

True chondroma of the mandibular condyle: A rare case

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ABSTRACT

Chondroma of the mandibular condyle is a rare benign tumor, with just a handful of cases reported in the literature. Chondromas are rare in the maxillofacial region, but are quite common in the bones of the hands and feet. So far only eight cases of true chondroma have been reported. Here, we present a case of true chondroma of the mandibular condyle of the right side, for which condylectomy was done. No signs of recurrence are noted at 2 years follow-up.

Keywords: Chondroma, preauricular, temporomandibular joint

INTRODUCTION

Chondroma is a benign tumor of mature hyaline cartilage of mesenchymal origin.^[1,2] Based on their location, chondromas can be classified as (1) enchondromas that are located in the medullary cavity of the bony skeleton; (2) juxtacortical or periosteal chondromas that originate adjacent to the periosteum below the cortical surface; and (3) extra-skeletal or soft tissue chondromas, which have been reported in the tongue and buccal mucosa.^[3-9]

The differential diagnosis for bony or cartilagenous hyperplastic lesion of the temporomandibular joint (TMJ) may include condylar hyperplasia, osteochondroma, osteoma, chondroma, osteoblastoma, fibrous dysplasia, ossifying fibroma, chondromyxoid fibromas, synovial chondromatosis, chondroblastoma, chondrosarcoma, and osteosarcoma.^[10-13]

CASE REPORT

A 42-year-old male reported to our Department of Oral and Maxillofacial Surgery in 2011, with the chief complaint of obvious facial asymmetry, which was gradually increasing from past 2 years [Figure 1]. He recounted the history of developing a progressive derangement in occlusion. He presented with clicks and mild pain in the right TMJ region.

He gave no history of facial trauma and had not noted any paresthesia. The patient's medical and family histories were noncontributory. Social history was negative for smoking, alcohol or drug abuse. His systemic review and general condition were normal.

Maxillofacial examination revealed bony hard right preauricular swelling that moved with condylar translation. The skin overlying the swelling was normal in appearance with no signs of erythema or ulcerations. The external auditory canal was patent on the right side, with normal tympanic membranes. The auriculotemporal nerve was intact with no signs of paresthesia. There was obvious deviation present, while opening the mouth. The maximum interincisal opening was 34 mm. Clicking was present on the right TMJ. There was no palpable lymphadenopathy.

On intraoral examination, there was a 10 mm shift from the midline toward the left [Figure 2]. Right side open bite and left side cross bite was present due to overgrowth of right mandibular condyle.

Radiographic examination

The orthopantomogram (OPG) showed a right sided enlarged condyle of the mandible [Figure 3]. The computed tomography scan confirmed the right sided mass and also helped to rule out any intracranial extension of the same [Figure 4].



Figure 1: Preoperative extraoral view



Figure 2: Intraoral view: Deviation of the mandibular midline toward left side



Figure 3: Preoperative orthopantomogram

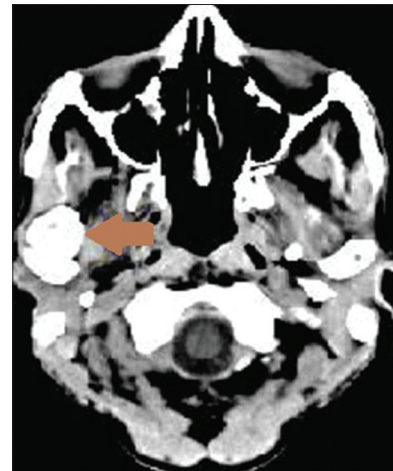


Figure 4: Preoperative computed tomography scan (axial view)

Surgical plan

The clinical and radiological presumptive diagnosis was made to be a slow growing neoplasm of the condyle. Local excision of the lesion was planned under general anesthesia through the right preauricular approach.

Preoperative routine investigations were within normal range. A standard preauricular incision was taken to expose the right condyle of the mandible [Figure 5]. Condylectomy of the right side was performed [Figure 6]. Local excision of the surrounding soft tissue was also done and the sharp margins of the condylar stump were rounded off and smoothed. The mandible was rotated toward right side, the midline was established and inter maxillary fixation (IMF) was done. Wound was closed in layers. In our case, reconstruction was not deemed necessary. The microscopic histological examination confirmed it to be chondroma of the condyle, showing mature hyaline cartilage with numerous chondrocytes [Figure 7].

Postsurgically the patient was kept on IMF for 4 weeks with elastics. The patient was followed-up regularly. In the 2 years follow-up, the patient had maintained a stable facial symmetry.

His dental rehabilitation was done for missing teeth with fabrication of the prosthesis. He maintains a functional and stable occlusion.

His serial OPGs taken over a period of 2 years show no signs of recurrence [Figure 8]. The patient has an excellent range of

motion with the maximum interincisal opening of 42 mm. The patient is asymptomatic [Figures 9 and 10].

