CASE REPORT

OSTEOMA OF MANDIBULAR CONDYLE - A RARE ENTITY

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ABSTRACT: Osteoma is a benign neoplasm resulting from the continuous formation of cortical or cancellous bone. Most osteomas of the maxillofacial region occur in the mandible; however osteomas of the mandibular condyle are rare.

This paper presents a case of 48-year-old male patient reported with chief complaint of deviation of jaw & inability to chew since 5 months. Radiographic images & computed tomography suggested benign osteogenic neoplastic lesion involving left condyle which on histopathological examination confirmed it as cancellous osteoma.

KEY WORDS: osteoma, condyle, mandible

INTRODUCTION: Osteoma is benign tumour composed of both cortical & cancellous bone that increases in size by continuous formation of bone¹. The first reported case of osteoma of condyle was described by Ivy in 1927¹. Only seven cases of peripheral osteoma arising in the condylar process of mandible have been reported in English language literature². It is slow growing, asymptomatic, usually solitary lesion, however osteomas involving the mandibular condyle may result in morphologic & functional disturbances. Osteoma can be central, peripheral or extraskeletal. Central osteomas arise from endosteum, peripheral osteomas arise from the periosteum and extraskeletal soft-tissue osteomas usually develop within a muscle⁶.

CASE REPORT: A 48 year old male patient reported with Chief Complaint of deviation of jaw & inability to chew since 5 months. Patient was relatively alright 5 months back, and then he noticed gradual deviation of lower jaw, which resulted in altered occlusion. Patient was unable to occlude teeth & chew. Also he noticed painless non-tender swelling on left temporomandibular joint (TMJ) region. Asymmetry of face was noted. Past medical & dental history was not significant.

On general examination, patient was found to be moderately built and nourished with a normal skin and gait. There were no signs of pallor, cyanosis and edema. The vital signs were within the normal limits.

Extra-orally, face was asymmetrical. There was deviation of mandible on right side. On palpation there was no pain on TMJ region. TMJ movements were restricted (fig-1).

Intra-oral examination revealed deranged occlusion, anterior Cross-bite. Due to deviation of mandible on right side midline was shifted. Prognathic mandible was seen (Fig-2). Interincisal opening was 31mm. Based on clinical examination provisional diagnosis given as condylar hyperplasia.

Investigations included Orthopantomograph (OPG), TMJ Sectional view, computed tomography (CT), biochemical investigations, and complete haemogram. OPG & TMJ Sectional view revealed a bone-like opaque mass appeared to surround the left mandibular condyle (Fig: 3-4).

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Clinical and radiological findings were suggestive of benign tumor of condyle. Condylar osteoma, Osteochondroma, Chondroblastoma, Osteoid osteoma considered for differential diagnosis.

CT revealed a well defined Pedunculated bony growth on anteromedial aspect of left condyle. Superiorly: extending into left TMJ space & abutting articular tubercle. This outgrowth is causing anterolateral dislocation of condyle(Fig:5). CT diagnosis given as Osteochondroma? Condylar hyperplasia??

Biochemical investigations as serum calcium level was 9.4 mg/dl, serum phosphate level was 4.7 mg/dl, haemoglobin content was 12 % gm, bleeding time was 1 min, clotting time was 5 min.

Surgical excision was done. Histopathological sections of decalcified specimen were examined. Fig.7 showed pathological specimen after H-E staining. The lesion consisted of spongy osseous hard tissue contained in a capsule composed of coarse of fibrous connective tissue. Based on these histopathological examination, diagnosis of cancellous osteoma was made.

DISCUSSION: Osteoma is a benign tumor which is slow growing, asymptomatic & usually solitary in nature. Osteoma was first described by Monsarrat in 1913. Most osteomas of maxillofacial region are in mandible. Osteoma of the condyle is uncommon. The first reported case of osteoma of the condylar process was described by Ivy in 1927¹. Osteoma of condyle may cause a slow progressive shift in occlusion, with deviation of midline towards the unaffected side³. This results in facial asymmetry and malocclusion such as cross bite³. In this patient there was facial asymmetry and malocclusion and also cross bite.

