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# Unilateral Condylar Hyperplasia and Acromegaly

**(Case Report)**

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**Summary**

A case of a 57-years-old caucasian male with unilateral condylar hyperplasia and proven acromegaly is presented.

**Key-Words:** Condylar hyperplasia; Acromegaly; Endocrine disorders.

## Introduction

This paper describes a patient with the unique combination of condylar hyperplasia and acromegaly. As far as we know, a similar case has not previously been described.

## Case Report

At the time of admission to our clinic, the patient, a caucasian male, was 57 years of age.

*Fig. 1* shows the patient at the age of 18, at that time he had no visible signs of his illness.

*Fig. 2* depicts the patient at the age of 23. The acromegaly and asymmetry is clearly visible. One year later he was operated on, because of a tumour of the hypophysis.

The enlarged sella is seen on the radiograph in *Fig. 3*.

*Fig. 4* shows the patient at the time of admission with all the characteristics of acromegaly; the pronounced chin and supra-orbital rim, the large nose; and in *Fig. 5* the voluminous tongue.

There is also chin deviation to the right and the panoramic X-ray *(Fig. 6)* reveals the shift of the midline, due to condylar hyperplasia on the left. *Fig. 7* shows the occlusion. The patient refused operation on his facial deformities.

## Discussion

In spite of increased interest in recent years in factors which influence condylar growth, the aetiology of condylar hyperplasia is still unknown.

Many theories have been presented on the aetiology: *Ragnell* (1943), *Rudolph* and *Norvold* (1944), *Gruca* and *Meisels* (1962), *Oberg* et al. (1962) suggested disturbances in circulation to be responsible for the abnormal growth; *Wermuth* (1926) and *Rowe* (1960) advocated the hormonal theory; *Rushton* (1946) and *Cernea* (1948) thought trauma to be responsible.

Still other theories exist, but most of them are only of historical interest.

Much experimental work has been done on growth stimulation of the mandible. It appeared that growth is influenced by many factors: injury to the subcondylar bone (*Gilhuus-Moe* 1969); injury to the articular disc (*Lekkas* 1973); unilateral increase of vertical dimension (*Buchner* 1977; *Schlienger* 1977); dietary factors (*Bergman* et al. 1972). *Horikoshi* et al. (1974) demonstrated an obvious hormonal influence on the condyle. Remarkable is his finding of reduction in condylar growth in rabbits after extirpation of the salivary glands.

In spite of the fact that a hormonal aetiology is suggested in several papers, only one single case is presented in the literature by *Egyedi* (1969). It describes a woman who developed condylar hyperplasia after the birth of her second child. The patient had a high serum level of growth hormone and a diabetic glucose tolerance test.

In recent years views on growth hormone have changed remarkably, however. In fact there is no "normal" value for this hormone; it is released in irregular peaks. According to present day concepts the determination should be made as a 24 hours investigation after glucose administration. Without these determinations it is impossible to make the diagnosis of acromegaly.

Therefore the presumption made in *Egyedi's* (1969) paper is not valid. In the patient presented

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Fig. 1

Fig. 2

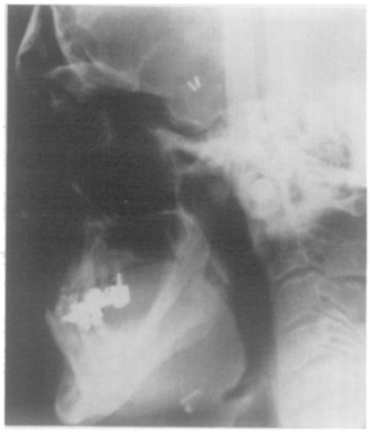
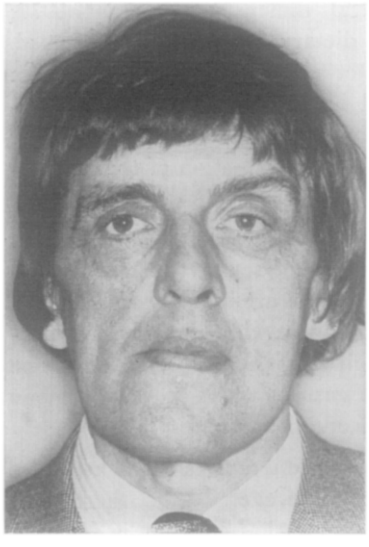


Fig. 3

Fig. 1 The patient at the age of 18, without any visible sign of condylar hyperplasia or acromegaly.

