



Condylar Hyperplasia

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ABSTRACT

Condylar hyperplasia (CH), as the name suggests, affects mandibular condyle producing overgrowth of condyle, which is characterized by a slowly progressive, usually unilateral enlargement of the mandible, facial asymmetry and deviation of chin to the unaffected side. The condition is known to be self-limiting, usually begins around puberty, but may not be recognized until later in life. This paper reports a case of severe facial asymmetry secondary to CH, which was successfully treated by high condylectomy only.

Keywords: Condylar enlargement, Condylectomy, Facial asymmetry.

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INTRODUCTION

Condylar hyperplasia (CH) is characterized by a slowly progressive unilateral enlargement of the mandible, facial asymmetry and deviation of the chin to the unaffected side, first described by Adams in 1836. It appears as an acceleration of growth in young patients that arises at the same time of physiologic condylar growth or as an unpredictable growth spurt in adults.¹⁻³ The etiology of CH is controversial and not well-understood.

Suggested theories include neoplasia, trauma followed by excessive proliferation in repair or a response to infection or to abnormal loading.⁴ Histological examination of the mandibular head reveals signs of growth. There is over activity in the articular cartilage. The thickness of the proliferative zone increases, the fibrocartilaginous zone becomes hypertrophic, endochondral bone formation occurs, while the articular zone remains remarkably intact.⁵

The diagnosis and treatment of mandibular asymmetry is quite difficult because of the morphological complexity

of the deformity. Unilateral CH is one of the rare condition which results from increased activity of the condylar growth center. Careful history, clinical and radiographic examination will usually reveal the true nature of the condition. As this condition can cause challenges in diagnosing, it has to be carefully differentiated with other similar conditions for planning and initiating the proper treatment modality for both functional activity and for esthetic appearance.

CASE REPORT

A 36-year-old male patient reported with complaints of unsatisfactory facial appearance, pain over his left condyle and poor chewing function. On examination, extraorally showed marked facial asymmetry, deviation of chin to right side, intraoral findings were midline shift to right side by 6 mm, crossbite on right side, open bite on left side, mouth opening was reduced to 28 mm (Fig. 1).

Initial radiographic examination and computed tomography scan showed an enlarged condyle on left side indicating the possibility of CH (Fig. 2). Treatment plan was made and explained to the patient and consent taken for surgery and general anesthesia.



Fig. 1: Facial asymmetry, chin deviated to right side

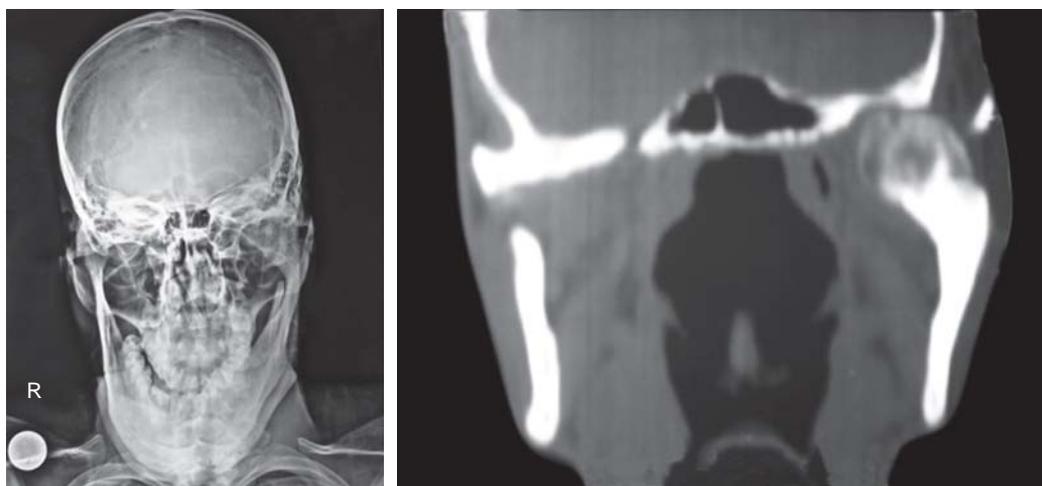


Fig. 2: Posteroanterior (PA) view and computed tomography scans showing condylar enlargement on left side

MANAGEMENT

The patient was operated under general anesthesia with nasoendotracheal intubation. The joint approached through Al-Kayat and Bramley incision (Fig. 3), T- shaped incision to enter into the joint compartment. A high condylectomy was done and 10 mm of condyle was shaved, specimen was sent for histopathological examination. The symmetry of the face was achieved and hence orthognathic surgery was unwarranted. Postoperatively minor occlusal corrections were done by selective grinding of premature contacts and patient was guided to proper occlusion with elastics.

