References
1. Peppard PE, EW Hagen. The last 25 years of obstructive sleep apnea epidemiology—and the next 25? *Am J Respir Crit Care Med.* 2018;197:310-312.
2. Senaratna CV, Perret JL, Lodge CJ, et al. Prevalence of obstructive sleep apnea in the general population: a systematic review. *Sleep Med Rev.* 2017;34:70-81.
3. Pauna HF, Serrano TLI, Moreira APSM, et al. Multidisciplinary approach to the patient with obstructive sleep apnea. *J Otol Rhinol.* 2017;6:1-4.
4. Spicuzza L, Caruso D, Maria GD. Obstructive sleep apnoea syndrome and its management. *Ther Adv Chronic Dis.* 2015;6:273-285.

OSTEOCHONDROMA OF THE MANDIBULAR CONDYLE: AN ALGORITHM FOR TREATMENT.

Mark Gardner, DDS, and Shravan Renapurkar, DMD, FACS, Virginia Commonwealth University Health System

Purpose: Osteochondroma (OC) or osteocartilaginous exostosis is considered to be the most common benign tumor of the axial skeleton; however, due to its endochondral origin, this pathology is rarely seen in the maxillofacial skeleton aside in the head of the mandibular condyle.[1,2] Condylar OCs can lead to various structural and functional disturbances which include facial asymmetries, malocclusion, prognathic deviation of chin, crossbite of the contralateral side, mouth opening disturbances, temporomandibular joint (TMJ) dysfunctions, and hearing loss, and pain in some cases.[2-8]

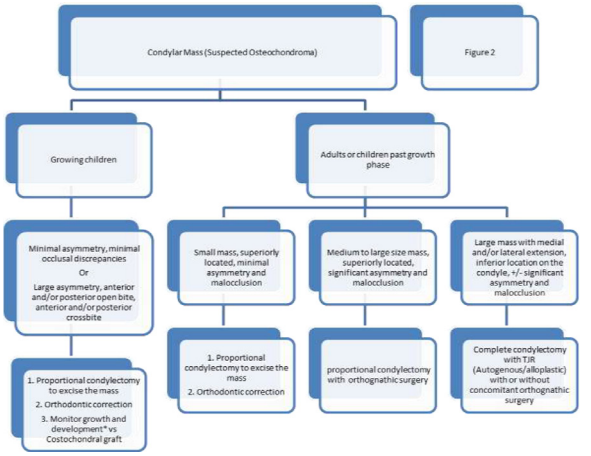
The types of surgical treatments for osteochondroma vary from resection without reconstruction (low-condylectomy), resection (total condylectomy) with TMJ reconstruction (autogenous/alloplastic), combined surgery, including orthognathic correction and low-condylectomy or TMJ reconstruction. Although previous studies have reviewed various modes of treatments and have supported the efficacy of each of them, none address the indications of such treatments in an algorithmic fashion. In this study, we reviewed a series of cases which were surgically treated and proposed a treatment algorithm based on initial presentation, age, location of the mass, morphology of the mass, and the degree of dentofacial deformity created.

Methods: We reviewed a total of 6 patients with a mean age of 33.6 years at the time of surgery. Three of those 6 patients presented as a pedunculated condylar mass located on the superior surface of the condyle, resulting in mild occlusal discrepancies and facial asymmetry. Two of these patients were treated successfully with proportional condylectomy and postoperative orthodontic correction of dental malocclusion with stable results. No orthognathic surgery was required until the last follow-up. The third patient elected not to undergo postoperative orthodontic correction of persistent malocclusion due to financial reasons but had no sign of recurrence with stable functional mild malocclusion. One of the 6 patients presented with superior located condylar mass, which was slightly larger in size, with significant cant of the maxilla and the mandible. This patient underwent a low condylectomy with simultaneous orthognathic surgery.

The final 2 patients presented with a significantly larger mass, with medial extension toward the cranial base. One of these patients had preoperative facial dysesthesia, presumed to be due to impingement on cranial nerve V. These patients were both treated with complete condylectomy and total joint replacement due to size of the mass, patient age, and medial extension and location of the mass on the condyle.

Results: All 6 patients who received treatment at Virginia Commonwealth University by the same surgeon from years 2015−2019 were found to show no sign of tumor recurrence at their most recent follow-up (mean follow-up length 10.8 months; range 3−30 months).

Conclusions: Based upon these surgical outcomes, we propose the algorithm shown in Figure 2, which can help guide practitioners in choosing the correct surgical procedure based upon preoperative clinical and radiographic findings.



References
1. Glick R, Khaldi L, Ptaszynski K, et al. Dysplasia epiphysealis hemimelica (Trevor disease): a rare developmental disorder of bone mimicking osteochondroma of long bones. *Hum Pathol.* 2007;38:1265-1272.
2. Murphey MD, Choi JJ, Kransdorf MJ, Flemming DJ, Gannon FH. Imaging of osteochondroma: variants and complications with radiologic-pathologic correlation. *Radiographics.* 2000;20:1407-1434.
3. Iizuka T, Schroth G, Laeng RH, Lädrach K. Osteochondroma of the mandibular condyle: report of a case. *J Oral Maxillofac Surg.* 1996;54:495-501.
4. Koole R, Steenks MH, Witkamp TD, Slootweg PJ, Shaefer J. Osteochondroma of the mandibular condyle. A case report. *Int J Oral Maxillofac Surg.* 1996;25:203-205.
5. Mira JM. Bone tumors. *Clinical, Radiographic and Pathologic Correlations.* Vol 2. Philadelphia, PA: Lea and Febiger; 1989:1626-1660.
6. Seki H, Fukuda M, Takahashi T, Iino M. Condylar osteochondroma with complete hearing loss: report of a case. *J Oral Maxillofac Surg.* 2003;61:131-133.
7. Stevao ELL. Osteochondroma of the mandibular condyle: conservative reconstruction with condylectomy. *J Oral Maxillofac Surg.* 2003;61:65.
8. Ward BB, Pires CA, Feinberg SE. Osteochondromas of the mandible: case reports and rationale for treatment. *J Oral Maxillofac Surg.* 2005;63:1039-1044.