# NEW ASPECTS OF THE CLINIC, PATHOGENESIS AND TREATMENT OF ALGESIC TEMPORAL-MANDIBULAR JOINT DYSFUNCTION SYNDROME IN PATIENTS WITH PSYCHOEMOTIONAL DISORDERS

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High sensitivity of CT to the changes of the studied tissues is conditioned by the fact that unlike the ordinary roentgenological films these obtained images are not distorted b y applying other structures through which passes the X-ray bundle.

One of the symptoms of TMJ dystrophy is the murmur in the joint area when opening and closing the mouth. Murmur recording is performed with the help of highly sensitive microphones attached on the surface of the skin in the joint area. The patient opens and closes the mouth at a maximum amplitude. The recording is carried out during 4 cycles and later the program analyzes by interpreting the obtained data.

One of our brought up problems was to study the psycho-emotional status effect on the functional state of TMJ. Radiologic examinations, particularly CT was used to define organic-structural changes in the joint. We have modified and worked out a device for the determination of murmurs in TMJ pathologies, apparatus-electrosonography “Device for defining murmur in TMJ. Invention N.95 on 07.07.2015, which is portable, small with a corresponding (suitable) program that allows to define changes in TMJ dysfunctions during the very first approach. We think that this device will be widely used in clinical practice. Of the patients observed by us practically all of them had malocclusion, which makes us speak about the necessity to eliminate the causes preceding its development, i.e. to normalize the occlusive states and the psycho-traumatic stress-genic factor which will significantly increase the possibility to diagnose and treat painful dysfunction of TMJ.

**Key words:** Temporo-mandibular joint, test Spielberg and Beck

**Introduction.** Diseases of the temporal-mandibular joint (TMJ) are considered to be a topical problem in stomatology. In 70—80% cases it is the functional disorder of TMJ. The syndrome of algesic dysfunction (SAD) of TMJ has a peculiar place among such diseases. At present the conception that the nervous system has an important role in the formation of the pathogenic and clinical determinants of the given disease is universally recognized. Underestimation of this factor can bring not only to the narrow interpretation of this disease’s pathogenesis, but it can also be a factor preventing from evaluating the presence of accompanying disorders influencing on the issue of the disease. It concerns especially to depressive disorders.

There is hardly any branch in stomatology that could have as many unsolved complicated and disputable problems as in the treatment of TMJ dysfunction. It can be

explained, on the one hand by the complicated functional and compensatory possibilies of the joint, abundance of factors providing its normal functioning and, on the other hand, a number of possible causes promoting dysfunction development. Besides, during the recent decades the attitude to the essence of this disease has been gradually changing, various medicamentous, orthopedic and surgical methods have been offered and denied. All this become an obstacle for a treating doctor to choose the right treatment method [Badanin V.V., 2003; Grigoriev A.A., Rekova L.P., 2004; Khvatova V.A., 1996].

The evolution of treating this dysfunction during these years can be characterized both as a quick increase in offering new methods and their quick damping. As a rule, occurrence of new methods of treatment is preceded by new methods of diagnostics expanding the possibility to assess the pathology clinically. Algesic syndromes in the facial area are more complicated and difficult to be diagnosed and treated in out-patient stomatological centers.

In recent years stomatology has been marked by successful implementation of the latest achievements in material production and new technologies [Badanin V.V. 2003; Boiko V.V., 2002; Bertoli F., Russo V., Sansebastino G., 2000; Lotzman U., 1998].

However, more and more often patients with TMJ dysfunction are applying for severe headaches and facial pains, ear obstruction, etc. Such patients are difficult to diagnose not only for the stomatologists, but first of all for the neuropathologists, vertebrologists psychiatrists [Grigoriev A.A., Rekova L.P., 2004; Karelin A.A., 2001; Alexander F., 1951; Marcenes W.S., Sheihan A., 1992].

Stress, emotional factors, anxiety and tension bring to muscular hyperactivity, muscular spasm, TMJ parafunction. Painful foci appear in spasmodic muscles — "cocky" or "triggering" muscle zones, from where pain radiates to the neighboring areas of the face and the neck.

In this point the problem of diagnostics and determination of pathogenic mechanisms in TMJ pathology still remains unsolved and demands further investigations in this direction.

**Materials and methods of investigation.** 46 patients with different TMJ dysfunctions have been under our observation In order to study the psycho-emotional status of patients who have applied for TMJ disorders we have conducted their examination by using Spielberg's Test, which evaluated the results of anxiety according to the 20 to 80 score system indices.

In order to define the anxiety level, i.e. person's natural or compulsory activity, the scale of situational anxiety was used. By saying personal anxiety we should understand firm individual characteristics reflecting the person's predisposition to uneasiness and the existence of tendency to perceive a rather wide range of situations as threatening, by giving a definite reaction to each of them.

When analyzing the results of self-evaluation we should take into consideration that the general total index according to each subscale can be in the range of 20 to 80 scores. The higher the total index is, the higher the anxiety level is ( situational or personal). For the index interpretation we can use the following approximate grades of anxiety: up to 30 scores — low; 31—44 scores — moderate; 45 and over — higher.

