

Unilateral Hyperplasia of the Mandibular Condyle

N.N. Khanna; S.K. Gupta; P.C. Sood and S. Khanna*

(Unilateral hyperplasia of the mandibular condyle is a relatively rare condition. The relative frequency with which these cases have been observed in recent years is perhaps due to a general awareness of the possibilities of correction available these days. (Hinds, Reid, and Burch 1960 : Bruce and Hayward, 1968).

Historical Review :

The first case of unilateral condylar hyperplasia was described by Adams in 1836 who associated the hypertrophic condyle to rheumatoid arthritis. Gruca and Meisels (1926) reviewed 14 cases and observed that it was more frequent in females and presented itself in young or middle aged patients. He emphasised the importance of early operation.

Rushton (1944), Hovell (1963), Rowe (1960) and James (1971) found a persistence of cartilage in the growing end of the condyle on histological examination. Thomas reported the surgically excised condyles to be essentially normal.

Cernea (1948) described 8 cases and Gottlieb (1951) reviewed 62 cases from the literature and reported 12 cases of his own. He felt that a large number of mild cases go unnoticed and he attributed the apparent increase in the incidence of the condition to

a greater awareness and demand for obtaining surgical correction. This was substantiated by Hinds, Reid and Burch (1960) who reported 15 cases of mandibular asymmetry due to unilateral condylar hyperplasia seen in a period of 4 years.

Fromm and Oberg (1962) mentioned that the condition commonly manifests between the age of 15 and 30 years. Resection of the enlarged condyle gave satisfactory results in their series. Blomquist and Hogeman (1963) reported 8 cases and reviewed all the cases reported in the literature till then.

Van Zile (1964) likened this condition to that of a single cartilage exostosis of long bones.

Bruce and Hayward (1968) in an extensive review of the subject proposed a classification based on the mandibular morphology. They also discussed the merits and demerits of condylectomy as a treatment procedure for this condition. They maintained that condyles should be preserved unless they were the seat of a tumour or continued growth. Operations such as removal of bone from the neck of the condyle or bilateral verticle osteotomy were useful procedures in such cases. Resection of the inferior border of the affected side was also required in some cases.

*From Departments of Surgery, Radiology & Pathology
Institute of Medical Sciences, Banaras Hindu University, Varanasi-221005 (India)

CASE REPORT

Patient named J.R.S., male aged 22 years presented to the Plastic Surgical O.P.D. of the Institute of Medical Sciences, Banaras Hindu University with a progressive asymmetry of the lower half of the face, a gradually increasing swelling in front of the left tragus and malocclusion for the last five years. There was no family history of the deformity or any history of trauma. The patient had some difficulty in chewing food and pain in the left temporomandibular joint during mastication.

On examination there was an asymmetry of the face. The left angle of the mandible was at a level lower than the right (Fig. 1).



Fig. 1—Showing increased verticle height of mandible on left side.

The left condyle appeared markedly enlarged and presented as a swelling anterior to the tragus. On measurement the verticle height of the ramus from the condyle to the angle was 78 mm on the right and 88 mm on the

left side. The body of the mandible measured from the angle to the menton was 88 mm on either side. The range of movement of the jaw was normal. There was a crossbite

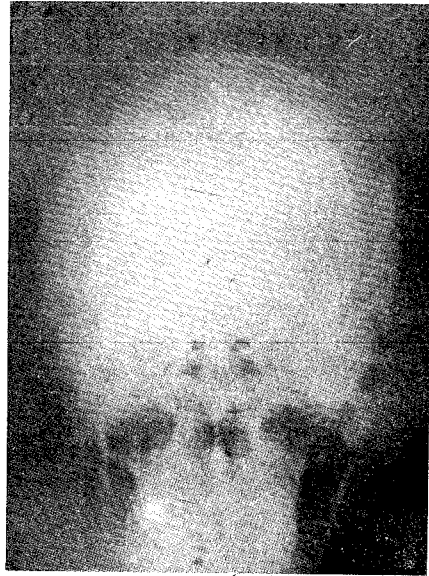


Fig. 2—Skiagram showing increase in length of neck of condyloid process of mandible.



Fig. 3—Showing a rounded configuration of the moderately enlarged head on left side.

malocclusion.

Radiological examination revealed elongation of the neck of the mandible (Fig. 2) rounded configuration of the moderately enlarged head (Fig. 3) and a loss of the normal concavity of the posterior border of the ramus and inferior border of the mandible on the left side (Fig. 4). The enlarged condyle showed a normal trabecular pattern. In 30° occipito-mental view, the infratemporal fossa showed widening and lateral deviation of the coronoid process (Fig. 5).

The patient was operated upon under general anaesthesia through a preauricular inverted hockey stick incision, and a condylectomy was performed. Post-operatively the patient made an uneventful recovery.

Histopathological examination of the excised condyle showed it to be composed of normal bone.

