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**DETERMINATION OF OPTIMIZATION WAYS OF RE-PROTHESIS
USING VARIOUS SCHEMES GNATHOLOGICAL SUPPORT OF
PATIENTS AT THE PREPARATORY STAGE TO THE ORTHOPEDIC
CORRECTION OF PATIENTS WITH OCCLUSIVE IATROGENIC
DISORDERS OF TOOTH-JAW APPARATUS**

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We brought to the light that one of the the most controversial issues is the moment of adaptation to reconstructive procedures. Often it becomes unclear which and in which order to use medical diagnostic equipment, to training for fixed prosthetic stages. Our studies make it possible to predict not only the treatment time, but the amount of occlusal adjustment in conjunction with the reconstruction of the position of the mandible.

One of the most debated issues is the time of adaptation to reconstructive manipulation. Often it becomes unclear how and in what order medical diagnostic equipment should be used in the preparatory stages of the stationary prosthetics. Our studies make it possible to predict not only the treatment time, and the amount of occlusal adjustment in conjunction with the reconstruction of the lower jaw.

Keywords: tooth-jaw apparatus, temporomandibular joint, violation functional occlusion, dental surgery, medical diagnostic devices, muscle

disorders, adaptation, occlusal splint, occlusal adjustment, chewing muscles, provisional design.

Objective:

Treatment optimization by adjusting the height and position of the mandible. These steps will minimize the risk of an error during remanufacturing process of an appliance that was the original cause of the TMJ disorder. Prostodontics treatment quality improvement coherently searching for prosperous conditions and terms. They are required for organism's adaptive ability achievement concerning reconstruction tampering steps occlusal disfunction maxillofacial region patients, which appeared or were caused by dental intervention.

Introduction

There is a very fine line between the violation of adaptation to the dental structures, functional disorders that were latent and pronounced complications arising from dental procedures. The above concepts are listed by their symptomatic manifestations are almost identical, so patients are often overdiagnosis. Treatment is carried out only on the basis to save people from pain, though such a symptomatic treatment is indicated only in case of acute pain component. According to several authors, the presence of chronic and even express pain most attention should be paid to identifying and eliminating etiological factor [6,7,17]. It should be noted that the functional disorders are not always accompanied by acute pain.

In the closing position of teeth a lower jaw determined resultant force that occurs in the interaction surfaces of the teeth of the upper and lower jaws. This determines the position of the joint elements for closing the teeth a dentoalveolar apparatus process operation according to the nature of occlusal contacts - is "occlusal programming." It interdigitation by afferent impulses from mechanoreceptors periodontal disease, which occurs when

chewing, and programs the chewing muscles and jaw joint. Several authors indicate that occlusal contacts dynamically changing during the all life [8,19,20].

Change occlusal correlation do not always lead to dysfunction of joints and muscles. This is due to the fact that dentoalveolar apparatus has a significant functional adaptation, which finds expression in adaptive changes of its parts. All individuals have different adaptive capacity for action occlusive disorders and stress situations. So when adaptation does not occur, tonic muscle tension increases and, as a result, there is a deregulation of the system, violation of functional harmony. Muscle spasm that occurs due to changes in occlusal relationships is primary and basic factor that triggers the pain symptoms [7, 9, 15]. The mechanism of compensation occlusive metamorphosis is change of lower jaw movements that are conditional reflex that for the time change eliminates the condition of muscles at rest. For example, when premature contact will change moves the lower jaw, since the closing periodontal receptors will be chafing. As a result, the organism would send forces to avoid this premature contact that can be seen as a mechanism of "forced" position, "habitual occlusion." But due to the fact that abnormal impulses were constantly on the shift in the central nervous system, resulting phenomenon is to establish a lower jaw in steady shift in direction due to incoordination muscle contractions. This, in turn, leads to a sound and pain symptomatic manifestations.

Any medical manipulation, we can consider as a measure that is aimed at eliminating uncoordinated interaction dentoalveolar apparatus units, which leads to the violation of their morphological architectonics. The human body is evolutionarily organized, dynamic unit, which consists of organs and systems permanently functioning and which provide a homeostasis of organism. The full functioning of the body is possible only if coordinated work of all its parts.

The use of therapeutic and diagnostic devices at the preparatory stage to re-prosthesis must have individual character, as well as in their application dentists admit some mistakes.

The main indications for the use of occlusal splints are: pain dysfunction of temporomandibular joint; domestic violation relative of elements of temporomandibular joint; protection of teeth autodestruction, bruxism; preparing the patient to greater occlusal reconstruction and surgery to correct occlusion of the teeth (orthognatical operations). Contraindications to the use of splints are: acute inflammation in the temporomandibular joint and masticatory muscles psychogenic factors.

The starting point for finding the amended provision is a central value of the jaws, as it is the initial and final point of any articulation process. This is the only position that can reproduce repeatedly and that it helps identify the central occlusion. Since there is always a central value, that is an autonomous position, which is not limited occlusal contacts and limited anatomic form of temporomandibular joint. Keeping patients using different schemes and set up grinding action algorithm allows to find this starting point.

Materials and methods:

We have developed a scheme of treatment that involves following steps in addressing medical complications after a preliminary prosthesis, namely:

- 1 Arrangement consequences
- 2 Finding a direct cause, trigger mechanism and pathology of the supporting factors
- 3 Removing primary etiologic factor
- 4 Correction factors supporting pathology both during treatment and for life

At the preparatory to re-prosthesis treatment stage was performed occlusive splints to avoid direct intervention on the actual designs of which appeared a patient, as there have been legal conflicts with previous doctor and to reduce the risk of invasive intervention. The latter led to a narrowing of the possibility of returning to the original relationship between the upper and lower jaws in case of deterioration of the dynamics of the quality of treatment with occlusal splints.