From 20 to 30 scores — low level anxiety.

From 31 to 45 scores — moderate level anxiety.

From 46 to 8- scores — high level anxiety.

When analyzing the results of numerous investigations testifying to the high degree associations in psychosomatic pathologies of an increased level, as well as taking into account the fact that maxilla-facial system anomalies are considered to be chronic psycho-traumatic stressogenic factor, the patients were examined with the help of Beck's depression scale. The depression range was evaluated according to the following indices:

0—39 score range;

0 to 9 score results speak about the absence of depression;

10 to 25 score results — mild level of depression of either situational or neurotic genesis;

26 to 39 score results — real depression.

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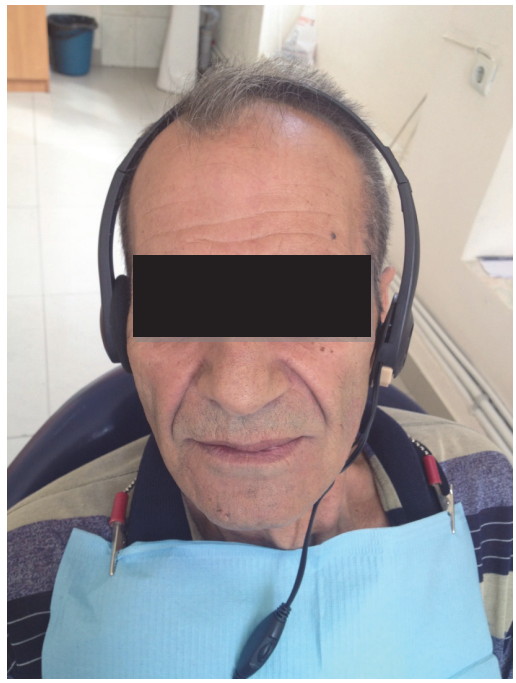
High sensitivity of CT to the changes of the studied tissues is conditioned by the fact that unlike the ordinary roentgenological films these obtained images are not distorted b y applying other structures through which passes. the X-ray bundle.

One of the symptoms of TMJ dystrophy is the murmur in the joint area when opening and closing the mouth. Murmur recording is performed with the help of highly sensitive microphones attached on the surface of the skin in the joint area. The patient opens and closes the mouth at a maximum amplitude. The recording is carried out during 4 cycles and later the program analyzes by interpreting the obtained data.



**Picture 1.** The device fixed in the TMJ projection

However, the known electrosonographs for diagnosing articular murmurs and dysfunction of TMJ of ESGI, produced by "Miotronics" company and the computer program for analyzing and processing the obtained data, are bulky and fixed and can't be widely used in out — patient practice. The above mentioned made us work out the electrosonographic apparatus "Device for revealing TMJ murmur" which is portable, small with a corresponding (suitable) program that allows to define changes in TMJ dysfunctions during the very first approach. We do hope that this device will be widely used in clinical practice.

**Picture 2.** Device for revealing TMJ murmur accompanied by the computer program for analyzing and processing the obtained data

**Results and discussion.** As it is known, psychosomatic pathology is characterized by polymorphism of the clinical manifestations in the form of personal-behavioral changes and patho-psychological symptoms.

The obtained results allowed to reveal a level of reactive anxiety (Spielberg's test) in patients under examination needing treatment, which can be characterized as moderately increased.

The results of quantitative psychometry ( Beck's questionnaire) testify that neither symptomatic (mild) nor real depression cases were revealed in the observed patients.

Thus, the most complicated and difficult for treating are the patients with TMJ dysfunction on the background of psychic deviations. The peculiarity of these patients is that the presence of clinical dysfunctions make their psychological disorders worse. Such patients are disputable, all the time are displeased with the results of their treatment, make up new complaints, blame the doctor for everything. Treatment of such patients demands from the doctors to have more patience, self-control and persistence.

The doctor can face some specific difficulties when treating patients with TMJ dysfunction which need psychiatrist's interference. The problems related to psychic pathologies can be conditionally divided into 2 groups. The first group includes situationally anxious, depressive or psychochondric reactions related to diseases which are more often seen in patients with prevalence of anxious-hypochondriac, hysteric or sensitive features in character. Such type of reaction makes the mutual understanding between the patient and doctor complicated and can significantly exaggerate the prognosis of the disease which can be explained by the patient's negative subjective evaluation of the treatment results.