DISCUSSION

In a report by Dahlin and Inni,^[14] chondromas account for 2.38% of all osteocartilagenous tumors. Chondromas are usually seen in long tubular bones and in the hand, particularly in the proximal phalanges. According to a review of orthopedic literature 48% of chondromas are reported in the extremities and 80% of these are seen in the hands.^[15]

Chondromas can be classified into three types: (1) If it arises from the medullary cavity of the bone, it is called enchondroma. (2) If a chondroma arises from beneath the periosteum, adjacent to the cortical surface of the bone, it is termed as juxtacortical or periosteal chondroma. (3) The last variant of chondroma is the extra-skeletal or soft tissue chondroma, which is reported to be seen in the cheek, tongue, soft palate, etc.^[16,17]

There are certain syndromes associated with chondromas. Multiple chondromas, with a tendency for unilateral and widespread involvement is termed as "Ollier disease," which is a nonhereditary sporadic disorder. When multiple chondromas

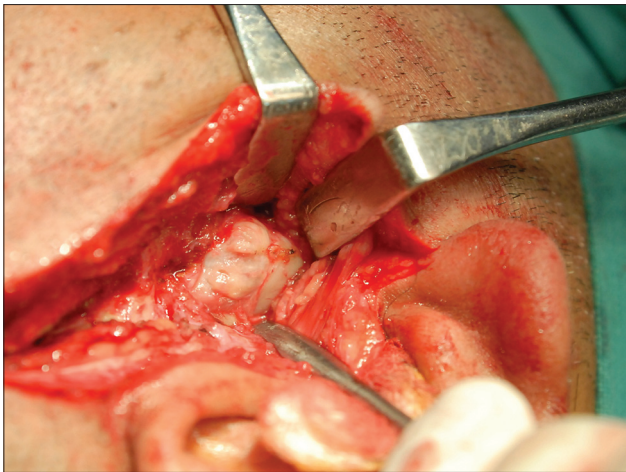


Figure 5: Intraoperative picture

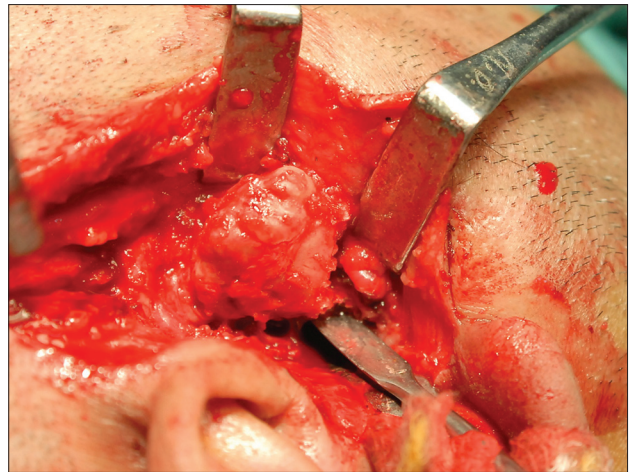


Figure 6: Intraoperative picture

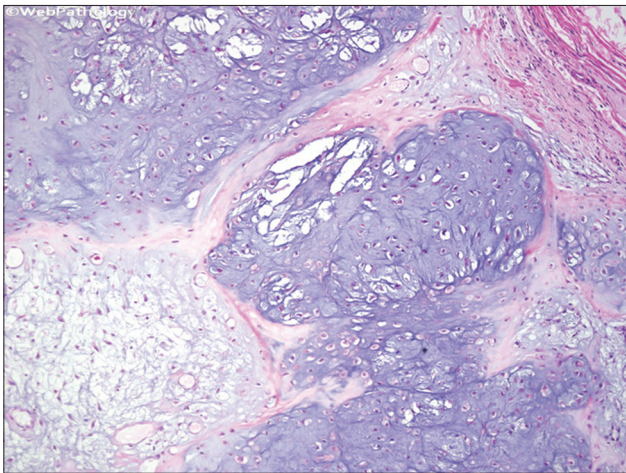


Figure 7: Mature hyaline cartilage with numerous chondrocytes



Figure 8: Postoperative orthopantomogram



Figure 9: Postoperative extraoral view



Figure 10: Postoperative extraoral view (profile)

are associated with angiomas of soft tissues and skeletal chondromatosis, it is called "Maffucci syndrome."^[18]

There is no significant association between development of tumor and trauma.^[19]

Chondromas have no specific sex predilection and are usually discovered in the third and fourth decade of life.^[20] Most chondromas are asymptomatic. Chondromas involving the TMJ may often go undetected or be clinically confused with joint dysfunction, owing to its rarity. This condition may be associated with a variety of symptoms ranging from clicking, limited mouth opening, deviation, mild symptoms to episodes of condylar dislocation. They are almost always slow growing in nature.^[21,22]

In our case, the patient's main concern was the growing facial asymmetry and the gradual progressive derangement in occlusion. After the surgery both his complaints were resolved.

Radiographically, chondromas are predominantly radiolucent, irregular masses. They may have some calcified foci ranging from powder like to dense aggregates.^[23]

Microscopically enchondromas comprise of normal looking chondrocytes residing in well formed lacunar spaces, with abundant hyaline chondroid matrix.^[24] Mitotic figures are rare.^[25]

The microscopic distinction between chondroma and low-grade chondrosarcoma may at times be very difficult. The distinction between the two becomes even more ambiguous owing to their common radiological and clinical findings.^[18] So in such cases careful histological examination is essential to take note of cellular atypia, change in nuclear-cytoplasm ratio, increased cellularity or any other dysplastic features. The incidence of malignant transformation in cases of multiple chondromas is reported to be as high as 20-33%.^[25,26]

Surgical resection is the treatment of choice for the chondroma of the mandibular condyle. Surrounding portion of normal tissue must also be excised to prevent local recurrence.^[3,8,20] These tumors are radiation resistant. Furthermore, radiation is contraindicated because of the potential of malignant transformation.^[26]

After condylectomy, often, reconstruction is undertaken to restore the height of the ramus and establish proper TMJ function. In our case reconstruction was not deemed necessary due to adequate ramus height and proper positioning of the reshaped condylar stump into the fossa, with adequate gap between the two bony surfaces. If reconstruction is undertaken, then it can be done with using either autogenous costochondral graft or sternoclavicular graft or an alloplast.^[18]

It is very essential in such cases to keep a long-term follow-up. It is also important to report such cases to take into account the nature, behavior and pattern of disease progression, opinions of operating surgeons and any modifications in the line of treatment of such rare cases.

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