Stomatognathic system dysfunctional syndrome is triggered by cumulative intra- and supra-systemic factors, and morphological and functional asymmetries favoring the occurrence of the syndrome. The present study intended to evaluate the relationship between the general manifestations of neurological brainstem - various biochemical neural disorders, and the dysfunctional syndrome of stomatognathic system. The study was conducted on a group of 26 patients with different neurological brainstem, aged between 26 and 83 years that were evaluated not only by paraclinical parameters, but also by the clinical neurological and dental signs. Neurological brainstem and also the uncoordinated function of the stomatognathic muscles system were factors that significantly influenced the pain and articular noises. Considering the high incidence of neurological brainstem disease within the population, the accurate evaluation and therapy of the stomatognathic system disorders becomes mandatory for the dental practitioner. Moreover, the proper treatment plan should corroborate the dental therapy with treatment of the systemic disorder.

Keywords: biochemical parameters, neurological brainstem, stomatognathic system, dysfunctional syndrome
syndromes in dysfunctional syndrome of the stomatognathic system is supported and based on scientific data. Stomatognathic system dysfunctional syndrome is a disease of interference between multiple specialties, as shown and schedule etiopathogenesis, diagnosis correctly and completely settling through efficiency conjunction between specialty of dentistry and medical specialties: neurology, endocrinology, medicine domestic psychiatry etc. [17-20].

The paper presents the study of correlations between stomatognathic system parameters in dysfunctional syndrome and various biochemical neural disorders.

**Experimental part**

**Materials and methods**

From a total of 41 subjects initially included into our study and investigated by electromyography and clinical examination, between October 1st 2011 and March 1st 2012, the evaluation of our patients was performed during the dental treatment, and also during the hospitalization; in the present study, remained a group of 26 patients with different neurological brains tem, aged between 26 and 83 years, that were presented at the Higher Dental Education Base, iasi, during January till June 2012.

Inclusion criteria for groups of patients were:
- patients diagnosed with neurological brainstem
- patients under supervision and specialized treatment
- cooperative patients
- institutionalized patient or with residence in city of iasi (according to the long time supervision requirement).

"Diagnosis" of muscle, joint, periodontal, odontal affliction, impaired functions, homeostasis disruption of the stomatognathic system.

Exclusion criteria for groups of patients were:
- patients hospitalized for control only (insufficient time to investigate)
- patients that refused cooperation.

Uncooperative patients (that did not follow the prescribed systemic treatment)

Gender distribution of this study batch included 14 female subjects and 12 male individuals, aging between 16 and 83 years, which presented clinical signs of neurological brainsteam with a keen interest regarding the affliction of stomatognathic system and a heighten concern considering the recuperation of the already reduced functions of the system.

Neurologically speaking, the 26 patients had undergone clinical and paraclinical were examinations prepared neurological observation charts and specialized treatment was applied, the various periods of dispensarization, depending on the conditions. Regarding dental examinations, there were conducted clinical and laboratory exams, emphasizing the dysfunctional syndrome following clinical signs:

**Clinical joint signs:** joint pain, crepitations, joint pond, jaw deviation, subluxation, limiting mouth opening and joint lock.

**Clinical muscle signs:** muscle pain, hypertonia, spasms, hypertrophy, muscle fatigue, limit trips and mandibular jaw changing dynamics trajectories.

**Clinical periodontal signs:** periodontal pain, inflammation, recession, periodontal direct trauma, increased tooth mobility, tooth migration and changing percussion sound.

**Clinical dental:** dental pain, tooth fracture and tooth abrasion.

Disorders of harmony morphological dental alveolar arches: disharmonies primary and secondary disharmonies.

Static and dynamic occlusion disorders: modifying the main parameters of balanced occlusion, premature occlusal contact, changes in dynamic occlusion.

Changing the fundamental mandibulo-cranial relations: postural and centric relations.

Changing the main functions: function of chewing, swallowing, phonetic, esthetic and latching function.

Parafunctional events: bruxism, clenching teeth, onicofoagie, biting lips, biting tongue, tics of succession.

Ear events: otalgia, vertigo, tinnitus, tinnitus, hearing loss, ear sensations blocked.

Nose and throat symptoms: burning, pricking, pharyngitis, rhinitis, vasomotor.

