

原文題目(出處)：	Condylar hyperplasia and facial asymmetry : Report of Five cases. J Maxillofac Oral Surg 2011;10:50-6
原文作者姓名：	Dicya Mehrotra, Satish Dhasmana, Mala Kamboy, Gautam Gambhir
通訊作者學校：	King George's Medical University
報告者姓名(組別)：	莊涵芝 Intern F組
報告日期：	101.02.17

內文：

Abstract

- ◆ Condylar hyperplasia of mandible is overdevelopment of condyle, unilaterally or bilaterally, leading to facial asymmetry, mandibular deviation, malocclusion and articular dysfunction.

Introduction

- ◆ Condylar hyperplasia normally occurs in mid teens with increasing deformity until cessation of growth.
- ◆ Prominent features
 - enlarged mandibular condyle
 - elongated condylar neck
 - outward bowing and downward growth of body and ramus of mandible on affected side
 - causing fullness of face on that side and flattening of face on the contralateral side.
- ◆ If deformity occurs
 - Before completion of growth—slanted occlusal plane
 - After completion of growth—posterior open bite



- ◆ Unilateral condylar hyperplasia must be differentiated from other states of overdevelopment
 - Hemifacial hypertrophy
 - Unilateral macrognathia
 - Laterognathia
 - Chondroma
 - Osteochondroma

Materials and methods

- ◆ A total of five patients with the primary complaint of facial asymmetry due to condylar hyperplasia who visited the OPD of Oral and Maxillofacial Surgery, CSMMU, Lucknow between 2005 and 2006 were randomly selected
- ◆ Informed consent was taken prior to their inclusion in the study
- ◆ Age, sex and a detailed history of the mode of onset and duration were recorded
- ◆ Any obvious facial asymmetry, scar mark or deviation of chin were examined
- ◆ Radiological assessment of both the joints was carried out with orthopantomograms and CT scan.
- ◆ Scintigraphy using ^{99m}Tc-MDP was used to distinguish the growing condyle

- ◆ from non-growing one and to assess whether there was still phase of growth
- ◆ The joint was exposed through Al-Kayat Bramley incision and a high condylar shave or condylectomy as planned, was carried out with the help of surgical bone cutting device. Specimen was sent for histopathological examination.
- ◆ Saggital split osteotomy was planned and performed bilaterally, when gross asymmetry existed along with protrusion, and unilaterally, in case of minor discrepancies.

Results

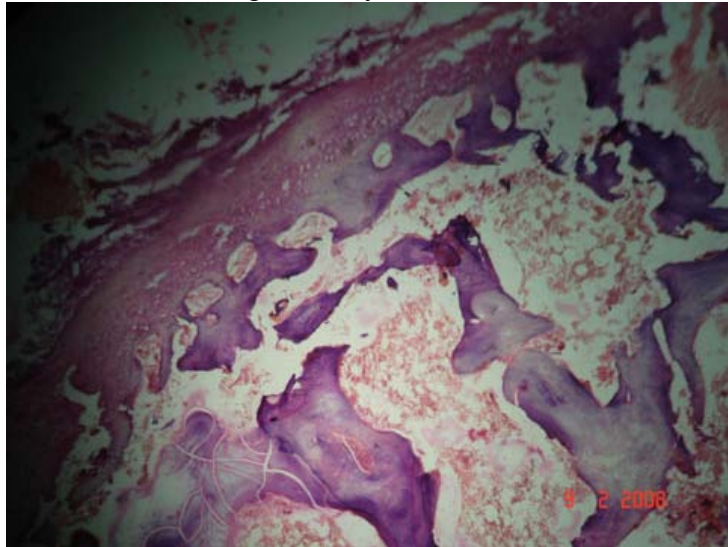
- ◆ Mean age : 22.8 years
- ◆ Trauma was the most common etiology
- ◆ Condylar hyperplasia causes facial asymmetry followed by midline shift, protruded chin, contralateral crossbite, maxillary cant



- ◆ Radiographic examination : change in shape of condylar head, elongated condylar neck, bowing of inferior border, hemimandibular enlargement



- ◆ Treatment : condylectomy, high condylar shave (with good intercuspal dental relationship), bilateral sagittal split osteotomy (with gross facial asymmetry and prognathic mandible), unilateral sagittal split osteotomy
- ◆ Histopathological examination : thickened irregular bony trabeculae, uninterrupted layer of undifferentiated mesenchymal cells, hypertrophic cartilage, islands of chondrocytes in subchondral trabecular bone, increased thickness of cartilaginous layer



- ◆ Patients were followed up regularly in their post-operative phase for a period of 2 years

Table 1 Demographic data, clinical features and treatment done

S no.	Age	Sex	Side	History	Asymmetry	Enlarged condyle	Elongated condylar neck	Inferior border bowing	Hemimandibular enlargement	Maxillary cant	Occlusion	Treatment
1	42	M	Rt	Trauma	✓	✓	X	x	X	X	Crossbite	Condylectomy
2	16	F	Lt	Trauma	✓		✓		✓	X	Crossbite	Condylectomy
3	17	F	Lt	Trauma	✓			X	X	✓	x	High condylar shave
4	18	M	Rt	Trauma	✓		✓	✓	x	X	Crossbite	Condylectomy + bilateral sagittal split osteotomy
5	21	M	Rt	x	✓		x	x	✓	x	Crossbite	Unilateral sagittal split osteotomy

