

Osteochondroma (OC) of the Condyle of Left Mandible: A Rare Case

HARISH M.¹, BHARI SHARANESHA MANJUNATHA², ANOOP N. KUMAR³, YASIN A. ALAVI⁴

ABSTRACT

Osteochondroma (OC) is one of the most common benign condylar tumours having both chondroma and osteoma. However, this tumour is most frequently found on the metaphyses of long bones and is unusual on the skull. When it affects the mandibular condyle, the cause could be due to trauma to the temporo mandibular joint (TMJ). Here, in this report we present a rare case of osteochondroma of left condyle region in a 36-year-old man. The patient had noticed pain in the left TMJ for six months. The lesion is surgically removed and histologically evaluated which composed of chondrocytes dispersed in hyaline matrix along with a rim of calcified bone at one end.

Keywords: Chondrocytes, Chondroma, Condylar tumours, Condylectomy

CASE REPORT

A 36-year-old male patient presented with complaints of speaking and eating difficulties. He had a history of previous steroid injection to left TMJ a year ago for the management of internal derangement and from that time he slowly developed pain in the left TMJ associated with slight facial asymmetry [Table/Fig-1]. Patient gave history of steroid injection (single dose) one year back due to lock jaw problem following which he developed pain and facial asymmetry. There was no history of trauma. Medical and family history was not significant. On clinical examination facial asymmetry was present and a localized swelling was present on left TMJ area which was diffuse, tender and hard in consistency. Tenderness elicited on TMJ area on opening and closing mouth and deviation of mandible on right side was present on mouth opening. Inter-incisal mouth opening was 30 mm. Radiographic examination revealed slight erosive lateral surface of left condyle and obliteration of left TMJ space on panoramic radiograph [Table/Fig-2]. Clinic-radiographic correlation lead to following differential diagnosis: benign bone tumour of left condyle, fibrous ankylosis of left TMJ. As patient was not willing for advanced imaging, surgical exploration of joint was done where thick cartilaginous material was encountered at head of left condyle [Table/Fig-3]. Complete surgical excision of lesion was performed. On gross examination the specimen was measuring 1 × 0.5 cm in size, brownish white in color, firm in consistency. Postoperatively patient's mouth opening improved to 37mm.

Microscopic examination revealed mono-nucleated, bi-nucleated and multi-nucleated cells having round to oval hyperchromatic nuclei within lacunae, suggestive of chondrocytes dispersed in hyaline

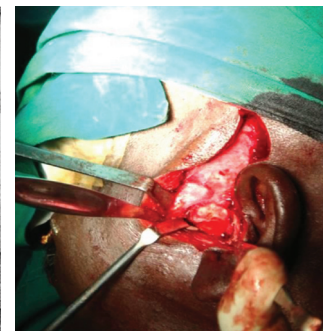
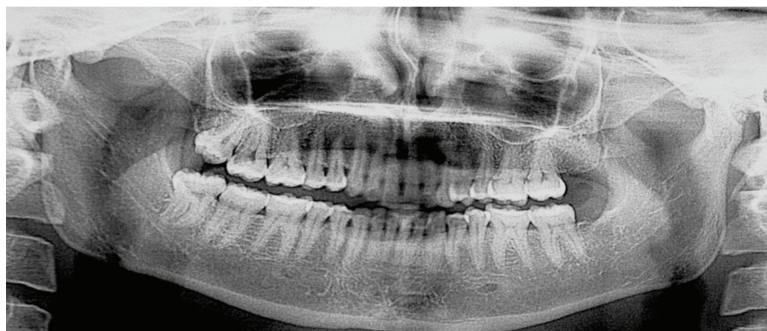
matrix [Table/Fig-4&5]. Areas of hemorrhage were also evident with minimal peripheral bony area. All these features confirmed the diagnosis of OC. Patient is on regular follow up.

DISCUSSION

The World Health Organization defines the OC as a "cartilage-capped bony protrusion on the external surface of bone." It represents approximately 35% to 50% of all benign bone tumours and 8% to 15% of all primary bone tumours [1]. Though it is one of the most common benign tumours of the condyle, it is most frequently found on long bones and is uncommon on the skull [2]. OC of the mandibular condyle is thought to be a relatively rare lesion and only 90 cases are documented in the English literature to date [3].

