



Unilateral Condylar Hyperplasia- A Case Report

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Abstract

Condylar hyperplasia is a pathologic condition leading to the overdevelopment of the condyle unilaterally or bilaterally leading to facial asymmetry, occlusal derangements, deviation of the jaw and articular dysfunction. Here we report a case of unilateral condylar hyperplasia in a 20 year old male patient who presented with irregularly arranged front teeth. Clinical examination and conventional radiographs revealed hyperplasia of the condyle of the left side.

Keywords: Condylar hyperplasia; Dental malocclusio,s facial asymmetry.

1. Introduction

Condylar hyperplasia (CH) is a progressive and a rare condition of the mandible causing overdevelopment of mandible creating functional and esthetic problems. First described by Robert Adams in 1836 [1]. Asymmetry associated with Condylar Hyperplasia is classified by Obwegeser and Makek into 3 categories: i) Hemimandibular hyperplasia causing asymmetry in vertical plane. ii) Hemimandibular elongation causing asymmetry in transverse plane iii) Hybrid form-combination of both [2].

Unilateral condylar hyperplasia is characterized by slow and progressive condylar enlargement and elongation of the mandibular neck leading to asymmetry of face and deviation of chin to the unaffected side [3]. Etiology is unknown, though various theories include trauma followed by excessive proliferation in repair, neoplasia or a response to infection or to abnormal loading, hypervascularity, osteochondromatosis, arthrosis and possible genetic role. Local circulatory and endocrine disturbances have also been suggested [4-6].

Condylar hyperplasia is more commonly seen in females than in males due to the association between sexual hormones and growth of the condyle [7, 8].

Detailed case history, clinical and radiographic examination plays an important role in establishing an accurate diagnosis. Panoramic radiography can be used in comparing the shape and size of the condyle of the left and right side.

Bone scintigraphy scan with technetium ⁹⁹ methylene bisphosphonate forms an important aid in the diagnosis of condylar hyperplasia. Increased uptake of radionucleotide is an indicator of abnormal continuing growth of condyle [9]. Treatment of condylar hyperplasia is primarily surgical, with or without orthodontics and it depends on the degree of severity and status of condylar growth [10].

2. Case Report

A 20 year old male patient reported to the department of oral medicine and radiology of Sree Anjaneya Institute of Dental Sciences with a chief complaint of unsatisfactory facial appearance due to irregularly placed front teeth since 10 years.

On extraoral examination [Figure 1], gross facial asymmetry with increased size on the left side with an increased length of the ramus and body of mandible was noted. Mandible was deviated to the right side. Intraoral examination revealed the presence of midline shift of the mandibular teeth to the right side by 4mm. Radiographic examination with OPG [Figure 2] and PA skull [Figure 3] revealed enlarged condylar head, along with ramus and body of the mandible on the left side when compared to the right side suggestive of unilateral condylar hyperplasia.

3. Discussion

Unilateral condylar hyperplasia is a rare condition and is characterized by an increased activity of the condylar growth centre leading to excessive growth of one condyle compared to the contralateral condyle.

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Facial asymmetry can be analyzed by means of a central line drawn up from the tip of the glabella, passing through the pro-nasal point to the end of the chin, where both the halves of the face are observed to ascertain the difference in size and position between them. Deviation of the chin towards the opposite side is observed. Midline shift with unilateral posterior inverted occlusion or posterior open bite can be seen in some cases [11, 12]. Occlusal canting can be measured by placing a wooden tongue depressor across the right and left posterior teeth and note whether it is parallel to the inter-pupillary plane. Alternatively, the distance between the upper canines and the medial canthi of the right and left eyes can be measured.

Differential diagnosis should include Hemifacial hypertrophy, unilateral macrognathia and benign neoplasms like osteoma and osteochondroma. In hemifacial hypertrophy, all the soft tissues and hard tissues of the face will be enlarged unilaterally, in unilateral macrognathia, there will be unilateral enlargement of the mandible and teeth with exaggerated growth of affected condyle presenting as unilateral enlargement with downward bowing of the body of the mandible with a deviation in chin [13]. Benign neoplasms like chondroma and osteoma have distinct clinical features and may require histopathological diagnosis.

Panoramic and posteroanterior radiographs helps in understanding the shape of condyles on both and also facial and dental midline [10]. The lateral radiograph gives relative length and height of the mandibular condyle. TMJ radiographs show abnormalities in size and morphology of the condylar head and neck regions. Unlike CBCT which provides 3D models of the face, in posteroanterior radiographs all facial structures are projected onto a single sagittal plane.

Bone single photon emission computed tomography (SPECT) scan is an essential aid for the diagnosis of hyperactivity of unilateral condyle. Confirmed using 99-technetium phosphate radioisotope scan and was reported that there is a difference in activity of 10% or more between the condyles [14].

Condylectomy is done to remove the hyperactive growth center, so that the progression of the disease can be stopped and if performed early by physiological mandibular and dento-alveolar reshaping; consequent normalization of the face and occlusion can be achieved. The right time of intervention is after growth completion so that condylectomy will help in having two sides equal [15].

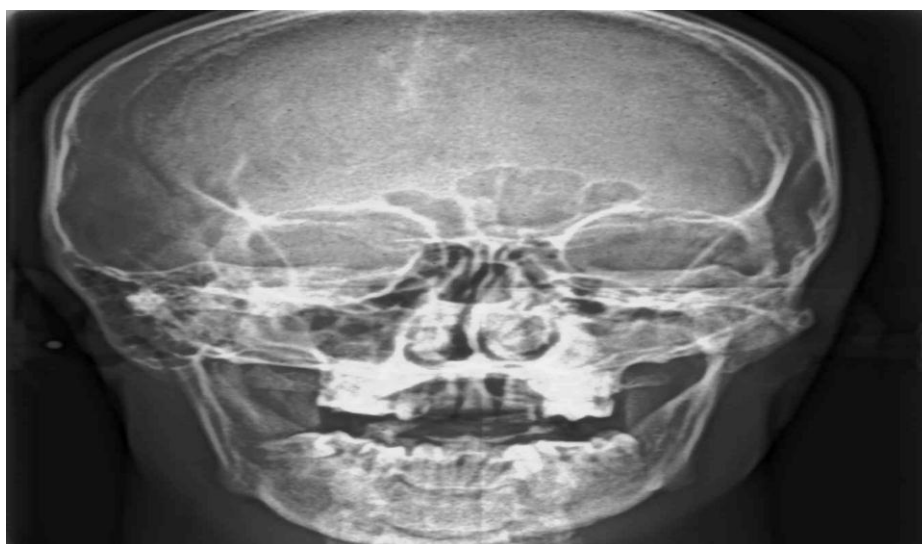
Fig-1. Showing gross facial asymmetry with increased size on the left side with an increased length of the ramus and body of mandible, with a deviation to the right side



Fig-2. Panoramic radiograph showing enlarged condylar head, along with ramus and body of the mandible on the left side when compared to the right side



Fig-3. PA view showing enlarged condylar head, along with ramus and body of the mandible on the left side when compared to the right side



4. Conclusion

Condylar hyperplasia is a rare, non-neoplastic change in the size and shape of the condyle. Careful history, clinical and radiographic examination is needed for the diagnosis of this condition and has to be differentially diagnosed from conditions such as hemifacial hypertrophy, unilateral micrognathia, osteoma, osteosarcoma etc. Main aim of the treatment is to improve the function and esthetic appearance of the patient.

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