Etiology is unclear but proposed etiology is developmental, neoplastic, reactive in nature.

The possibility of a reactive mechanism, triggered by trauma or infection has also been suggested⁴. A combination of trauma & muscle traction or alteration of the metabolism of calcium¹. The growth of the tumor is caused by the activity of either the periosteum or the endosteum. It can also be called central, peripheral, or extraskeletal. Peripheral osteoma is defined by centrifugal growth from the periosteum, while central osteomas arise centripetally from the endosteum. Although osteoma is essentially tumor of the craniofacial bone and rarely affects the extragnathal skeleton, cases of osteomas arising within soft tissue such as the bulk of skeletal muscles have been reported⁶.

Histologically an osteoma consists of either normal appearing dense mass of lamellar bone with minimal marrow tissue (compact type of osteoma) or trabeculae of lamellar bone with intervening fatty or fibrous marrow (cancellous osteoma) ⁵.

According to their pattern of proliferation, osteomas of condylar process can be classified into two types: 1. Those that proliferate & cause replacement of the condyle by the osteoma 2. Those that form a Pedunculated mass on the condyle¹.

Peripheral osteoma is an uncommon lesion, mostly occurring in young adults, which affects equally men and women. It mainly affects the frontal bone, mandible, and paranasal sinuses. Mandibular cases occur in the angle or condyle, followed by the molar area of the mandibular body and ascending ramus⁷.

The most clinical manifestations involving condyle are malocclusion & facial asymmetry. Facial swelling, pain, limited mouth opening (Trismus), morphologic & functional disturbances are seen¹. Osteomas of condyle result in temporomandibular joint dysfunction. Multiple osteomas of the jaws are commonly observed in Gardner syndrome⁷.

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Osteoma is the most common benign tumor of the paranasal sinus. Its incidence is between 0.014% and 0.43%. It usually grows slowly. However, it may extend to the surrounding structures and cause severe intracranial or orbital complications. Larrea-Oyarbide et al, Sayan et al, and Longo et al. reported that the most frequently affected paranasal sinus of osteoma was the frontal, followed by the maxillary, ethmoidal, and sphenoidal sinuses. Though turbinate osteoma is very rare, some cases have been reported in literature. Osteomas arising in the paranasal sinuses may cause such symptoms as sinusitis, headache, or ophthalmologic manifestations⁸.

Radiographic features show osteomas as circumscribed masses similar in density to normal bone. They are smooth surfaced with thin sclerotic rim. At the center, radiolucent – radiopaque appearance depending on amount of marrow tissue present³.

The treatment of osteoma is surgical excision. Recurrence after surgical procedure is rare and there are no reports of malignant transformation⁶.

CONCLUSION: Osteoma of condyle is a rare, benign bony growth that may cause morphological & functional disturbances of temporomandibular joint. Trismus or limited mouth opening is common problem encountered by dental practitioners.¹ So, Osteoma of condyle should be considered as one of the possible cause in patient with trismus, facial disfigurement, asymmetry, malocclusion & deviation of mandible. Clinically condylar osteoma can be found singly or multiple tumours. Multiple osteomas are feature of Gardeners syndrome, a symptom complex in tumours are seen in which these tumours are seen association with intestinal polyps. Therefore, as an osteoma is encountered clinically, it is important to investigate whether multiple tumors are present².

Most patients with discomfort near the auricular area may first visit to ENT surgeons; therefore it is essential to make the correct diagnosis.

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FIGURES:

Fig 1: Extraoral view

Fig 2: Intraoral view

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Fig 3: Orthopantomograph(OPG)

Fig 4: TMJ sectional view (Open & closed view)

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Fig 5: computed tomography (CT) (Coronal Section & 3D reconstruction)

Fig 6: shows specimen

Fig 7: Histopathological view

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