

## CURRENT ISSUES OF ORAL REHABILITATION IN DENTO-MAXILLO FACIAL ASYMMETRY

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### ABSTRACT

The issue of reciprocal influences between anxiety and dento-maxillo-facial rehabilitation in children is complex. The child patient is primarily afraid of pain. Between child and adult there is not only a difference in size but also an essential one in terms of morpho-functional features of his body. The child who frequently comes for dental care is the child between 6-14 years old and with a much lower incidence than the one between 3-6 years old. Material and method: The study included 25 patients, between January 1, 2019 and January 1, 2020, aged between 11 and 20 years, with dento-maxillary anomalies, without a history of orthodontic treatments.

Results and discussions: The deviation of the interincisive lines at the jaw and mandible, is the essential manifestation of the asymmetries and, together with the difference in amplitude of the sagittal gap of the molars, is the sign of symmetry; the gap of the interincisive points in maximum intercuspitation does not allow us to determine the type of symmetry.

Conclusions: Addressing the asymmetries from a clinical point of view is more difficult than other anomalies, being necessary for the clinical examination to group all the symptoms that allow the formulation of an accurate diagnosis.

### Keywords:

Anxiety, dental-maxillo-facial rehabilitation, asymmetries.

### INTRODUCTION

A beautiful smile means more than aligned teeth. It also means jaws correctly formed and positioned relative to each other. Children are those who can benefit from orthodontic treatments that can direct the growth of their jaws to prevent or correct maxillofacial problems[1-4].

In children, the constitutional genetic signature is much more obvious than in adults because the external environment did not have enough time to imprint the changes it can produce during adult life. In children, the growth, development and maturation of various functions are not yet complete, so they should not be treated as *miniature adults*. Between child and adult there is not

only a difference in size but also an essential one regarding the morpho-functional peculiarities of his/her body[5-7].

The limited reserves of the child, the impossibility to cope with additional efforts with organs and devices that reach their functional perfection only with age, make the functional disorders and decompensation of these organs easily produce disorders of the whole body[8-14].

Asymmetries are complex entities, with a polymorphic picture of manifestation, being able to cumulate or compensate each other, whether or not all elements of the

stomatognathic system are interested in the three dimensions of space. The more marked the symmetries, the more severe the disorders of physical health and mental integrity will be. The diagnosis of asymmetry must be accurate and as complete as possible, specifying the causes, location, clinical form, evolutionary potential thus facilitating planning and implementing correct treatment.

The classification of asymmetries is made up according to a series of criteria: etiological classifications (hereditary, congenital and acquired asymmetries), structural classifications, depending on the elemental stomatognathic system of interest: skull base, jaw, mandible, dental arches, teeth, muscles; architectural classifications (antero-posterior, vertical, lateral or rotational displacements)[15-21].

From the orthodontic point of view, the asymmetries that are of special interest are those that involve occlusion, they are classified as follows: qualitative asymmetries (number of teeth, cleft palate); quantitative asymmetries (tooth size, location of teeth on the dental arch → antero-posterior position, lateral, vertical; location of dental arches at the head: horizontal rotation; frontal rotation; lateral translation.

About 1% of all newborns have multiple abnormalities or birth defects, of which 40% can be diagnosed as a specific syndrome.

Facial microsony is a syndrome that mainly affects the craniofacial area characterized by mandibular asymmetry of varying degrees of severity and with affected dental occlusion.

Congenital hemifacial hypertrophy is a rare form of hypergrowth that can cause marked asymmetries in the craniofacial structure, involving both soft and hard tissues, many other types of facial asymmetries, can affect the teeth, thus

indicating a very early disturbance; the right side in most cases but the reason for this is unclear[22-26].

About 2% of newborns have deformities that appear to be caused by nondescriptive mechanical forces during the post-organogenesis intrauterine lifetime, at a time when the fetus is prone to deformities due to high plasticity and rapid growth.

Postural scoliosis is manifested by increased facial asymmetry and a high incidence of lateral malocclusions. A factor that could lead to a possible postural scoliosis, in some cases, is the defect in the migration and proliferation of neural crest cells.

