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Rare Presentation Of Mandibular Asymmetry Due To Condylar Hyperplasia: A Case Report.

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Abstract
Condylar hyperplasia (CH) is an uncommon developmental disorder characterized by progressive enlargement of the mandibular condyle, leading to facial asymmetry, malocclusion, and temporomandibular joint dysfunction. A 40-year-old male presented with a 7-year history of gradually increasing mandibular deviation to the right side, associated with difficulty in mastication and limited mouth opening. His history revealed trauma to the jaw 20 years earlier. Clinical examination showed facial asymmetry, restricted mandibular movements, and deranged occlusion. Radiological investigations, including orthopantomograph and 3D-CT, demonstrated marked enlargement of the left condyle with elongation of the condylar neck, consistent with unilateral CH. High condylectomy of the left condyle was performed under general anesthesia, followed by intermaxillary fixation, resulting in satisfactory occlusion and improved facial profile. This case highlights the importance of comprehensive evaluation and timely surgical intervention in managing CH to restore both function and facial harmony.

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I. Introduction

Condylar hyperplasia (CH) is an uncommon developmental anomaly involving abnormal enlargement of the mandibular condyle, typically occurring on one side and resulting in observable facial asymmetry, deviation of the chin, malocclusion, and temporomandibular joint dysfunction.[1] Often noticed during adolescence and early adulthood roughly between ages 10 and 30, CH shows no consistent predilection for sex or side, affecting both males and females equally . [2]

The precise etiology remains elusive, though multiple contributing factors have been proposed. These include localized circulatory disturbances, hormonal or genetic influences, trauma, or mechanical stress on the joint.[3] Histopathologically, CH may reveal heightened cartilage proliferation, sometimes forming islands of cartilage within the subchondral bone. [4]

Diagnosis hinges on a thorough clinical evaluation including facial asymmetry, occlusal evaluation, and chin deviation combined with imaging modalities. Panoramic radiographs, CBCT scans, and especially nuclear imaging techniques like SPECT or bone scintigraphy are essential for assessing condylar growth activity and distinguishing active from inactive hyperplasia .[5]

Treatment is tailored to growth status and severity. When active condylar growth is confirmed, high condylectomy is often the intervention of choice to halt progression; in advanced or more complex cases, combined surgical approaches including orthognathic procedures may be necessary to restore symmetry and occlusal function.[6]

II. Case Report

The present case report is about a 40 years male patient who reported to the Department of Oral and Maxillofacial Surgery, Regional Dental College, Guwahati with a chief complaint of deviation of lower jaw since 7 years. His History revealed A/H/O Physical assault at his workplace 20 years back. Patient got hit on the jaw and sustained injuries to the faciomaxillary region. Patient was apparently normal 7 years back, then he started noticing deviation of face towards right side which was gradual in onset, progressively increasing in nature till current condition, was associated with difficulty in mastication and opening and closing of the mouth. Patient had reported to our department for needful management. There was no history of any systemic diseases, infection or surgery of the face and jaws. His medical and family histories were non contributory.

FIG 1 – EXTRAORAL FRONT PROFILE

Extra oral examination revealed gross facial asymmetry. There was a significant deviation of mandible towards right side on opening mouth. Left lateral jaw movement was restricted. There was no tenderness on palpation i.r.t. right or left pre auricular region. Opening and closing TMJ movements are palpable on both sides.

On Intraoral examination mouth opening was found to be 18mm. Occlusion was found to be deranged (Left side posterior open bite and right Posterior cross bite). On palpation there were no signs of fibrous band, infection or pus discharge.

Orthopantomograph revealed significant uniform enlargement of the mandibular condyle and elongation and thickening of condylar neck in the left side, comparatively normal condyle of the right side. The left gonial angle was characteristically rounded off and the mandibular canal was displaced to the lower border of the mandible left side. Computed tomography was performed to characterize the lesion further. 3D-CT apparently showed differences in the size of both condylar heads as well as elongation of the neck of the mandibular condyle left side. Clinical and radiographic findings were consistent with a diagnosis of unilateral Condylar Hyperplasia of the left side.