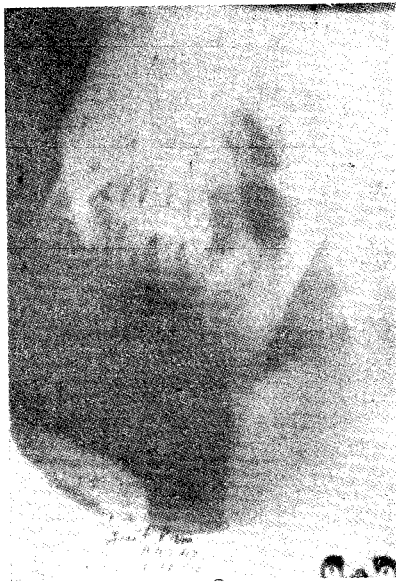


Fig. 4—Showing loss of normal concavity of posterior border of ramus and lower border of mandible on left side.

Discussion :

Condylar hyperplasia is a rare congenital anomaly. The disease usually has its onset in the late teens, and the patients come for operation five years later, the average age for operation being twenty-two years (James 1971). The deformity produced by the abnormal growth depends upon the patients age and the original occlusal relationship (Tarsitano and Wooten 1970). With an excessive verticle growth of the mandible there is a compensatory eruption of the



Fig. 5—Showing a widening of infratemporal fossa and lateral deviation of coronoid process on left side in the 30° occipito-mental view.

maxillary teeth and downward growth of the maxillary alveolus to maintain occlusion (Sarnat, 1968).

The etiology of this condition is obscure. Various causes like genetic factors, trauma, infection, vascular causes, hormonal and racial factors have been blamed. True condylar hyperplasia must be distinguished from enlargement of the mandibular condyle

due to local lesions such as cysts and tumours. Several workers have reported persistence of cartilage in the condyle. For reasons not clearly understood one condylar growth centre becomes more active than the other resulting in an enlargement of the condyle. The condition is usually self limiting and is not truly neoplastic. Histologically the picture is relatively normal.

Radiologically the enlarged condyle in most cases shows a normal trabecular pattern which can easily be distinguished from other conditions like osteoma, chondroma and fibrous dysplasia. Enlargement of the condyle varies from a moderate rounded configuration as in the present case to an irregular lump formation occupying the entire joint with secondary changes of the mandibular fossa (Blomquist and Hogeman 1963). Besides this there is an increased length of the mandibular ramus, compensatory maxillary alveolar growth and loss of normal concavity of the posterior and inferior border of the mandible (Bruce and Hayward, 1968).

Interesting findings observed in the present case were widening of infratemporal

fossa and lateral deviation of the coronoid process in 30° occipito mental view. These features do not appear to have been mentioned in the available literature. Patients come for treatment because of impaired mastication, facial asymmetry and pain in the temporomandibular joint. The treatment of choice in the majority of cases consists of resection of the enlarged condyle (Sarnat, 1968, James 1971). In some cases osteotomy of the mandibular neck or ramus on the involved side and repositioning of the mandible is required. Post-operatively the jaws are fixed in occlusion for several days, and the use of orthodontic appliances and intermittent wire or elastic bands help in obtaining a more exact occlusion. In an occasional case trimming of lower border of the mandible may be required.

Summary

A twenty-two years old patient with a unilateral hyperplasia of the mandibular condyle has been presented. The clinical and radiological features and the current methods of treatment have been discussed.

REFERENCES

1. Hinds, E.C; Reid, L.C. : Amer. J. Surg., 100 : 825, 1960.
and Burch, R.I.
2. Bruce, R.A. and Hayward, : J. Oral Surg., 26 : 281-90, 1968.
J.R.
3. Adams R. : Quoted by Gottleib.
4. Gruca, A. and Meiseb, E. : Ann. Surg., 83 : 755, 1926,
5. Rushton, M.A. : Proc. Roy. Soc. Med., 39 : 431—438, 1946.
6. Rowe, N.L. : Brit. Dent. J., 108 : 97, 1960.
7. James, P. : Ann. Roy. Col. Surg. of Eng., 49 : 310, 1971.

8. Cernea, P. : Quoted by Blomquist.
9. Gottlieb, O. : J. Oral Surg., 9 : 118—135, 1951.
10. Van Zile, W.N. : J. Oral Surg., 12 : 275—283, 1954.
11. Fromm, B. and Oberg, T. : Acta Otolaryng., 55 : 218—224, 1962.
12. Blomquist, K and Hogeman, K.E. : Acta Chir Scand., 126 : 414—426, 1963.
13. Tarsitano, J.J. and Westen, J.W. : J. Oral Surg., 28 : 832, 1970.
14. Sarnat, B.G. : In Facial pain and Mandibular dysfunction by Schwartz and Charges, C.N. pp. 45—96, Saunders, London, 1968.
15. Hovell, J.H. : Brit. J. Oral Surg., 1 : 105, 1963.