



## *Surgical - Orthopedic treatment of traumatic laterognathy (\*)*

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Laterognathy is an anomalic pattern giving rise to functional and phonatic deficiency, and as a result of the assymmetric position disturbing the esthetic of the individual, this condition may even lead to psychic depressions.

### *A e t i o l o g y*

Laterognathy arises due to different causes. This anomaly may vary form a bad habit up to the pressure of a tumoral mass.

In fact, in the period of childhood, the permanent unilateral pressure exerted on the mandible is an obvious example of laterognathy.

On the other hand, disturbances of the mandibular condyle may give rise to laterognathy. This condition may result either form the unilateral disturbance of the organic structure of the mandibular condyle or else due to the variation of the anatomic shape of the condyle. As is well known, the disturbance of the organic structures

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in the condylar region may generally be related with very early auricular inflammations general infections or dental infections.

Among the causes of laterognathy, bad habits such as mimics play an important part. Furthermore due to an amygdal hypertrophy, the unilateral and voluntary shifting of the mandible in order to get an easy respiration are among the common causes of this condition. Moreover, it is observed that the child shifts his mandible in order to avoid pain resulting from caries or tooth ache or else to condition giving rise to closing difficulty of the jaws such as a cusp height.

Though such causes are of no vital importance, traumatic injuries form the most important etiology of laterognathy.

Man may always undergo traumatic injuries in the course of post natal as well as in intrauterine life. It is of considerable importance to note, that in the course of the passage from intrauterine to post-natal life the most deplorable phenomenon is encountered in infants delivered by forceps. The unilateral injury of the developmental center in the condyle is enough to produce laterognathy.

Traumatic injuries in the course of post-natal life may appear in different patterns. Such a condition may be due to various accidents from a fist blow during a quarrel, different collapses, fallings or traffic accidents. The ratio of such cases related to traumatic injuries approximately amounts to 70 per cent per annum. An unsuitable recovery of the mandibular fractures in the condylar region may give rise to mandibular deformities or articular disturbances even if they do not result in ankylosis.

The inappropriate consolidation of the fracture may cause laterognathy, or openbite, according to the direction of the fracture. In case of unilateral fractures, the unilateral ankylosis increases the importance of the laterognathy. In such instances, due to functional disturbances, atrophy may be observed in the lower region of the face. A complete asymmetry becomes obvious on facial examinations. The gnathion point drifts toward the nonankylosed side due to the continuation of the mandibular growth and development in the region free from traumatic injury.

Generally the bird-face aspect is always to be noted in the course of the profile examinations in cases of laterognathy associated with ankylosis related to traumatic lesions in early childhood.

In general, in cases of laterognathy, the dental occlusion and

angrenment are quite disturbed. The patient can not easily masticate. Phonation is disturbed too.

Moreover, psychic depressions are observed due to aesthetic alterations.

#### R e p o r t o f c a s e s

Following a brief summary of the aetiology and clinical picture of laterognathy, we may now consider the surgical and orthodontic treatment concerning our cases.

#### Case - 1 :

A 7-year-old girl (G.Ö.) had fallen on her head from her cradle when two months old. Following this accident, the mother had observed a diminution in the opening of her daughter's mouth. In order to avoid domestic troubles, as she was responsible of this accident, she intentionally omitted to relate the fact to her husband and the other members of the family. The mother dared to apply to medical help while her daughter was 6 years old. Meanwhile she fed her with soft foodstuffs. The girl could open the mouth 1 cm. at most (Fig 1). At that time, she had deciduous dentition. Cross-

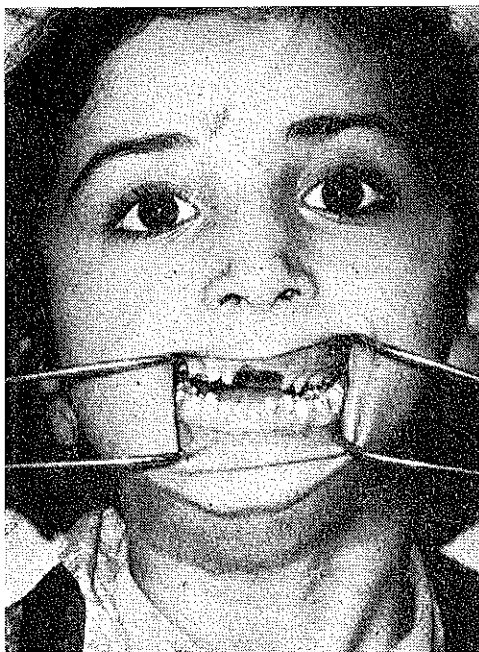


Figure 1

bite was present on both the right and left sides. The teleradiographic and condyle X-rays did not reveal a fracture or an abnormal consolidation on the right or left condyle. There was an asymmetry on the frontal view and a bird-face on the profile (Fig. 2-3).