Fig 2 – Orthopantomogram

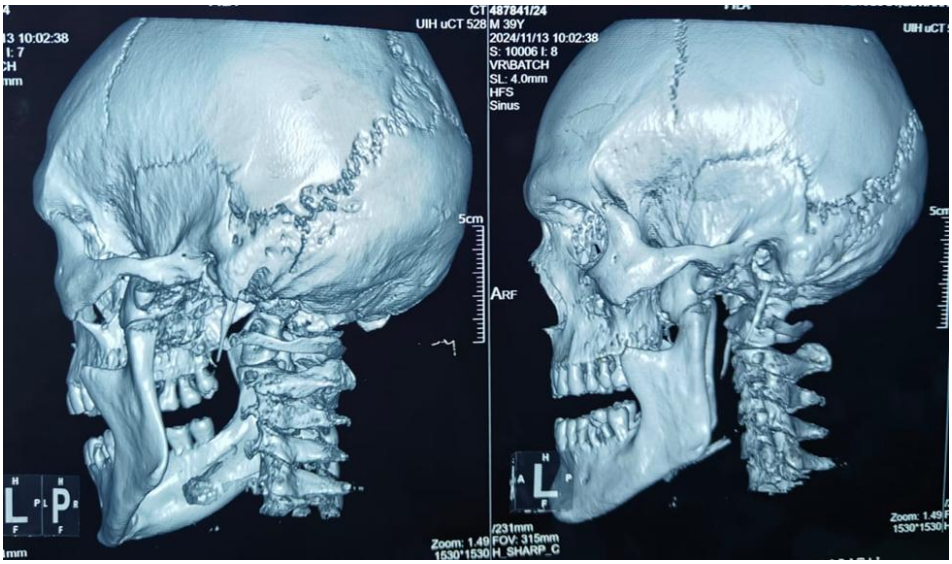

Fig 3 – Ct Faciomaxillary (3d Section)

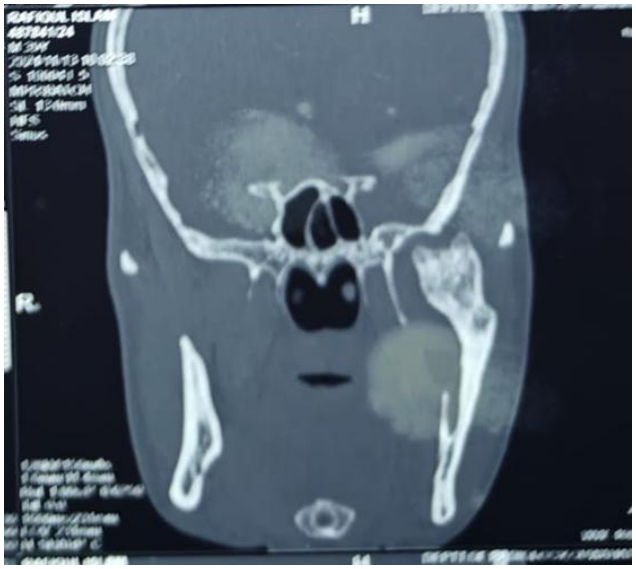

Fig 4 – Ct Faciomaxillary (Coronal Section)

High Condylectomy Was Done On The Left Side Under General Anesthesia. Following Which, Proper Occlusion Was Achieved And Patient Was Kept On Imf (Inter Maxillary Fixation). Patient Was Kept Under Follow Up And Showed Promising Recovery.

Fig 5 – Following High Condylectomy

Fig 6 – Post Operative Front Profile View

III. Discussion

Unilateral condylar hyperplasia (CH) is a rare, idiopathic condition marked by disproportionate mandibular condylar overgrowth, often resulting in facial asymmetry, occlusal disharmony, and mandibular deviation.[7] While its exact cause remains unclear, proposed etiologies include trauma, hormonal influences, hypervascularity, mechanical loading, and potential genetic predispositions.[8]

Classification systems such as the dichotomy between hemimandibular hyperplasia and hemimandibular elongation established by Obwegeser and Makek, as well as expanded frameworks by Wolford aid in understanding morphologic variations and guiding treatment planning.[9]

Diagnosis of active CH relies on multimodal imaging. Conventional radiographs and CT scans reveal condylar enlargement and structural asymmetry, whereas nuclear imaging techniques like SPECT can detect

increased condylar activity. A differential uptake of more than 10% or a 55:45 ratio compared to the contralateral condyle substantiates disease activity.[10]

Histopathological evaluation frequently shows proliferative cartilage growth and thickening of the condylar cartilage layer, indicative of ongoing remodeling.[12]

Therapeutic strategies must be tailored to growth activity and patient-specific needs. Active hyperplasia typically warrants high condylectomy to arrest progression, followed by orthodontic or orthognathic interventions as needed. This staged approach has delivered favorable functional and cosmetic outcomes in several reported cases. [11] In contrast, when hyperplasia has ceased, orthognathic correction alone may suffice.

Our case contributes to this knowledge base by illustrating a presentation consistent with established age and presentation norms, supported by imaging and managed surgically with successful restoration of symmetry. It highlights the importance of accurate diagnosis, timely intervention, and individualized treatment planning.

IV. Conclusion

Unilateral CH is an uncommon condition which can result into unesthetic look and various clinical problems. Early recognition and comprehensive imaging including serial photographs and SPECT studies are vital in diagnosing unilateral condylar hyperplasia. Timely surgical intervention, such as condylectomy followed by orthodontic and/or orthognathic treatment, can successfully arrest progression, restore symmetry, and achieve functional and aesthetic rehabilitation.

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