ON THE INCIDENCE OF VARIOUS PATHOLOGIES IN THE ETIOLOGY OF THE DISFUNCTIONAL SYNDROME OF THE STOMATOGNATE SYSTEM

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Abstract

Any modification observed in the normal functioning of the stomatognate system may produce a disfunctional syndrome. Also true is that, even if many patients evidence more or less severe alterations of either occlusal parameters (most frequently) or mandibulary dynamics, the type of disfunctional syndrome may be considered as a debut or susceptibility sign. In fewer situations, the main symptom manifested was articular pain, articular noise or muscular symptomatology. Most of the complaints referred to the existing occlusal pathology. A preliminary discussion, together with the patient, prior to the initiation of the treatment, on the elements of articular or muscular pathology revealed, in most of the cases, his interest in a complete rehabilitation of the stomatognate system, being convinced that partial restorations cannot completely assure the morpho-functionality of the whole system.

Keywords: stomatognate system, disfunctional syndrome, occlusal disfunction, mandibulary dynamics.

1. INTRODUCTION

All inflammatory manifestations caused by mechanic or traumatic aggressions are characterized by the installation of cranio-mandibulary malrelations and, implicitly, of the disfunctional syndrome of the stomatognate system [1, 2].

Disorders of the muscular functions, influencing considerably the disfunctional syndrome, incriminate internal, external suprasystemic and intrasystemic factors [3].

The musculature of cephalic extremities, and especially the one involved in the position of the mandible vs the skull is less influenced by the modifications intervening in the general homeostasis of the organism, being however constantly determined by disorders of occlusal, articular or muscular harmony [4].

2. MATERIALS AND METHODS

137 patients (45 men and 92 women), with ages between 16 and 86 years, have been examined clinically and radiologically.

Fig. 1. Distribution of patients on sexes

The ratios registered in the female group under investigation was of 67%, higher than the value recorded in men - of 32%, as women showed more frequent signs of occluso-articular symptomatology. The information necessary for the study - provided by patients in the
questionnaires they filled in - showed the following distribution of cases according to the type of disorders:

On the other side, the age at which modifications of the stomatognate system appear is usually between 30-45 years, comparatively with the other groups, the organism succeeding in compensating for - in a way or another - the disfunctions manifested in relation with such disorders.

Mention should be made of the increased ratio of occlusal problems, closely related to that of articular disorders, once known that these two determinants depend on one another [5].

**ATM disorders involved in centric condylian malpositioning**

The symptomatic articulations evidenced the following distribution (27%):

In the group of patients with systemic disorders, the following distribution of the articular signs and symptoms was found:

Most of the patients did not accuse muscular symptomatology, which was manifested only during clinical examination or amansemia (in a ratio of 34%).

Muscular symptomatology includes: muscular pain during insertions or irradiation; sensation of permanent muscular contraction, accompanied by hypertonia; muscular spasm, with no possible relaxation, and pains; muscular fatigue, also induced by nocturnal bruxism; muscular, uni- or bilateral hypertrophy (especially of the maseter muscles, causing facial asymmetry); mandibular
dyskinesia (limited mouth opening, modification of the trajectories of mandibulary dynamics) [6].

Consequently, the causes of occlusal dysfunctions may be divided into:

I. Determining causes: dental, articular, occlusal parafunctions, iathrogenies

II. Favorizing causes: stress, genre [8].

I. The determining causes involve several aspects:

a. Dental causes:
   - Non-treated caries;
   - Non-prosthesized edentations
   - Dental-maxillary anomalies permissive or restrictive for guidance;
   - Eruption accidents
   - Growth disorders - displasies, distrophies;
   - Traumatisms of the teeth, alveolar bone, maxillary bones;
   - Occlusal obstacles;

b. Articular causes - structural incongruencies, articular inflammatory or non-inflammatory problems,

c. Occlusal parafunctions;

d. Other congenital or general diseases;

e. Iathrogenies;

The inquiries made and the files of the examined patients evidenced the following distribution of the determining causes upon the condylian malpositioning with dental causes. Most of them involve problems created by dental lesions (53%) and iathrogenies (27%), the articular causes represent 9%, parafunctions - 7% and general diseases - 4%.