This article examines the use of different approaches to re-prosthesis on the preparatory stage. So we spent our patients distribution groups. We were treated 45 patients. Patients were selected with similar symptoms, the age range was between 20 - 40 years.

I group (20 patients) - patients, which were characterized by multiple direct orthopedic restoration and construction of low and medium length.

For this category of patients occlusive used splint only on the upper jaw during grinding are inclined platform created for the purpose of positioning the lower jaw and therefore centering joint heads. Duration of treatment was 3 months.

The second group (15 patients) – with total, previous non-removable prosthetic ceramic designs with severe architectonics occlusal surface. We used a series of occlusive splints depending on the dynamics eliminating symptoms. Search position was helded not simultaneously but in stages, starting splints made it possible to find the position of the lower jaw, ending - find between alveolar height and stabilize these criteria. These two areas search took place under computer tomography of temporomandibular joint. Duration of treatment was till 6 months.

The third group (10 patients) - with a total pre-prosthetic removable and non-removable ceramic structures with unexpressed architectonics occlusal surface of the distal areas distal to the loss of support. We used splint-occlusive prostheses for upper and lower jaw or occlusal tire on the upper

jaw in conjunction with splint - prosthesis in the lower jaw. Duration of treatment was 3.6 months.

Discussion:

Based on the foregoing, we can compare the possibility of shortening the onset of the therapeutic effect gnathological correction when using medical diagnostic devices in the preparatory to re prosthetic stage of complex treatment of patients of all three groups: These are schemes, our proposed scheme of patients of all clinical groups made it possible to reduce the time treatment 2 - 2.5 months.

The data of the study indicates the possibility of shortening treatment in all clinical groups. In the clinical group and shortening we explain the fact that a sharp change in living conditions does not allow the organism to adapt to the proposed conditions. The gradual modification of a grinding and occlusal splint ,but without the use of multiple functional multidirectional therapeutic and diagnostic devices, enabled the gradual adaptation of all parts of dentoalveolar apparatus. In this clinical group patients usually dominate symptoms, no pain symptomatic manifestations of the dentoalveolar apparatus, so the choice of formation of such design features of medical diagnostic equipment Dental affect not only status but symptomatic manifestations from all parts of dentoalveolar apparatus.

In the second clinical group shortening treatment we explain the fact that the use of occlusive cascade tires on the uncovered position with different height, made it possible not to change dramatically occlusal height thereby give the body to adapt to the proposed conditions.

In group III clinical shortening treatment we explain that our proposed algorithm gave treatment to effectively find the lost and stabilize the distal support.

In II and III clinical patient groups came to the fore painful symptoms of the temporomandibular joint. Features of our proposed approach using

medical diagnostic equipment at the preparatory stage to re-prosthesis in patients with occlusive iatrogenic disorders, gave dental status and symptomatic manifestations.

Results:

Analysis of the treatment makes it possible to assess the quality of orthopedic treatment and predict the timing needed to implement adaptation algorithm at a certain treatment. Thus, to determine the sequence of actions physician that will be most appropriate for the patient in each case.

The ability to transition to the phase of prosthetics and provisionally fixed structures, we evaluated relying on the disappearance of subjective manifestations as:

- slight limitation of the mouth opening
- the pain of low intensity and rare the occurrence and only when opening the mouth and chewing in muscles and temporomandibular joint
- clicking in the temporomandibular joint with wide open mouth and crunch when chewing
- approximation to the performance standards of such data as additional research methods:
 - computer tomography of temporomandibular joint
 - electromyography
 - Systems computer analysis of occlusion "T-Scan"

In the first group of patients - the elimination of symptoms and convergence of additional methods of examination standards to our proposed algorithm for treatment occurred for 16 patients (35%, 80%). 4 patients (8%, 20%) - came from the use of a few splints that focus on functional performing various therapeutic action, which led to a significant increase in the duration of treatment. The difference in terms of the preparation period using medical diagnostic devices was 2-2.5 months.

In the second group of patients - the elimination of symptoms and convergence of additional methods of examination to regulatory occurred for 10 patients (22%, 66%) in the treatment process we used our proposed scheme gnathological correction. In 5 patients (11%, 33%) - the improvement was due to multiple tires for different functional orientation performing therapeutic effect, and search for constructive position of the jaws and interalveolar height occurred simultaneously with reduce splint. This led to a significant increase in the duration of treatment, the difference in terms amounted to 3-4 months.

In the third group of patients - 7 patients (15%, 70%) symptoms and convergence of additional methods of examination is due to normal use of our proposed sequence of therapeutic action. 3 patients (6%, 30%) of this group have the disappearance of symptoms from the use of occlusive splint centering on the upper jaw and removable actual designs on the lower jaw. This led to a significant increase in the duration of treatment, the difference in terms amounted to 3-4 months.

Conclusions

Treatment that we conducted illustrated that the scheme of the preparatory stage to re-prosthesis using medical diagnostic equipment, greatly reduces the treatment time for the best possible performance in all patient groups study. Such reconstructive action sequence provides the best opportunity of the organism to adapt to the proposed conditions.

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