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Clinical Manifestations and Methods of Diagnosis of Bruxism

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Relevance of the study: although nocturnal bruxism is a parafunctive oromotor activity with very strong muscle contraction, many patients do not have clear pathological clinical signs or symptoms of this condition. Bruxism is often of a latent type and is directly diagnosed at the dentist's reception. In cases where strong compression and friction of the teeth exceeds the compensatory capabilities of the facial –jaw system, and the functional balance is disturbed, clinical signs appear - signs and symptoms of active bruxism often occur as a result of dysfunction of the lower jaw joint in the jaw. The most characteristic symptoms of bruxism are episodes of clenching and grinding of teeth accompanied by sound, pain in the muscles of the chewing and neck, headaches, especially in the chewing muscles when waking up, patients with high sensitivity of teeth, poor sleep quality, situations of fatigue complain. To diagnose the disease, it is very important to study a complete history of the disease. A number of researchers say that in women, chewing and pecking cause a feeling of weakness and pain when they palpate the muscles. However, many patients with sleep bruxism did not experience symptoms of muscle pain. Pain syndrome in the side parts of the face can also be observed in patients with parafunction. Nocturnal bruxism associated with exposure to stressors has been found to be accompanied by muscle pain after tension, especially after waking up in the morning. Trezubov is associated with the presence of trigger points when palpating the facial part of the chewing muscles themselves and the lower head of the lateral cheekbones muscle (in the area of the upper jaw). In Nocturnal bruxism, the analysis of occlusion articular disorders is of important diagnostic importance. Registration of occlusion relationships is a necessary diagnostic method and is important for making the correct diagnosis, drawing up a treatment plan and analyzing its results. Judging by the data of the scientific literature, patients with bruxism have been found to change the predominance of transverse movements of the lower jaw. Also, one of the occlusion diagnostic signs of bruxism involves the length of the displacement from the central occlusion to the closure of the lower jaw joint. It is known that in patients with nocturnal bruxism, this indicator occurs twice as often as in healthy people. Occlusion contacts can be evaluated and written directly at the dentist's reception, using articulation paper and falga, as well as in diagnostic models glued to the articular. But this does not give insight into the dynamics and nature of night movements during bruxism. With separate devices, occlusion contacts can be viewed and analyzed in dynamics. During sleep, kappa

makes it possible to obtain more reliable information, since the minimum thickness of the plate (0.1 mm) does not affect muscle activity, while the thickness of the "Kappa" is much larger (0.6 mm) and can be. it is used as an additional stimulus to increase muscle activity. The surface of the Kappa is covered with paint that wears out during parafunctional activity, occlusion movements in dynamics provide information for the doctor in terms of guidance and diagnostics for the patient.

In addition, regional blood flow studies using Doppler Sonography have been used to study the functional state of the chewing muscles. It is closely related to the muscular system and the general condition of the whole organism, that is, its physical development, level of training and activity. It is known that the level of normal motor activity is subject to a course of treatment of dental diseases (periodontitis, musculoskeletal dysfunction), clinical manifestations and prognosis. Physical inactivity and overload negatively affect the functional state of the chewing muscles, especially in combination with psycho-emotional factors. Thus, the EMG study of chewing muscles studied higher levels of muscle bioelectric activity compared to the control group. In turn, there are even higher indicators of bioelectric activity with psychovegetative syndrome. Thus, we can conclude that long – term and intense exercise negatively affects the condition of the muscular component of the facial jaw system, which is assessed by an increase in the amplitude properties of the EMG biopotentials of the chewing muscles.

Conclusion. The gold standard for diagnosing nocturnal bruxism in patients is sleep laboratory polysomnography (PSG). The PSG test includes notes: electroencephalograms - to determine brain activity, EMG - to determine the activity of the chewing muscles, ECG - to control the activity of the heart, oxymetry - to determine the level of oxygen saturation in the blood, and are also assessed by the frequency and volume of breathing movements. Throughout the entire study, audio and video recordings are made to exclude non-bruxism-related motor activity. This research method is expensive and requires special equipment and a laboratory. In addition, recording is carried out in an unfamiliar environment for the patient, which may require observation for several nights (up to 8). Due to these limitations, PSG is mainly present in large regional cities for diagnostic purposes and research in complex clinical cases (epilepsy, complex movement disorders).

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