Supporting and calming attitude to the patient is an important condition for preventing and correcting these complications, based on the explanation and appealing against his critic. If the mentioned disorders bring to excessive alertness and anxiety accompanied by high uneasiness, sleep disorders, benzodiazepine tranquilizers (relarium, seduxen, etc) or other groups (fenazepam, alprazolam, kassadan, etc) are indicated in moderate therapeutic doses. Obtrusive movements of the jaw have irresistible and agonizing character, which causes expressed discomfort in the patient's life. In some cases within the limits of jaw adaptation, the above mentioned phenomena cease by themselves, in other cases they obtain a chronic course serving as a source of hypochondriac anxiety and dissatisfaction by the results of operative intervention. Therapy of chronic somatic-like painful disorders first of all demand the doctor to explain to the patient that the painful sensations are not connected with the joint's dysfunction, but they have a "nervous " background. The doctor shouldn't prove that his pain is not "real", but the doctor should take his intense suffering into a serious attention and provide an atmosphere of understanding and sympathy. For this reason should be used serotoninergic antidepressants (fluoxetine, fluvoxamine, Zoloft, etc) in moderate therapeutic doses. As a rule, treating effects are foreseen not earlier than in 3 weeks of treatment.

Thus, medicamentous therapy, has an individual character and is administered by the psycho-neurologist or psychiatrist.

Taking into consideration our investigations and the clinical data of our observed patients we can establish a fact, that initial starting device (mechanism) of the psycho-emotional disturbances of painful TMJ dysfunction is related to occlusion, which forced an adaptive position of the mandible and the formation of conditionally pathological states. Of the patients observed by us practically all of them had malocclusion, which makes us speak about the necessity to eliminate the causes preceding its development, i.e. to normalize the occlusive states and the psycho-traumatic stresso-genic factor which will significantly increase the possibility to diagnose and treat painful dysfunction of TMJ.

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# НОВЫЕ АСПЕКТЫ КЛИНИКИ, ПАТОГЕНЕЗА, ЛЕЧЕНИЯ СИНДРОМА БОЛЕВОЙ ДИСФУНКЦИИ ВИСОЧНО-НИЖНЕЧЕЛЮСТНОГО СУСТАВА У БОЛЬНЫХ, ОБУСЛОВЛЕННЫЕ ПСИХОЭМОЦИОНАЛЬНЫМИ НАРУШЕНИЯМИ

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Актуальной проблемой стоматологии являются заболевания височно-нижнечелюстного сустава (ВНЧС). В 70—80% случаев заболевание ВНЧС является функциональным нарушением. Особое место среди подобного рода заболеваний занимает синдром болевой дисфункции (СБД) височно-нижнечелюстного сустава. В настоящее время является общепризнанной концепция важной роли центральной нервной системы в формировании патогенетических и клинических детерминантов данного заболевания. Недооценка данного фактора может привести не только к узкой трактовке патогенеза данного заболевания, но и явиться фактором, мешающим оценить наличие сопутствующих расстройств, влияющих на исход заболевания. Особенно это относится к депрессивным расстройствам.

В стоматологии, пожалуй, больше нет такого раздела, где было бы столько сложных нерешенных и спорных вопросов, как в лечении дисфункции ВНЧС. Это обьясняется, с одной стороны, сложностью функциональных и компенсаторных возможностей сустава, обилием факторов, обеспечивающих его нормальное функционирование, и массой возможных причин, способствующих развитию дисфункции. Кроме того, в течение последних десятилетий постепенно меняются взгляды на сущность проявления данного заболевания, предлагаются и отвергаются разнообразные

медикаментозные, ортопедические и хирургические методы, что создает определенные трудности в выборе метода лечения для практического врача [Баданин В.В. 2003; Григорьев А.А., Рекова Л.П., 2004; Хватова В.А., 1996].

Эволюцию лечения дисфункций за эти годы можно охарактеризовать как быстрое увеличение появляющимися новыми методами, так и быстрое к ним охлаждение. Появлению новых методов лечения, как правило, предшествует появление новых методов диагностики, расширяющих возможности клинической оценки патологии. Болевые синдромы в области лица являются наиболее сложными в диагностики и лечении на амбулаторном стоматологическом приеме. Стоматология в последние годы ознаменовалась успехами связанными с использованием новейших достижений материаловедения и новыми технологиями [Баданин В.В., 2003; Бойко В.В., 2002; Bertolni F., Russo V., Sansebastino G., 2000; Lotzman U., 1998].

Вместе с тем все чаще больные с патологией дисфункции височно-нижнечелюстного сустава (ВНЧС) обращаются с головными и лицевыми болями, заложенностью ушей и т.д. Этот контингент больных ставит сложные диагностические задачи не только перед стоматологами, но и в первую очередь перед невропатологами, вертебрологами, психиаторами [Григорьев А.А., Рекова Л.П., 2004; Карелин А.А., 2001; Alexsander F., 1951; Marcenes W.S., Sheihan A., 1992].

Стресс, эмоционольные факторы, тревога и напряжение приводят к мышечной гиперактивности, мышечному спазму, парафункциями ВНЧС. В спазмированных мышцах возникают болезненные участки — «курковые» или «тригерные» мышечные зоны, из которых боль иррадиирует в соседние области лица и шеи.

С этих позиций вопросы диагностики и выявления патогенетических механизмов при патологии ВНЧС все еще остается открытыми и требуют дальнейщих исследований в этом направлении.

**Ключевые слова:** височно-нижнечелюстной сустав, тест Спилберга и Бека