Fig. 2 The patient at the age of 23, one year before operation. Signs of acromegaly and asymmetry are clearly visible.

Fig. 3 The enlarged sella, due to the tumour of the hypophysis.



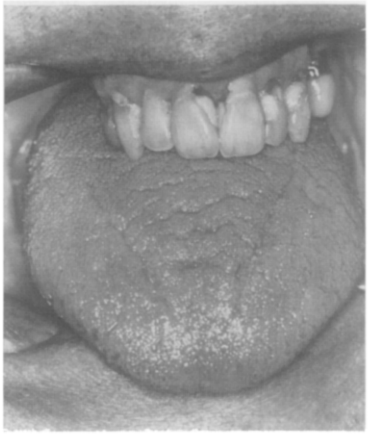


Fig. 4
The patient at the age of 57.
Note the chin deviation.

Fig. 5
The voluminous tongue.

in this paper an aetiological relationship between the hormonal dysfunction and condylar hyperplasia is also not proven.

Nevertheless it is a unique case, especially if one realises that the frequency of acromegaly in the Netherlands is 0.0004 % (personal communication Dr. Vingerhoeds, Dept. of Endocrinology, University Hospital Utrecht) and that of condylar hyperplasia between 0.25 ‰ and 2 ‰ (*Egyedi* 1974).

The chance combination of both conditions would then be between 0.000001 ‰ and 0.000008 ‰.

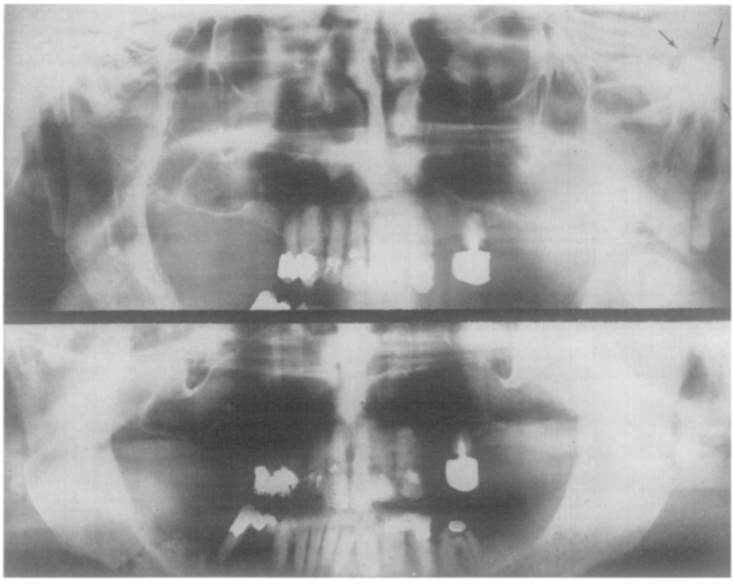


Fig. 6
Radiographic demonstration of the shift of the midline due to condylar hyperplasia. Note enlarged condyle.

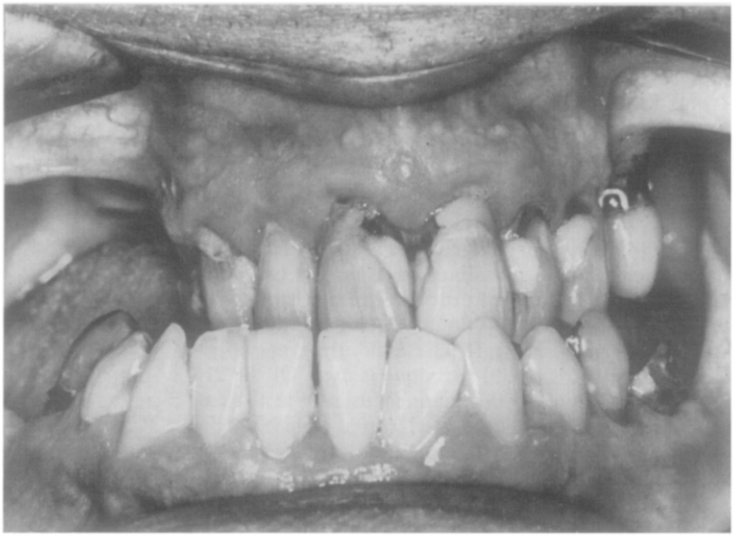


Fig. 7
Occlusion with mandibular deviation.