Figure 2



Figure 3

## T r e a t m e n t

The jaws of the patient were opened through an «ouvre-bouche» under general anesthesia. A more easy opening was obtained following the disappearance of the tendons. Presently, the patient is continuing on to exercises of opening her mouth. She, now, can easily open the mouth, speak and eat every kind of food-stuffs (Fig. 4).

The patient actually presents a mixt dentition and is under orthodontic therapy. Her cross-bite and orhodontic anomalies will improve at the stage of permanent dentition.



Figure 4

### Case - 2 :

A 10-year-old girl (N.Y.). She had fallen down from a height of 5 meters. Her mandible knocked perpendicularly at the concrete. The lesions concerning the soft tissues had been treated. 3 months later, the mother saw that her daughter could not fully open the mouth. On clinical examination, the patient could open the mouth 1 cm. at most (Fig. 5). A frontal open-bite was present (Fig. 6). On the condyle

x-ray examinations and teleradiography, a fracture on the left condyle neck was observed (Fig. 7).

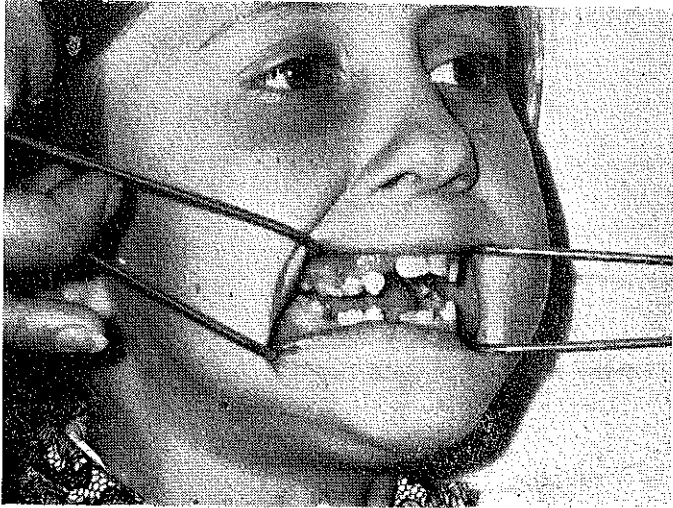


Figure 5

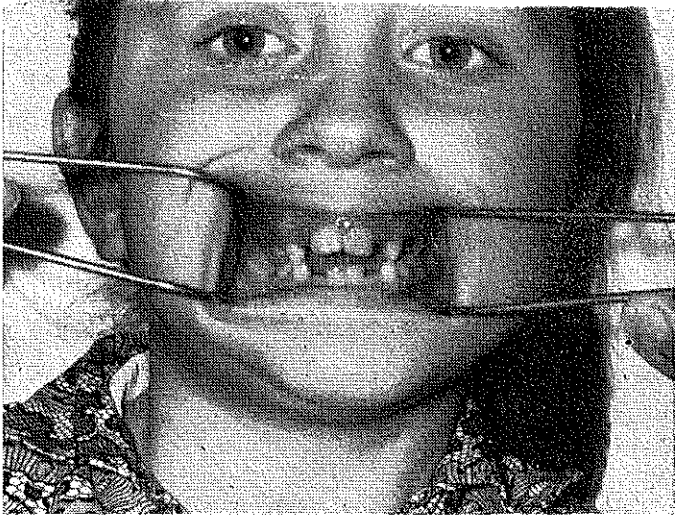


Figure 6

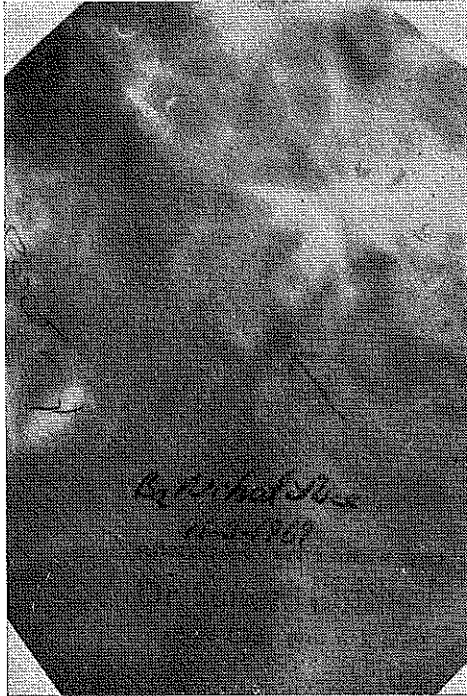


Figure 7

### Therapy

While the left condylar region was opened under general anesthesia, the condylar head disrupted from the condylar neck drifting horizontally was unified with both the condylar neck and zygomatic arch. Ankylosis disappeared following the removal of the fraction from the zygomatic arch. Now the patient can easily open the mouth, and every mandibular function has become possible (Fig. 8).

