

ETIOLOGY, DIAGNOSIS AND TREATMENT OF FACIAL ASYMMETRIES

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Introduction

Face asymmetries of small magnitude are quite often. Absolute face symmetry is rather rare. Minor asymmetries of the face are not recognized by the persons who present them. On the other hand, severe face asymmetries produce serious esthetic, functional and psychological implications to the patients.

Etiology - Classification

Several etiological factors may be involved in the development of face asymmetries, which can be present at birth or manifested during childhood, puberty and adulthood. Face asymmetries can be related to (a) hemifacial microsomia, (b) condyle fractures, (c) TMJ ankyrosis, (d) hyperplastic mandibular condyle and/or ramus growth, (e) craniomandibular dysfunction, (f) muscle pathology, (g) tumors, (h) cleft lip or/and palate, (i) craniosynostosis, and (j) rheumatoid arthritis. ⁽¹⁻³⁾

Diagnosis

The systematic and comprehensive diagnostic

protocol which is used in all dentofacial deformities and craniofacial anomalies patients is the one also applied in cases of face asymmetries. ⁽⁴⁾ Emphasis on the interpretation of the diagnostic data is more useful than the use of an analytical approach.

Detailed history information may be critical if they are related to dentofacial trauma, inflammatory diseases of bone and muscles, and syndromes or craniofacial anomalies. ⁽⁵⁾

Clinical examination should be detailed and may include assessment of face proportions, head and body posture, and stomatognathic functions ⁽⁵⁾.

Face asymmetries which are clinically recognized should be analysed and interpreted by comprehensive X-ray examinations. Baseline radiographic examination should include panoramic X-ray as well as lateral and posteroanterior cephalometric analyses. Depending on the case, more detailed information can be obtained by TMJ imaging by means of transcranials, transpharyngeals, linear tomograms, MRI, CT, and Tc99. Additional diagnostic information may be supplemented by face bow registration and mounting of the study may be supplemented by face bow registration and mounting of the study models, analysis of body maturity indices, and genetic

control. ⁽⁵⁻⁷⁾

Treatment

Early diagnosis and management of face asymmetries is absolutely necessary in all growing individuals and very often a multidisciplinary approach is necessary. Dentofacial orthopedics and maxillofacial surgery are the main dental specialities involved.

Orthopedic or/and surgical treatments are used for the management of young patients with hemifacial microsomia. The exact approach depends on the severity of asymmetry, the magnitude of missing hard and soft tissues, the status of mandibular mobility and the age of the patients ⁽⁸⁾.

Orthopedic treatment of asymmetries due to condyle fractures in children aim to restore symmetric function and influence dentofacial growth and development. ⁽⁸⁻¹⁰⁾

Restoration of function in cases of TMJ ankylosis, control of the excessive growth in patients with hyperplastic mandibular condyle and/or ramus, removal of tissue pathology which influence the functional matrix, can be mainly accomplished by means of maxillofacial surgery. However, dentofacial orthopedics/orthodontics plays an important role in the successful management of these problems. ⁽¹¹⁻¹⁴⁾

Orthodontic and orthopedic treatment of functional x-bites eliminates the possibility of asymmetric dysplastic dentoalveolar and basal development and a multidisciplinary approach is usually utilized for the management of craniomandibular dysfunction that are associated with asymmetric function (i.e. locking). ^(15,16)

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