## Conclusion

This patient suggests that a possible connection between acromegaly and condylar hyperplasia exists. Therefore in future all patients with acromegaly admitted to the Department of Endocrinology (University Hospital, Utrecht) will be screened for condylar hyperplasia. It is advised that this be done elsewhere.

## References

*Bergman, B., U. Friberg, S. Lohmander, T. Øberg:* The importance of zinc to cell proliferation in endochondral growth sites in the white rat. Scand. J. dent. Res. 80 (1972) 486

*Buchner, R.:* Kaakkopje en verticale dimensie. Acc. Diss. Utrecht, The Netherlands, 1977

*Cernea, P.:* Les déviations mandibulaires d'origine epiphysaire. Rev. Stomat. (Paris) 49 (1948) 388

*Egyedi, P.:* Aetiology of condylar hyperplasia. Australian Dent. J. 14 (1969) 12

*Egyedi, P.:* Hyperplasia van de condylus mandibulae. Ned. T. Geneesk. 42 (1974) 1593

*Gilhuus-Moe, O.:* Fractures of the mandibular condyle in the growth period. Universitets Forlaget, Oslo 1969

*Gruca, A., E. Meisels:* Asymmetry of the mandible from unilateral hypertrophy. Ann. Surg. 83 (1962) 755

*Horikoshi, T.,T. Kawasaki, K. Hara:* Endocrine influence on growth of mandibular condyle. Bull. Tokyo Med. Dent. Univ. (Suppl.) 21 (1974) 75
*Lekkas, K. E.:* Unilateral hyperplasia of the mandibular condyle. Acc. Diss., Nijmegen, The Netherlands 1973
*Øberg, T., C. M. Fajers, G. Lysell, U. Friberg:* Unilateral hyperplasia of the mandibular condylar process. Acta odont. scand. 20 (1962) 485
*Ragnell, A.:* Correction of some jaw deformities. Acta chir. scand. 88 (1943) 344
*Rowe, N. L.:* The aetiology clinical features and treatment or mandibular deformity. Brit. dent. J. 108 (1960) 45
*Rudolph, C. E., R. W. Norvold:* Congenital partial hemihypertrophy involving marked malocclusion. J. dent. Res. 23 (1944) 133
*Rushton, M. A.:* Unilateral hyperplasia of the mandibular condyle. Proc. roy. Soc. Med. 39 (1946) 431
*Schlienger, A.:* Surocclusion expérimentale et croissance du cartilage condylien chez le jeune rat. Rev. d'odonto-stomat. Tome 6 (1977) 35
*Wermuth, H.:* Über Exostosen und Hyperostosen der Kiefer. Z. Stomat. 24 (1926) 852

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# Two-Stage Closure of Cleft Palate

**(Progress Report)**

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**Summary**

In order to achieve palatal closure with the least possible impediment to maxillary growth, the two-stage repair seems to be the best procedure in our hands. The technique and timing of closure of soft and hard palate are described. For soft palate closure a modification of *Widmaier's* (1959) technique is used. Of the 216 cases operated upon in this manner, usually at the age of 18 months (total and partial clefts included), the great majority show a soft palate of sufficient length and good elevation, a definite improvement in comparison with the one-stage procedure used formerly. Hard palate closure is postponed until between 5 and 8 years, the timing of surgery is chosen individually on the assessments of speech and dento-maxillary development.

**Key-Words:** Cleft palate.

## Introduction

The two-stage closure of cleft palate is not a new idea. *Slaughter* and *Schweckendiek* sen. (1955) have already published on this procedure mentioning that after soft palate closure the. Cleft of the hard palate becomes smaller and smaller. *Schweckendiek* jr. (1973) pursuing the idea of his father, also demonstrated that a two-stage closure of the palatal cleft causes less growth disturbance than the total closure in one session.

The favourable results of these authors induced us to accept the idea of the two-stage closure of the cleft palate, by using our own technique of cleft palate repair, based on the *Widmaier* (1959) technique of cleft palate closure. By this procedure it is possible to elongate the soft palate considerably and to obtain satisfactory palatal function by simultaneous transposition and union of the palatal muscles and thus better speech results.

## Our Technique for Closure of Cleft Palate

Since 1969 we have been performing a two-stage closure of complete uni- and bilateral cleft palates, using our modification of *Widmaier's* (1959) technique for soft palate repair. The soft palate is repaired at the age of 18 months, usually after eruption of the first deciduous molars, since this marks the end of a period of intense growth.

The hard palate is repaired between 5 and 8 years of age depending on the dento-maxillary development and speech proficiency.

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