In the postnatal period, unilateral mandibular hypertrophy is due to condylar hypertrophy and can disrupt the growth of the entire mandible in a variety of ways, the cause of asymmetric hypergrowth of the condyles has remained unresolved.

Oral Rehabilitation is a concept that, after the corrected examination and diagnosis with the treatment plan outline at full to rehabilitate the quality of dental patients and the associated structures purpose is to achieve a functional and aesthetic multifunction maximum disclosure dental appliance. In this process the diagnosis will highlight: the number of absent teeth, the number of teeth affected or carees, identifying tooth loss and tooth mobility, identifying affected offenses; gum recession; discoloration; eviction and tooth alignment; identification of oral hygiene, oral mucosa health, salivary flow, the taste is assessed and the sensorial perception in the mouth are assessed after examination and evaluation[27-31].

All focuses of infection are removed; all the teeth affected by cavities

are restored; non-invasive and minimum invasive prosthetic means are used in the complex process of rehabilitation when necessary[32-36].

Facial asymmetries are characterized by a wide range of clinical manifestations, depending on the etiopathogenesis. To establish a definite diagnosis, a grouping of symptoms and clinical signs is required.

The clinical examination of the asymmetries is performed with the patient seated, the Frankfurt plane parallel to the floor and the mid-sagittal plane perpendicular, in a mandibular rest position, then in occlusion in order to differentiate morphological problems from functional ones.

The clinical examination of the asymmetry must also include the examination by inspection from the upper and lower part of the patient as well as the examination of the profile → the right and left profile are analyzed comparatively (Bishara).

Notable differences between the two profiles are observed in the cleft lip (at the level of the nasolabial angle and the upper retrocheilia), in the unilateral temporomandibular ankylosis (on the ankylosis side the profile is chamfered). The asymmetry in

the position of the labial commissures is a sign of the tilting of the occlusion plane. The ectopic position of the canines can be the cause of an asymmetrical smile and in the absence of any anomaly, the asymmetrical smile is related to mimicry, due to different muscle games.

The intraoral examination completes certain observations of the extraoral examination, it can highlight the asymmetries that went unnoticed at the extraoral examination[37-39].

Aesthetic evaluation of intraoral manifestations of asymmetries involves assessing the concordance of the interincisive line and, especially, its situation in relation to the mid-sagittal plane and the filter. It is performed in different mandibular positions already evoked, in order to evaluate the asymmetry related to a possible deviation.

## MATERIAL AND METHOD

The study included 25 patients, between January 1, 2019 and January 2, 2012, aged between 9 and 17 years, with dento-maxillary anomalies, with no history of orthodontic treatments(Fig. 1).

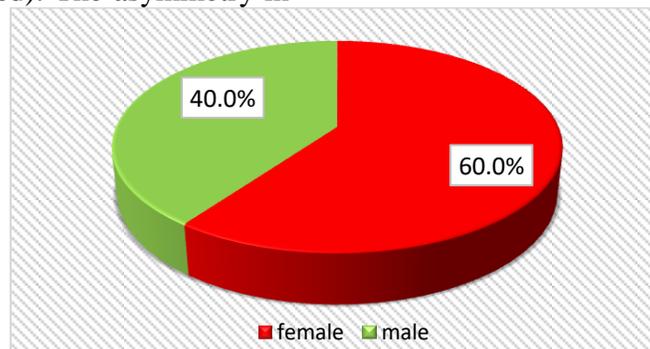


Fig. 1 Distribution of patients by gender

The clinical examination included several stages of asymmetry analysis: the extraoral clinical examination, assessments

of symmetry / asymmetry were performed through the patient's present inspection; examination of the mouth and

smile-position of the labial commissures, related to the median plane; inspecting the patient from above to detect asymmetries of the cranial vault; inspection from the bottom of the patient observing especially the level of the mandible, anomalies related to a unilateral sagittal and transverse asymmetric development, examination of the profile to observe the vertical and antero-posterior asymmetry.

## RESULTS AND DISCUSSIONS

The examination of the symmetry of the position of the teeth on the arches

required the establishment of a coordinated system of axes of symmetry for each dental arch.

