Journal of Advanced Medical and Dental Sciences Research

@Society of Scientific Research and Studies ***NLM ID:*** *101716117*

Journal home page: www.jamdsr.com doi: 10.21276/jamdsr Indian Citation Index (ICI) Index Copernicus value = 100

(e) ISSN Online: 2321-9599; (p) ISSN Print: 2348-6805

Case Report

Osteochondroma of the mandibular condyle – A Case Report

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ABSTRACT:
Osteochondroma is one of the most common benign tumours of the axial skeleton, but is rarely found in the facial bones. In mandible osteochondroma causes changes in condylar morphology which leads to facial asymmetry and symptoms like those seen in patients with temporomandibular joint dysfunction. Osteochondromas of the mandibular condyle are usually diagnosed in patients of an older age (average age 40 years). We report a case of osteochondroma of the mandibular condyle in a 27-year-old female patient which presented as a temporomandibular joint disorder.
Key words: Osteochondroma,Mandibular Condyle, Facial Asymmetry

Received: 16 December, 2022 Accepted: 20 January, 2023

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This article may be cited as: M S S, Sreela LSN, Twinkle S, Mathew P. Osteochondroma of the mandibular condyle – A Case Report. J Adv Med Dent Scie Res 2023;11(2):9-11.

INTRODUCTION

Osteochondroma (OC), is an osseous protuberance with cartilaginous growth potential that usually appears near the growth plate at the ends of long bones such as knee, hip, shoulder, and joints. It may also occur as a cartilage-capped bony projection on the external surface of the affected bone. OC is the most common benign bone tumour accounting for 20-50% of benign bone tumours and 9% of all bone tumors4. Only about 1% of the cases occur within the head and neck region. The most commonly occurring sites in the craniofacial region are the condyle and the coronoid process3. OC of the mandibular condyle is usually diagnosed in patients of an older age (average age 40 years) withfemale preponderance over male with ratio 1.5:1. They are found most often on the medial aspect of the mandibular condyle (57%), followed by an anterior (20%), and rarely in lateral or superior positions (<1%) 1. It also occurs in the tip of the coronoid process. The most common clinical symptoms are progressive facial asymmetry and deviation of lower jaw while opening which may mimic temporomandibular joint disorder. Radiographically osteochondroma usually shows a globular projection extending from the margins of the condylar head with the normal outline of the condylar head being maintained4.

CASE REPORT

A 27-year-old woman was referred to the department of Oral Medicine and Radiology, Government Dental College, Kottayam with a complaint of pain on the right temporomandibular joint (TMJ)for last two days and deviation of mandible to left side in the past 1 year. She related pain to locking of her jaw while yawning two days back and was unable to close her mouth for a while. Later she herself managed to close but had a persistent pain and was unable to masticate. Sheconsulted anearbydentist and was prescribed antibiotics and analgesics, but there was no significant relief. She recollected about noticing facial asymmetry for last one year which was gradually increasing. There is no history of facial trauma or ear infection. She also noticed a slow progressive limitation in chewing and mouth opening. Her Medical, dental and family histories were non-contributory. Vital signs were within normal range. The clinical examination revealed a tender bony hard swelling of approximate size 2x1.5 cmin the right pre auricular area which was fixed to the under lying bone

and was non mobile. On opening and closing of the mouth clicking was audible in the right temporomandibular joint. There was 5 mm deviation of mandible from the midline to the left side. The patients maximum mouth opening was measured to 28 mm. The mouth opening pattern was showing a deviation to the left side with pain in the right TMJ. Protrusive movement and lateral excursion were restricted. In occlusion, bilateral posterior open bite, and cross-bite on the left side were present. Based on the clinical examination and patient history, a provisional diagnosis of benign mass of right temporomandibular condyle was considered, and patient was sent for radiographic evaluation.

Panoramic radiograph revealed a large radio opaque mass of approximate size 2x1.7 cm arising from the right mandibular condyle with intact cortical outline. On CT and CBCT images displayed ahyperdense masswith smooth surface arising from right mandibular condyle with intact of cortical bone extendingsupero-laterally into glenoid fossa and medially into zygomatico temporal space. Findings of bone scan using99mTc MDP (methylene diphosphonate) was suggestive of active condylar hyperplasia involving right mandibular condyle. Due to the slow growth pattern, a benign osteoma or osteochondroma were considered in differential diagnosis. Excision biopsy was performed and histologically it showed that cortical and cancellous bone with cartilage at one end forming a cap (hyaline cartilage) and end ochondral ossification was evident at the junction of cartilaginous cap and bone. These microscopic features were suggestive of osteochondroma of the mandibular condyle.

DISCUSSION

Osteochondroma is a benign tumour of the skeleton arising from the metaphyseal regions of long bones most commonly seen in the second and third decade of life with mean age of 39.7 years. The neoplasms and pseudo tumours of the temporomandibular joint (TMJ) are relatively uncommon. Their early identification is essential in order to provide timely treatment, which may have a dramatic impact on the patient's life4.

The etiology of osteochondromais uncertain. Trauma and inflammation are thought to be the contributory factors. There are controversies whether such lesions should be considered of developmental, neoplastic or reparative nature. Porter and Simpson suggested that a genetic component might also be involved in the neoplastic pathogenesis due to somatic mutations found in chromosomes 8 and 11. Differently from long bones, the craniofacialosteochondroma occur at older age and most frequently affecting women5.

The symptoms vary depending on the location of the tumour. The condylar osteochondroma are frequently situated on the antero-medial surface of the condylar head. The TMJ osteochondroma causes a progressive enlargement of the condyle, usually resulting in facial asymmetry, prognathic deviation of chin, TMJ dysfunction, limited mouth opening, cross bite to the contra lateral side and malocclusion with open-bite on the affected side. Pain is rarely associated with this tumour. The present case was also associated with similar features and was situated at antero-medial surface of the condyle. The growth of an OC is usually slow, causing gradual displacement and elongation of the mandible.5,6

Differential diagnosis of condylar mass is challenging. The bone or cartilage forming tumours such as osteoblastoma or condylar hyperplasia are the most common primary lesions of the mandibular condyle4.Osteochondroma should be differentiated from unilateral condylar hyperplasia, osteoma, chondroma, chondroblastoma, benign osteoblastoma, giant cell tumor, myxoma, fibro-osteoma, fibrous dysplasia, fibrosarcoma, and chondrosarcoma. Hence, the definitive diagnosis should always be based on clinical, radiological and histological features8,9.

Surgical treatment is the choice for condylar OC. The suggested surgical approaches are complete resection of the tumor using condylectomy, condylectomy with reconstruction, or selected tumor removal without condylectomy. The aim of OC treatment should be achieving the acceptable mouth opening, regaining facial symmetry, establish facial harmony and occlusion. In the present case surgical excision of the lesion without condylectomy under general anaesthesia was performed and patient is on regular follow-up.

CONCLUSION

Mandibular osteochondroma though a rare entity should be considered in the differential diagnosis of masses in the region of temporomandibular joint. Proper recording of history, comprehensive clinical examination, radiographic investigations and ruling out similar masses is essential for reaching an accurate diagnosis.

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