Clinically, the common manifestations of the tumour include facial asymmetry, hypomobility, deviation of mouth opening, malocclusion, including ipsilateral posterior open bite and contralateral cross bite, pre-auricular swelling, TMJ pain, clicking sound, and recurrent joint dislocation [4]. Radiographic appearance of OC of the mandibular condyle can be pathognomonic, appearing as an irregularly shaped, mixed density, expansile lesion. The histologic criteria for the diagnosis of an OC include chondrocytes of the cartilaginous cap arranged in clusters in parallel oblong lacunar spaces similar to those of normal epiphysial cartilage [5].

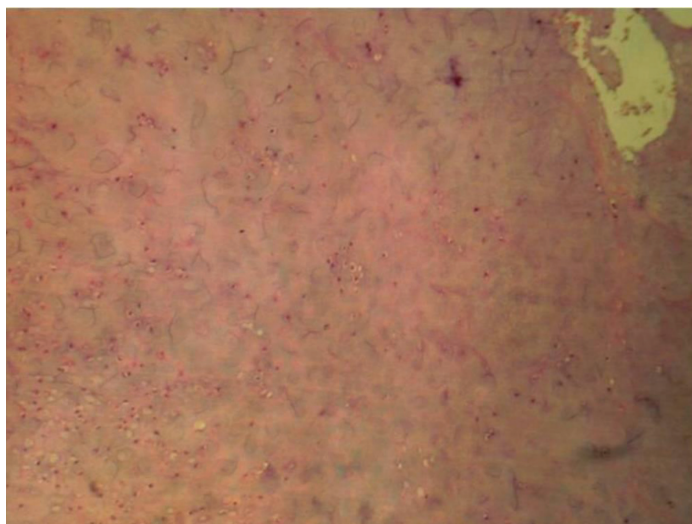
The current report presents a case of OC in a 36-year-old male patient involving the anterolateral surface of the left condyle. It was accompanied by symptoms as such jaw joint pain, mandibular movement disorder, headache, neck pain, facial asymmetry and masticatory disorder. The patient had not experienced trauma to the TMJ region or ear infection before the onset of symptoms. These



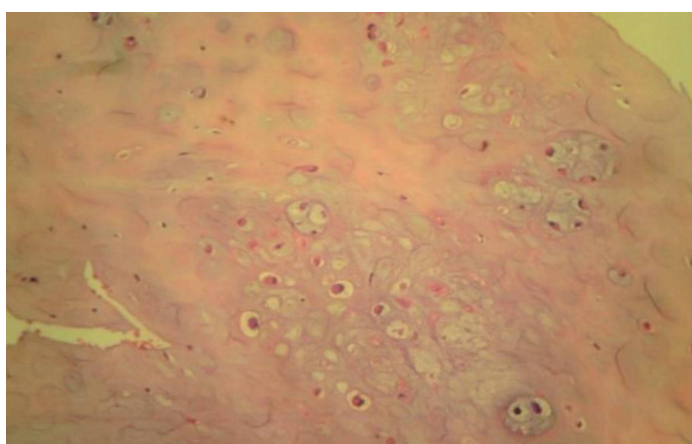
[Table/Fig-1]: Pre-operative photograph showing a diffuse swelling on the left side of the face

[Table/Fig-2]: OPG reveals irregular radiopacity associated with the left condyle in the lateral end

[Table/Fig-3]: Photograph showing the surgical exploration of the left TMJ



[Table/Fig-4]: Photomicrograph showing large cartilaginous cap with peripheral mature bone tissue (H & E stain, Original magnification × 50)



[Table/Fig-5]: Photomicrograph confirms the diagnosis of osteochondroma (H & E stain, Original magnification × 200)

findings are similar to a case of osteochondroma reported by Vaidya et al., [6] of a 42-year-old male involving the right condyle.