Presently in order to get a perfect occlusion and to avoid the open-bite, orthodontic therapy is being carried out (Fig. 9):

### Case - 3 :

A Twenty-year-old young man (Ş.K.). He had fallen downstairs when 12 years old. The right side of his mandible knocked at a staircase set. At other injuries and bleeding occurred, nobody had paid attention to the jaws. The child had difficulties in mastication and could not fully open the mouth. He become aware of mandibular

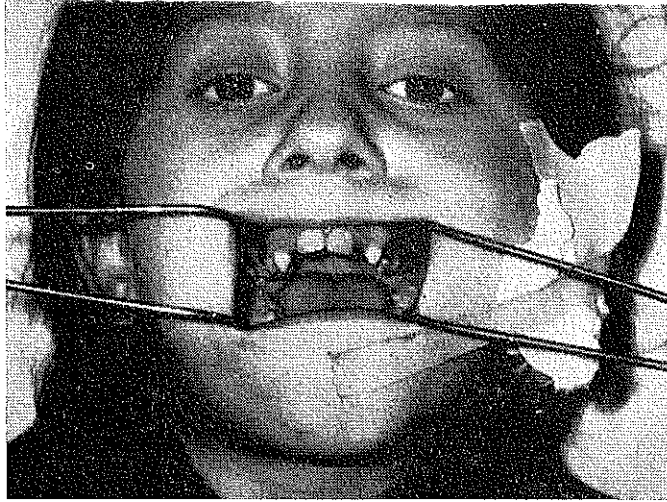


Figure 8



Figure 9

asymmetry when 19 years old, by the suggestion of his friends. He applied to a dentist and then was referred to our clinic.

On examination, a complete laterognathia was observed, though an excessive limitation of mandibular functions was not noted.



Despite the presence of a neutral occlusion in the right side on the horizontal plane, a cross-bite was observed on the left (Fig. 10). An excessive asymmetry was obvious on the face.

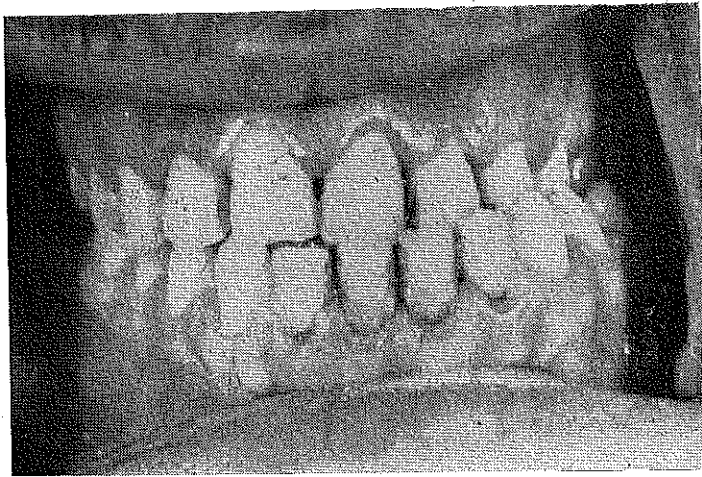


Figure 10

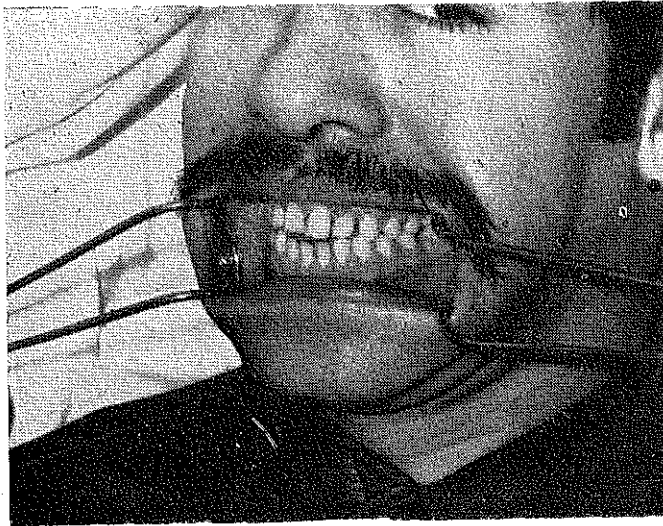


Figure 11

### T h e r a p y

The frontal region of the mandible was mobilized through a bilateral horizontal osteotomy bearing on the ramus under general