3. RESULTS AND DISCUSSION

Most of the patients considered in the present study showed more or less important modifications of the occlusal parameters. All modifications not included within the acceptable limits of a normal occlusal functionality were considered pathologically.
The non-functional occlusion is considered as a modification perturbing the homeostasis of the system. A functional or habitual (natural or therapeutic) occlusion which meets the criteria of stability, mastication, phonation, satisfactory physiognomy, with no periodontal, odontal, muscular or articular consequences, even in the presence of potentially pathological factors, is not included in the syndrome of the occlusal disfunction [9, 10].

In cases of disharmony and occlusal disfunctions, subjective and objective signs - with various forms, intensity and association stereotype in each patient - appear in the structures of the stomatognate system.

In the group of patients under investigation, minimum occlusal affection was recorded in the 6-30 year group of age, medium in the 45-80 year group and maximum between 30-45 years.

The subjects have showed a symptomatology of rather spasm muscular spasm type, muscular fatigue and deviated mentoniere trajectories.

The symptomatology of occlusal disharmony is quite rich, including in various ways and inconstantly the elements of the system:

1. **Dental symptoms:**
   a. Increased dental mobility;
   b. Dental migrations
2. **Periodontal symptoms:**
   a. Increased dental mobility;
   b. Dental migrations
3. **Modifications of the static and dynamic parameters:**
   a. Occlusal areas, irregular, intrerrupted, shortened, supressed supporting and guided cusps;
   b. retroincisor slope
4. **Functional problems:**
   a. Unsatisfactory, inefficient mastication;
   b. Physiognomy altered by modification of the frontal group;
   c. Non-corresponding phonation;
   d. Unstable occlusal fixation in deglutition;
   e. Self-maintenance problems.

Fig. 10. Symptomatology of occlusal disharmony

Mention should be made of the muscular most alarming symptoms for the patient, from a slight disconfort up to terrible pain. Myalg is caused by the accumulation of lactic acid in the muscles, with self-sustained contraction. Patients suffer from muscular contractions, caused by the reaction to an acute traumatic agent, in the beginning without affecting mandible mobility [11].

Initially, myospasms appear in the external pterigoidiene, then in the other mobilizing muscles. A complication of the myospasm is represented by myosites, with a appearance of over 10-14 days [12].

A prolongued stress of the musculature on a single part produces hypertrophies, the most frequent being of maseterine nature, causing facial asymmetries, asymmetries of the mandible in dynamics, deviated propulsion, other phenomena of mandibular dyskinesia.

The polysymptomatic, sometime invalidating picture of the syndrome may have a slow evolution, with specific adaptative modifications, sometimes irreversible, or it may cause important tissular disorders, by exceeding the adaptability threshold of the organism [13, 14].

In most of the cases, occlusal disfunction represents the “touchstone” for stomatologists.

The presence of mandibulo-cranial malrelations in the study group was analyzed.
Fig. 11. Percent frequency of mandibulo-cranial malrelations observed in the study group

As evidenced in the graph above, 57% of the patients from the study group were diagnosed with mandibulo-cranial malrelations. Among them, 75% had excentric mandibulo-cranial malrelations.

Fig. 12 Percent frequency of the excentric and extrapostural mandibulo-cranial malrelations diagnosed in the study group

Most of the patients with malrelations were those with excentric malrelations (75%).

4. CONCLUSIONS

Occlusal modifications represent a possible modality of acting upon the temporo-mandibulary joint. In cases of mild or medium severity, the "occlusal mirror" may be "polished" for positioning the mandibular bone in a centric relation vs the skull, as well as for remodelling of the patterns of muscular contraction.

The interrogative clinical study performed indicates a less symptomatic pathology in relation with the most frequent clinical signs.

References