DISCUSSION

Slowly progressive unilateral enlargement of the head and neck of the condyle causes crossbite malocclusion, facial asymmetry and shift of midline and chin to the unaffected side. Lower border of mandible appears convex. According to Obwegeser and Makek, stimulus for abnormal growth lies within the fibrocartilaginous layer or is produced by it. Obwegeser and Makek (1986) classified hyperplasia of

condyle into three types: Hemimandibular hyperplasia, hemimandibular elongation and CH. Hemimandibular hyperplasia is characterized by a three-dimensional enlargement of one side of the mandible, i.e. the enlargement of the condyle, the condylar neck and the ascending and horizontal rami. Hemimandibular elongation is characterized by horizontal displacement of the mandible plus chin toward the unaffected side.⁶

The diagnosis and treatment of mandibular asymmetry is quite difficult because of the morphological complexity of the deformity. Clinical findings must be substantiated with radiographs before reaching to definitive diagnosis and treatment plan. Because the treatment is influenced by the patients' growth, it is important to determine whether growth is still occurring. This can be best accomplished by performing a technetium-99m [tc-99m] bone scans. CH usually occurs after puberty and is completed by 18 to 25 years. Prominent features of CH include an enlarged mandibular condyle, elongated condylar neck, outward bowing and downward growth of the body, and ramus of the mandible of the mandible on the affected side, causing



Fig. 3: Postoperative changes



Fig. 4: Pre- and postoperative occlusal changes

fullness of the face on that side and flattening of the face on the contralateral side.⁷ The prominence of the chin is shifted to the unaffected side. An open bite might exist on the abnormal side. When we look at the profile view, the patient exhibited all these features. If growth has ceased, the mandibular asymmetry is treated by orthognathic surgery⁷ and if growth is still occurring a partial condylectomy should be performed. Sufficient cartilage and bone has to be removed to eradicate the condylar growth site and permit rotation of the mandible into normal occlusion. The decision of whether condylectomy is required involves consideration of evidence of active change in the hyperplastic condyle or radiographic and clinical suggestions of pathologic conditions, such as chondroma, osteoma or other neoplasm that may warrant tissue diagnosis. Osteochondroma or osteoma mimics CH, condylectomy not only restores symmetry but allows for histopathological examination of the tissue. In our patient, a high condylectomy was done and almost 10 mm of hyperplastic tissue was removed and sent for histopathological examination. Since, facial symmetry was gained only by condylectomy orthognathic correction was not done at the moment and explained to the patient that, if required may need a second surgical correction. But satisfactory result was obtained with condylectomy only. Zonghua investigated temporomandibular function of the CH patients after condylectomy

and concluded that condylectomy was effective treatment modality to correct facial asymmetry and at the same time to improve temporomandibular joint function in CH patient (Fig. 4).

CONCLUSION

With proper diagnosis and treatment plan CH can be managed effectively. Clinically, radiographically and histopathologically it should be differentiated from the other conditions like osteochondroma, osteoma where the treatment plan can vary. Modality of treatment can be condylectomy or orthognathic correction or both. Some patients may even require a postsurgical orthodontic correction.⁸

REFERENCES

1. Neville BW, Damm DD, Allen CM, Bouquot JE. Oral and maxillofacial pathology. Philadelphia: WB Saunders Co 1995; 15-16.
2. Matteson SR, Proffit WR, Terry BC, Staab EV, Burkes EJ. Bone scanning with 99m technetium phosphate to assess condylar hyperplasia: Report of two cases. *Oral Surg Oral Med Oral Pathol* 1985 Oct; 60(4):356-67.
3. Iannetti G, Cascone P, Belli E, Cordaro L. Condylar hyperplasia: Cephalometric study, treatment planning, and surgical correction (our experience). *Oral Surg Oral Med Oral Pathol* 1989 Dec; 68(6):673-81.
4. Gray RJ, Sloan P, Quayle AA, Carter DH. Histopathological and scintigraphic features of condylar hyperplasia. *Int J Oral Maxillofac Surg* 1990 Apr; 19(2):65-71.
5. de Bont LG, Blankestijn J, Panders AK, Vermey A. Unilateral condylar hyperplasia combined with synovial chondromatosis of the temporomandibular joint. Report of a case. *J Oral Maxillofac Surg* 1985 Feb; 13(1):32-36.
6. Obwegeser HL, Makek MS. Hemimandibular hyperplasia—hemimandibular elongation. *J Oral Maxillofac Surg* 1986 Aug; 14(4):183-208.
7. Motamedi MH. Treatment of condylar hyperplasia of the mandible using unilateral ramus osteotomies. *J Oral Maxillofac Surg* 1996 Oct; 54(10):1161-69.
8. Feldmann G, Linder-Aronson S, Rindler A, Soderstrom U. Orthodontic and surgical treatment of unilateral condylar hyperplasia during growth: A case report. *Eur J Orthod* 1991 Apr; 13(2):143-48.

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