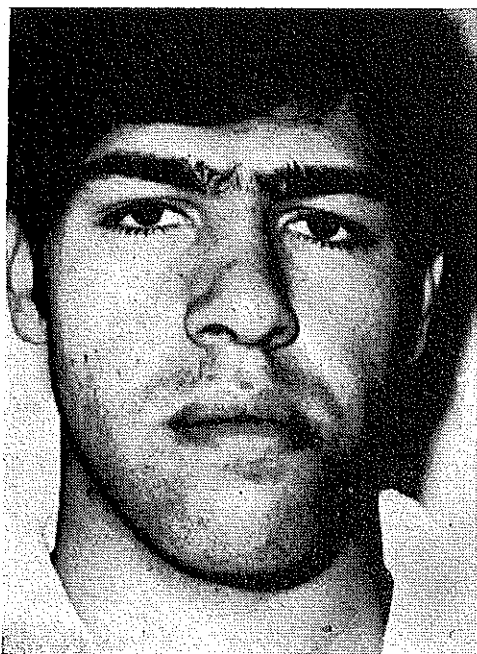


Figure 12

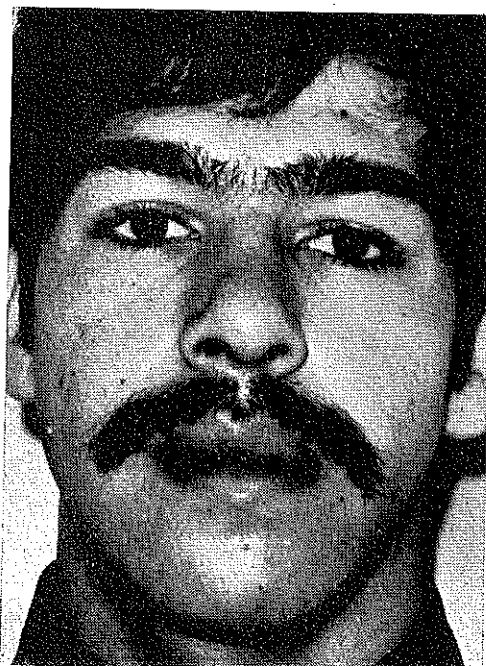


Figure 13

anesthesia and fixation was performed following neutral occlusion on both sides. After removal of the fixation appliances, a dental open-bite was observed (Fig. 11). Presently this open-bite is under orthodontic treatment. The symmetrical frontal view of the patient before and after treatment is seen in figure 12. and 13.

### S U M M A R Y

Laterognathy is an anomalic pattern giving rise to functional and phonetic insufficiency and causing different psychic depressions by disturbing the aesthetic of the individual due to the asymmetry.

Laterognathy, as is well known, is due to different causes varying from bad habits to tumoral pressures. Among these causes, laterognathy as a result of traumatic injuries, is rather frequently observed.

In the present article, cases of laterognathy of traumatic origin and the therapeutic measures used for surgical and orthodontic purposes are reviewed.

### R É S U M É

La latérogathie est un type d'anomalie causant l'insuffisance fonctionnelle et phonétique de même que des dépressions psychiques en altérant l'esthétique de l'individu résultant de l'asymétrie.

Ainsi qu'il est bien connu, la latérogathie est due aux différentes causes variant de mauvaises accoutumances aux pressions tumorales. Parmi ces causes, la latérogathie résultant de traumatismes, est assez fréquemment observée.

Dans le présent article, les cas de latérogathie d'origine traumatique ainsi que les mesures thérapeutiques prises en vue d'interventions chirurgicales et orthodontiques ont été revus.

### Ö Z E T

Laterognati, fonksion ve fonasyon yetersizliklerine sebep olan ve meydana getirdikleri asimetri nedeniyle de estetiği bozarak hastada çeşitli ruhi deprasyonların meydana gelmesine sebep olabilen bir anomali şeklindedir.

Laterognati, fena alışkanlıktan bir tümörün basıncına kadar değişen çeşitli nedenlerle meydana gelir. Bu sebepler arasında travma ile meydana gelen laterognatiler oldukça sık görülmektedir.

Bu makalede travma sonucu meydana gelen laterognati vakaları ve bunlara uygulanan cerrahi ve ortodontik tedaviler izah edilmiştir.

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