The identification of facial and dento-alveolar asymmetry was performed on a group of 25 patients (15 women and 10 men), by clinical examination and analysis of study models. Depending on the dento-maxillary anomaly, the group was consisting of 14 patients class I Angle (56.00%), 4 patients class II / 1 angle (16.00%), 5 patients class II / 2 Angle (20.00%) and 2 patients class III ( 8.00%)(Fig. 2).

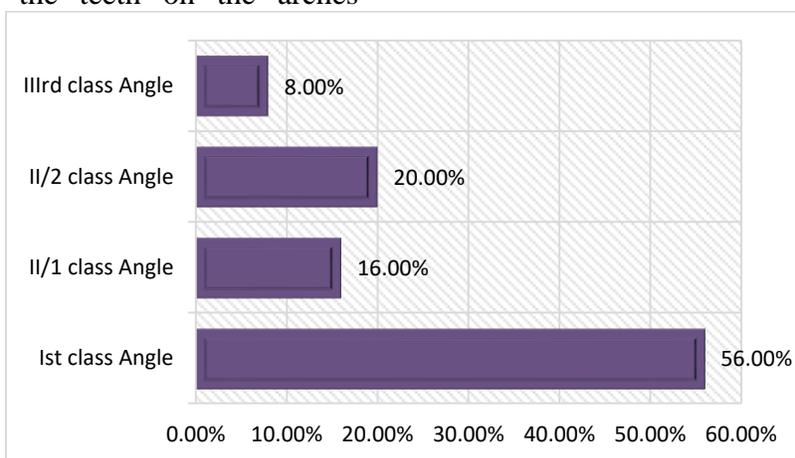


Fig. 2 Distribution of patients according with Angle Class

The clinical examination of the patient revealed defining aspects for the diagnosis of asymmetry. In the transverse plane I in cases with facial asymmetries the mid-sagittal line is no longer rectilinear, the horizontal planes are no longer parallel, the facial contour is no longer harmonious, the flattening of the normal part is observed and increasing the volume of the deviated part.

In the vertical plane the asymmetry was highlighted by the non-parallelism of the horizontal planes which suggests the asymmetry between the right and left sides. The divergence of the horizontal planes with the deviation of the mid-sagittal plane are the sign of a severe asymmetry.

At the examination of the mouth and the smile, in some cases the asymmetry was also manifested by the asymmetry in the position of the labial commissures.

Aesthetic evaluation of intra-oral manifestations of asymmetries consisted in assessing the concordance of the interincisive line, especially its situation in relation to the mid-sagittal plane and the filter.

Dental anomalies in the number, position, shape and volume of the teeth were in some cases the cause of the asymmetries of the dental arches, which may or may not overlap with skeletal abnormalities.

Dental position abnormalities, iatrogenics are often the cause of asymmetries in both the dental arch and laterodeviations. Infraocclusions are most often the clinical sign of a vertically associated skeletal abnormality, dysfunction or parafunction.

A mandibular deviation during the final phase of closure after the first dental contact, means a dental deviation; the presence of a deviated opening, limited or with jumps, can lead us to an ATM dysfunction.

The asymmetries of the dental arch are incriminated by a number of responsible factors: asymmetric chewing habits; finger sucking habit and similar habits; loss of contact points between decayed teeth; deciduous tooth extraction, permanent tooth extraction; trauma. Addressing asymmetries from a clinical point of view is more difficult than addressing the symptoms that allow an accurate diagnosis to be made.

The regularity of therapeutic acts, the calm and cohesion of care, the precision in execution are essential elements on which the cooperation and peace of the child are based. The creation of favorable psychological conditions contributes to the establishment of destiny relationships, understanding and even sympathy between the little patient-doctor. If we fail to do this, the emotional trauma often causes pathological anxiety viewing future dental treatments.

## CONCLUSIONS

For any medical specialty, the issue of area and the individualization of therapy in relation to it is not as pressing as for dentistry.

The major concern of the medical practitioner is to ensure maximum safety of the little patient, creating conditions of comfort and peace in the surgery, collaboration and pleasant memories during dental care.

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