

## ASPECTS OF ADAPTATION TO DENTURES AND THE USE OF DRUGS

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### Abstract:

The process of adaptation to dentures in patients is influenced by local and systemic factors. The data on the influence of the type of higher nervous activity on the process of adaptation to dentures and on the temporal and physiological characteristics of the formation of the adaptive response are presented. The results of experimental and clinical studies of the effect of local and systemic use of drugs of various pharmacotherapeutic groups on the parameters of adaptation of patients to dental Constructs. The effectiveness of the use of drugs with stress-protective, antioxidant and antitoxic effects was noted.

**Keywords:** dental prosthetics, adaptation to dental structures.

### Introduction:

Rehabilitation of patients who have completely or partially lost teeth is an urgent problem of orthopedic dentistry. Modern technologies make it possible to carry out effective orthopedic treatment and produce high-quality dentures, taking into account the individual parameters of the patient. However, it is not enough to make an appropriate prosthesis, it is important to restore the full functional activity and psychological comfort of the patient. Functional rehabilitation After dental prosthetics, it is no less difficult task in modern dentistry than the prosthetics itself. It is known that 40% of patients are forced to adapt to poor-quality dental structures for a long time, and about 30% of patients do not use removable dentures due to problems with adaptation. Therefore, over the years, the interest of dental scientists in solving the problem of patients' adaptation to removable dentures and orthopedic treatment in general has not weakened. The problem of adaptation to dental structures is multifaceted and still insufficiently studied. Many functional systems of the body are involved in the mechanisms of adaptation to dentures. Among them, the main role is played by the central

nervous system (CNS), the activity of neurophysiological and metabolic processes, as well as other systemic and local adaptive factors, depends on the peculiarities of the functioning of which depends. An important role in adaptive mechanisms is played by the so-called stress-limiting systems of the body. Important in these processes are time-physiological factors, from the point of view of which adaptation is a wave-like process with a clearly defined rhythm. Systemic factors of adaptation to dentures Adapting patients to removable dentures is usually a complex and lengthy process that is influenced by a number of factors. Some features of the adaptation process are common and vary from person to person, which is explained by the individual characteristics of the organism. Traditionally, there are two interrelated components of the adaptation process: psychological and functional adaptation. Psychological adaptation is more unstable and largely depends on the type of higher-order functional and neural activity in the central nervous system. Functional adaptation is more complex when it comes to the movements required for speech, chewing food, and normal facial expressions. This requires a significant restructuring of the usual motor stereotypes, taking into account new orthopedic structures. Such psychophysiological restructuring takes a long time and is determined by the speed of neural processes. Adaptation can be considered as a complex of adaptive reactions at different levels, leading to the formation of persistent structural traces of adaptation, the content of which is complete adaptation to the factors that caused disharmony. The body's response when interacting with orthopedic dental structures is formed in accordance with the capabilities of the body, which are determined by the intensity of the influencing factors, the duration of exposure and the availability of functional and metabolic resources. The degree of adaptation is determined primarily by systemic factors, such as the state of the body (the presence or absence of concomitant diseases, age), the type of activity of the higher nervous system, the psychological state, etc. The patient's adaptation to a full removable prosthesis is greatly influenced by the functional state of the central nervous system, the level of personal and situational anxiety. It is no coincidence that many researchers have shown that the effectiveness of orthopedic rehabilitation in dentistry largely depends on the full consideration by the orthopedic doctor not only of the clinical and morphological and functional characteristics of the patient, but also of his

psycho-emotional state and personal characteristics. It is noticed that even if the morphofunctional characteristics of the alveolar system, the features of the general physical condition of the patient and the quality of the prosthesis are relatively similar, the process of adaptation to them occurs in different ways: in more than 40% of cases, the difficulties of adapting the patient to the manufactured structure do not depend on its design features and technical characteristics, but are largely determined by the mental state of the patient. Largely determined by the mental state of the patient. Clinical studies convincingly demonstrate the effect of the patient's type of higher nervous activity and temperament on adaptation to full dentures. The type of higher nervous activity (GNI) refers to the innate and acquired features of the nervous system that determine the nature of the body's interaction with the environment and affect all body functions. The significance of the innate and acquired aspects of higher nervous activity depends on the conditions. In extreme conditions, the innate mechanisms of higher nervous activity come to the fore, and I.P. Pavlov identified four types of temperament with different adaptive capabilities and resistance to neuropathogens ( It is possible to clearly distinguish choleric, sanguine, phlegmatic and melancholic. According to the literature, the most difficult adaptation to full removable dentures is the melancholic type, which is explained by the peculiarities of the properties of the nervous system of this type of temperament, namely, the predominance of inhibitory processes over excitatory and low motor capabilities. Adaptation processes in melancholic people can be difficult without sufficient reason. Unfortunately, the definition of the psychological characteristics of the patient is not included in the diagnostic protocol of the consultation, which does not allow orthopedic dentists to use psychological testing methods to adequately prepare the patient for treatment and effective subsequent adaptation to prosthetics. However, since these methods are subjective, they cannot objectively assess the patient's adaptation to dental structures and predict the duration of adaptation. Therefore, there is an urgent need to find indicators that objectively integrate the patient's adaptation to dental structures. Temporal physiology. Aspects of temporal physiology are of great importance in the process of adaptation to removable dentures. If during the adaptation period we take into account the peculiarities of changes in the general and local physiological parameters of the body during