However, Peroz et al., [7] reported a similar case in a 47-year-old female reporting with facial asymmetry with respect with to the right condylar area. In a retrospective study carried out by Meng et al., [4] on 34 patients of OC, he found a female preponderance of almost

2:1, slightly greater incidence on the left condyle and average age of cases was 39.1 years. In another case series reported by Chen et al., [8] on 38 patients diagnosed with OC of the condyle, he found a female predilection, greater involvement of the right side and an average age range of 43.7 years.

In consideration of the benign nature of the tumour and its extremely low likelihood of recurrence, the aim of treatment was excision of the tumour and a swing back of the mandible to near normal occlusion and facial midline correction. An important aspect is that OC should be differentiated from benign conditions such as condylar hyperplasia, osteoma, chondroma, chondroblastoma, giant cell tumour, benign osteoblastoma and malignant lesions such as fibrosarcoma, and chondrosarcoma [5,9].

CONCLUSION

Clinical features such as occurrence at older age, rapid growth and invasion to the surrounding structures may suggest a malignant change. A careful evaluation of the patient's history provides important information for the diagnosis and treatment of neoplasm of the condyle. Due to the chances of recurrence of OC as reported in previous literature, regular follow up of the patient with radiographic evaluation is necessary.

REFERENCES

- [1] Karras SC, Wolford LM, Cottrell DA. Concurrent osteochondroma of the mandible condyle and ipsilateral cranial base resulting in TMJ ankylosis. Report of a case and review of the literature. *J Oral Maxillofac Surg.* 1996;54:640-46.
- [2] González-Otero S, Navarro-Cuéllar C, Escrig-de Teigeiro M, Fernández-Alba Luengo J, Navarro-Vila C. Osteochondroma of the mandibular condyle: Resection and reconstruction using vertical sliding osteotomy of the mandibular ramus. *Med Oral Patol Oral Cir Bucal.* 2009;14:E194-97.
- [3] Roy choudhury A, Bhatt K, Yadav R, Bhutia O, Roychoudhury S. Review of osteochondroma of mandibular condyle and report of a case series. *J Oral Maxillofac Surg.* 2011;69:2815-23.
- [4] Meng Q, Chen S, Long X, Cheng Y, Deng M, Cai H. The clinical and radiographic characteristics of condylar osteochondroma. *Oral Surg Oral Med Oral Pathol Oral Radiol.* 2012;114:e66-74.
- [5] Kumar A, Rastogi S, Modi M, Nijhawan S. Osteochondroma of the mandibular condyle. *Indian J Dent Res.* 2011;22:616.
- [6] Vaidya S, Sidana S, Galinde J, Natrajan S. Osteochondroma of the mandibular condyle. *J Contemp Dent.* 2012;2(3):106-08.
- [7] Peroz HJ, Scholman B. Hell. Int. Osteochondroma of the mandibular conyle: A case Report. *J. Oral Maxillofac. Surg.* 2002;31:455-56.
- [8] Chen MJ, Yang C, Qiu YT, He DM, Zhou Q, Huang D, et al. Local resection of the mass to treat the osteochondroma of the mandibular condyle: indications and different methods with 38-case series. *Head Neck.* 2014;36:273-79.
- [9] Wood RE. Malignant diseases of the jaws. In: White SC, Pharoah MJ, editors. *Oral radiology principles and interpretation.* 5th ed. New Delhi: Mosby; 2006. pp. 458-84.

PARTICULARS OF CONTRIBUTORS:

1. Reader, Department of Oral Pathology and Microbiology, KM Shah Dental College & Hospital, Vadodara, India.
2. Associate Professor, Basic Dental Sciences, Faculty of Dentistry, College of Dentistry, Al-Hawiyah, Taif-21944, University of Taif, Kingdom of Saudi Arabia.
3. Senior Lecturer, Department of Oral Pathology and Microbiology, PSM College of Dental Science & Research, Trichur, Kerala, India.
4. Senior Lecturer, Department of Oral and Maxillofacial Surgeon, MIDAC Dental Center, Calicut, Kerala, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. BS Manjunatha,
Faculty of Dentistry, Al-Hawiyah, Taif-21944, University of Taif, Kingdom of Saudi Arabia.
E- mail: drmanju26@hotmail.com

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