Review of literature

- ◆ Two types of deformity
 - Increased anteroposterior mandibular length
 - ◆ Buccal crossbite
 - Increased vertical ramus height
 - ◆ Tilted occlusal plane
 - ◆ Lateral open bite
- ✓ Resulting in facial asymmetry and reduced opening on affected side
- ◆ Additional factors : hormonal influences, hypervascularity, heredity, infection , trauma
 - Invariably unilateral
- ◆ Diagnostic tools
 - Sequential study models, radiological and scintigraphic methods
 - ◆ For diagnosis and monitoing macroscopic aspects
 - Lateral and posteroanterior cephalograms

- ◆ For possible differences in size, shape, and length of the R/L side
- ◆ Micromorphology
 - Thickened and irregular bony trabeculae
 - Large volume of trabecular bone
 - Higher percentage of surfaces covered in osteoids
- ◆ Histologically
 - Uninterrupted layer of undifferentiated germinating mesenchymal cells, hypertrophic cartilage, islands of chondrocytes in the subchondral trabecular bone
 - Increased cartilaginous layer
- ◆ Isotope bone scan
 - Assess growth activity in the mandibular condyle
 - Distinguish normal bone growth from increased activity that may be the cause of the asymmetry
- ◆ SPECT
- ◆ Bone scintigraphy
 - Detect if the pathology is in an active phase or not



- ◆ PET Scan
 - Successfully used in the assessment and management of condylar haperplasia
- ◆ Treatment
 - Active growth—condylectomy
 - Growth stopped—orthodontics & surgical mandibular repositioning
 - Greatly increased height of the mandibular body—reduce the inferior border

Discussion

- ◆ Treatment depends on age, degree of deformity and hypofunction
- ◆ The basic consideration in the management of facial asymmetry secondary to condylar hyperplasia must include control of the growth process to allow more balanced facial development
 - Done by high condylectomy or condylar shave in actively growing cases
- ◆ Surgery
 - Condylectomy
 - ◆ Active change in the hyperplastic condyle
 - ◆ Radiographic or clinical suggestions of pathologic conditions such as chondroma, osteoma, or other neoplasm
 - ◆ Restores symmetry
 - ◆ Allows histological examination
 - Unilateral ramus surgery
 - ◆ When neoplasm is not suspected
 - ◆ Shorten the affected ramus as condylectomy does
 - ◆ Vertico-sagittal ramus osteotomy—Useful particularly to treat vertical discrepancies
 - Osteotomy
 - ◆ If condyle is mature and stable, with normal function and cessation of growth
 - ◆ Compensatory growth has occurred
 - ◆ E.g. Spatial correction with Lefort Osteotomy
- ✓ A slightly enlarged condyle that functions normally is left intact, and it may later remodel
- ◆ Zhonghua investigated the TMJ function of the condylar hyperplasia patients after condylectomy
 - Dramatic improvement in facial asymmetry
 - New cortex formed
 - TMJ function was improved
- ✓ Hence Condylectomy was an effective method
- ◆ Patients with active condylar hyperplasia treated with high condylectomy, articular disc repositioning, and orthognathic surgery have stable, predictable outcomes compared with those treated with orthognathic surgery alone
- ◆ Symmetry in most patients with condylar hyperplasia
 - Mandibular arch form remains approximately symmetric with the maxillary arch
 - No major compensatory alveolar modifications
 - General contour of the displaced mandible is symmetric
- ◆ Orthodontic treatment
 - Pre-surgical orthodontic treatment
 - ◆ Worsen the dental midline to allow greater osseous movements
 - Post-surgical orthodontic treatment
 - ◆ If ideal occlusion is desired
 - ◆ When skeletal and dental studies do not mandate orthodontic treatment pre-surgically

題號	題目
1	<p>下列關於「下顎矢向分裂骨切開術 (bilateral sagittal split osteotomy) 的敘述，何者錯誤？」</p> <p>(A) 此種術式只能讓下顎骨往後退，無法讓下顎前移</p> <p>(B) 術式是在下顎升枝內側面作水平的骨切開，在前緣作矢狀骨切開以及在白齒頰側面作垂直的骨切開</p> <p>(C) 在骨切開區域產生了大面積骨質重疊的伸縮效應，具備多方向移動的彈性</p> <p>(D) 易傷害到下齒槽神經</p>
答案(A)	出處：Peterson's Principles of Oral and Maxillofacial Surgery(2004), 2 nd edition, edited by Michael Miloro
題號	題目
2	<p>兩側矢向劈裂骨切開術 (bilateral sagittal split osteotomy) 可用來治療何症？1.下顎前突症 (mandibular prognathism)；2.下顎後縮症 (mandibular retrognathism)</p> <p>(A) 只有1</p> <p>(B) 只有2</p> <p>(C) 12</p> <p>(D) 12均不正確</p>
答案(C)	出處：Contemporary Oral and Maxillofacial Surgery, Peterson, L. j., 1998 5 th edition