Lingual events: glossodynia, metallic taste sensation, burning, tongue depapilated.

Salivary manifestations: hypersalivation, glandular swelling.

**Results and discussions**

The results obtained from the study group of patients are summarized in the following figure, structuring main clinical signs of the dysfunctional stomatognathic system syndrome.

The distribution of cases with brainstem syndromes was as follows in figure 1, with the observation that the percentage of female patients is higher.

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![Fig. 1. Graphic representation of neurologic syndrome found in the study group: A - Wallenberg syndrom; B - pseudobulbar syndrom; C - Encephalities; D - Fowille syndrom; E - Millard-Gubbler syndrom; F - Farinaud syndrome](image)

The results obtained from the study group of patients are summarized in the following figures, structured on main clinical signs of dysfunctional syndrome of the stomatognathic system reveals also, a predominance of female patients damage (fig 2.)

In terms of neurological damage, was found coexistence of various diseases (neurological syndromes) whose rate varies (fig. 3).

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![Fig. 2. Gender distribution of patients: A - Wallenberg syndrom; B - pseudobulbar syndrom; C - Encephalities; D - Fowille syndrom; E - Millard-Gubbler syndrom; F - Farinaud syndrom](image)
Our study results show that affected temporomandibular joint was more common in males, in contradiction with literature data. This fact shows that it is more prevalent among women TMD (1.5-2 times), possible because there is a summation of the pain from this area, but there are evidence that the central nociceptive processing is upregulated at women compared to men. Moreover, the descriptive study shows 80% of patients preated, that TMD is for women and it is possible that, year - hormonal axis has an important role to the appearance of headache [8]. The maximum number of the patient’s occurring in women aged 20-40 (women of reproductive age), and the lowest among children, adolescents, and the elderly [8-10]. On the predominance of the female sex, the age category 26-45 years and women in our study are numerous.

Temporomandibular joint damages and functional abnormalities involves aiming joints (fig. 4) and organs nearby: muscle, tongue, throat, ear, teeth like its demonstrated in following reports figure. Tics most commonly observed, mainly in males.

Muscle manifestations are varied: from pain, hypertonia, spasm, fatigue or joint dynamics change. Men have the largest changes in position of joint or muscle spasms (fig. 7).

No periodontal changes, but this time the pain is the main symptom and it is more common in women. Inflammation, periodontal recession have similar proportions for female patients (fig. 6).

Dental manifestations: abrasion is the most common, followed closely by pain. Women are affected at a higher rate than males (fig. 7).

Also, the entire static and dynamic occlusion, the disorders modifying the main parameters of balanced occlusion are revealed and our study (fig. 8) and the distribution of harmony for morphological alveolar dental arches (fig. 9).
Parafunctional dysfunctions most revealed from our patients are tics of succession, bruxism, biting tongue (fig. 11) and the important functionality events are the percentage of chewing function and phonetic function (fig. 12).

Salivary gland function is disrupted, the salivation changes and there is an enlargement of the gland. If the hypersalivation, it is more common in males, enlargement of the salivary glands is more common in women (fig. 13).

Orofaringian damage is manifested as burning and stinging sensations, the first being more common and especially for males (fig. 14) and lingual events (fig. 15).

Changes at the tongue level are for the metallic taste, tingling and decreased motility. The first two are often, and are frequently affecting males (fig. 16).

The most eloquent homeostatic event is on point D, according to figure 16, where it can be seen that is affecting more the males.

Conclusions

The experimental data concluded that:
- affected temporomandibular joint was more common in males, in contradiction with literature data;
- temporomandibular joint damages and functional abnormalities involves aiming and organs nearby: muscle, tongue, throat, ear, teeth like;
- muscle manifestations are varied: from pain, hypertonia, spasm, fatigue or joint dynamics change;
- periodontal changes are more common in women;
- abrasion is the most common, followed closely by pain on dental manifestations and women are affected at a higher rate than males;
- concerning the modification of the occlusal areas, elevation of the occlusal plan and changing of the slopes cusps, which have the same percentage of modification is an important factor in dysfunctional syndrome events;
- parafunctional dysfunctions most reveald from our pacients are tics of succession, bruxism, biting tongue.

References

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