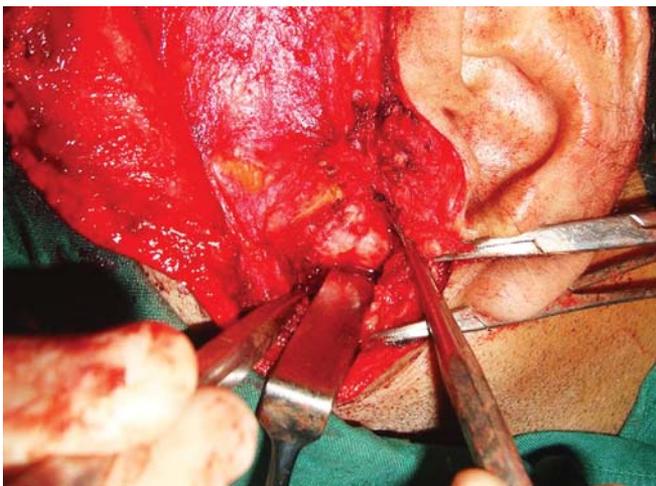


Fig. 5: The exposure of bony mass through the preauricular incision



Fig. 6: The excised bony mass along with part of the condyle



Fig. 7: Postoperative photograph showing no facial asymmetry



Fig. 8: Postoperative occlusion

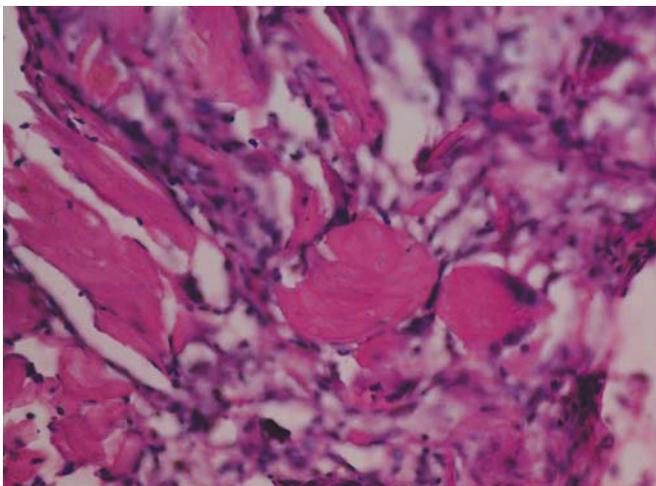


Fig. 9: Photomicrograph confirming the diagnosis of osteochondroma

REFERENCES

1. Lichtenstein L. Bone tumors (5th ed). St Louis, MO: CV Mosby 1977.
2. Ribas M, De O, Martins WD, et al. Osteochondroma of the mandibular condyle: Literature review and report of a case. *J Contemp Dent Pract* 2007;8:52.
3. Ord RA, Warburton G, Caccamese JF. Osteochondroma of the condyle: Review of 8 cases. *Int J Oral Maxillofac Surg* 2010;39: 523-28.
4. Allan JH, Scott J. Osteochondroma of the mandible. *Oral Surg* 1974;37:556.
5. Kumar VV. Large osteochondroma of the mandibular condyle treated by condylectomy using a transzygomatic approach. *Int J Oral Maxillofac Surg* 2010; 39:188-91.
6. Wolford LM, Mehra P, Franco P. Use of conservative condylectomy for treatment of osteochondroma of the mandibular condyle. *J Oral Maxillofac Surg* 2002;60:262-68.
7. Aydın MA, Küçükçelebi A, Sayilkan S, Celebiođlu S. Osteochondroma of the mandibular condyle: Report of two cases treated with conservative surgery. *J Oral Maxillofac Surg* 2001 Sep;59(9):1082-89.
8. Unni KK. Dahlin's bone tumors. General aspects and data on 11,087 cases (5th ed). Philadelphia, PA: Lippincott-Raven 1996.
9. Barrett AW, Hopper C, Speight PM. Oral presentation of secondary chondrosarcoma arising in osteochondroma of the nasal septum. *Int J Oral Maxillofac Surg* 1996;25:119-21.
10. Franco PF, Wolford LM. Conservative surgical reconstruction of the TMJ following condylectomy for osteochondroma. *J Oral Maxillofac Surg* 1997;55:107.

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