the day, then it is possible to shorten the adaptation period and achieve physical and psychological comfort earlier when using removable dentures. It is shown that the most favorable time interval for the "initiation" of adaptation and its more adequate course is the time interval corresponding to the total volume of oral fluid, tactile sensitivity of the oral mucosa and the minimum systolic blood pressure, taking into account the patient's chronoprofile. This tactic of managing dental patients with complete absence of teeth allows you to optimize the process of adaptation to removable laminar dentures and reduce its duration. Age. The duration of adaptation to removable dental structures is also determined by the age of the patient. In elderly patients, especially those with signs of cognitive decline in higher mental functions (memory, attention, thinking), the duration of adaptation may be delayed for several months, or high-quality adaptation may be absent. With age, the inhibitory effect of the cerebral cortex on the subcortical centers weakens. Therefore, psychophysiological aspects are of particular importance in the process of adaptation in the elderly. In such patients, it is important to prevent and eliminate all possible stress factors during prosthetics, as well as to carry out pharmacological correction of the process of adaptation to dentures with the help of stress-protective agents and adaptogens. Pharmacological correction of the process of adaptation to dentures. Pharmacological agents are used to optimize the process of adaptation to removable dentures. The literature describes studies in which topical and systemic drugs are used for this purpose. For example, the effectiveness of local ozone therapy in elderly patients with removable dentures has been shown. Topical application of ozone contributed to the improvement of a number of clinical and experimental indicators of the state of the basis of the prosthesis and tissues of the oral cavity, as well as generally increased the effectiveness of orthopedic treatment of patients with removable dentures and improved their long-term prognosis. Topical application and rinsing of the oral cavity with antiseptic solutions, such as a decoction of chamomile flowers, a decoction of oak bark, a 0.06% solution of chlorhexidine bigluconate and tincture of calendula, are widely used. These drugs have an antiseptic and anti-inflammatory effect on the oral mucosa and periodontal tissue, creating conditions conducive to both local and systemic adaptive reactions. Adaptation problems arise when oral hygiene is impaired in patients with removable

dentures. Modern disinfectants for the care of removable dentures and their rational use make it possible to normalize and optimize the adaptation process. Local use of products with a pronounced antioxidant and antihypoxic effect in dentistry has proven to be highly effective. In experimental models of inflammation, hypoxen was found to potentiate the anti-inflammatory effects of nonsteroidal anti-inflammatory drugs, which themselves exhibit moderate anti-inflammatory effects. The possibility of individualized pharmacological modification of the patient's adaptation to prostheses formed in the oral cavity was investigated. Among the pharmacological methods of treatment, the use of substances with immunomodulatory activity is considered, normalizing the altered parameters of local and systemic immunity and improving the quality of the adaptive response that occurs in the process of "getting used to" the installed prosthesis. Among the systemic drugs to improve the process of adaptation to Orthopedic structures are often used those that affect the level of anxiety of patients and have a stress-protective effect [3]. Clinical studies show that a significant proportion of the adult population is afraid of dental treatment. Ensuring the psychological comfort of the patient is an important factor in the safety of dental treatment and the formation of an adaptive response to dental prosthetics. Stress is a non-specific reaction of the body to strong physical or psychological shocks, the action of which is aimed at adapting to these shocks. The intensity and direction of the stress response is determined by various neurochemical systems, one of the main of which is the catecholaminergic system. Since most procedures in the maxillofacial area, including dental prosthetics, are associated with pain, many patients experience psychoneurotic tension, anxiety and fear when visiting the dentist. Approximately 10% of the adult population has a strong fear of dental treatment, and 35% have a strong or moderate fear. For such patients, a visit to the dentist is psycho-emotional stress. During treatment, hemodynamic parameters, respiration and blood glucose levels may change, sweating may increase and existing physical diseases may worsen, which leads to a slowdown in the process of adaptation to dental structures. All these factors undoubtedly affect the quality of treatment and should be taken into account in the work of doctors. Benzodiazepine derivatives can be used for pharmacological modification of the psycho-emotional state of patients during a dental appointment. Benzodiazepine derivatives effectively



suppress anxiety, anxiety, fear, emotional stress and have a pronounced stress-protective effect. However, the use of benzodiazepines, which have a pronounced sedative and muscle relaxation effect, leads to impaired concentration, speed of reaction and reduces the patient's ability to work. Due to the possibility of developing drug dependence, these drugs are used for a short time. In addition, the use of these drugs requires strict accounting and administration and cannot be used only by dentists. These factors indicate the need for further search for effective and safe stress-protective agents that could be used exclusively by dentists, including in orthopedic dentistry. The literature presents the results of many studies on pharmacological protection against stress in dentistry.

## Conclusion:

The problem of adaptation to removable dental structures (dentures) is one of the most important in orthopedic dentistry, as it largely determines the success of dental prosthetics. Adaptation to removable dentures is a complex and lengthy process that depends on many local and systemic factors. However, the most important role in the adaptation process is played by neurophysiological mechanisms that ensure the development of adaptive reactions of the central and peripheral (autonomic and somatic) of the nervous system to qualitatively different sensory stimuli coming from the oral cavity. Adaptation to dentures, of course, depends on the morphological and functional characteristics of the patient's dentoalveolar system, but to an even greater extent - on the peculiarities of the functioning of the central nervous system and the type of higher nervous activity. To optimize the patient's adaptation to removable dental structures, local and systemic use of various pharmacological agents is possible. Anxiolytic and stress-protective drugs are usually used as means of systemic action. When choosing pharmacological means for correcting the adaptive reaction, the patient's age, the functional activity of the central nervous system and the type of higher nervous activity should be taken into account. Patients with a melancholic temperament require a more intensive pharmacological modulation of the process of adaptation to dentures.

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