

## Aspects of the formation of pain syndrome in the area of the masticatory muscles in the disease of the maxillary-mandibular composition

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**Abstract:** *The article describes modern aspects of the formation of pain syndrome in the area of the masticatory muscles in the disease of the maxillary-mandibular composition. The author presented an extensive review of the literature of foreign and swollen students, detailed the main factors of the formation of pain syndrome in the disease of the maxillary-mandibular composition. Common hairstyles for pain syndrome describe modern approaches to conducting and planning treatment.*

**Keywords:** *pain dysfunction syndrome, maxillary-mandibular system, myofascial syndrome.*

### Introduction

It follows from the literature data that more than 80% of cases of lower jaw pain dysfunction syndrome (SOD) are associated with functional disorders rather than inflammatory processes, which leaves a great opportunity for the formation of inflammation by various pathogenetic methods [1, 2].

### Main part

Currently, several pathogenetic theories have been developed to explain the algorithm of analgesia for dysfunctional disorders of the masticatory muscles, among which it is worth noting the main ones. This is the theory of the stroke, creating a pathological kocianova stress and psychophysiological theory. However, it is

possible to observe a pattern when researchers who adhere to the corresponding etiological theory tend to ignore or overestimate the importance of some views on this issue [2]. According to the vascular theory of pain [1], its formation should be due to a state of reduced blood supply in individual joints of the three-horned nervous system.

It is known that the membranes of the upper and lower jaws contain closely related structures of blood vessels and neuroreceptors [3]. At the same time, the structure of the lower alveolar nerve contributes to the acquisition of various sensory data from the oral cavity [2]. Due to the proximity of blood vessels and the location of nerve trunks, existing abnormal disorders are formed, which are a vasoneurological conflict that leads to pain syndrome.

The theory of creating pathological arousal is based on the formation of a focus of pathological arousal in the area of the masticatory muscle, during palpation, in the form of pain trigger points (TN). Studies of painful compression sites are already available in the works of the English physiologist Balfour in 1816.

In 1834, Frere called the painful ligaments "muscle blisters" that were found in the muscles. Currently, they are described as "nodular swelling and thickening of the masticatory muscles, leading to tooth pain" [8]. C. Travell and G. Simons published data

on the transformation of TN zones in the masticatory muscles in functional muscle disorders and psychoemotional stress in the 1980s [6].

According to many publishers, TN refers to the local compression of a muscle, which can have different sizes, configurations, lengths, and consistencies.

At the same time, the following variants are distinguished: a) active TN, when there is a contraction of a part of the muscle, "muscle spasm", which is associated with spontaneous and reflected pain, a local convulsive reaction, a change in coordination rates in the form of activation of synergistic activity; b) "mute" (latent) tn, when there is a muscle contraction of one area, but by itself, when there is no pain" jump "." [8, 9].

According to Schwars (1955), masticatory muscle spasm is "the primary factor responsible for the symptoms and signs of CHPJB dysfunction pain syndrome" [2].

Muscle spasm is the basis for the development of a dysfunctional syndrome. It is formed from excessive stretching, contraction, and muscle exhaustion. G. A. Ivanichev (1997) proved that the biochemical basis for restoring muscle contractions is an excess of calcium with a lack of high-energy compounds, which leads to an increase in the contraction of muscle fibers and a decrease in blood flow in them. In the masticatory muscles with such dysfunction, foci of contracture, excessive stretching in their places, and physiological disorders are formed during the contraction process [2].

K. Ronkin (2014) believes that an increase in the bioelectric activity of the jaw muscles affects the coordination of chewing movements, which is also important for the integral functioning of the teeth, these proprioceptive disorders occur, leading to

tension, spasms and muscle pain along the reflex path.

From the point of view of the authors of this theory, the impulse can be local muscle hypertension, short painful spasms of the muscles: for example, when forced to yawn or open the mouth in the face-jaw area. In this case, the muscle spasm not only becomes an auxiliary source of pain, but also creates a vicious circle, ensuring that the somatogenic pain symptom is chronic. The patient develops a pathological stereotype of movements of the lower jaw, i.e. E.: muscle spasm-muscle pain-reduction (restoration) of the amplitude of its contractile activity during chewing-muscle spasm-reduction of movements of the lower jaw, etc.

Of particular interest are the opinions of the authors who believe that the pathogenesis of myofascial syndrome (MFS) is based on neuromuscular dysfunction, which is localized near the Motor terminal fold, that is, in the area of the neuromuscular junction. This determines their local overvoltage [7].

E. in the study of quantitative indicators. A. Bulicheva and other scientists found that a decrease in the length of lower jaw injuries is often observed in patients with pain dysfunction syndrome (67.7%). The authors explain this decrease in the amplitude of the lower jaw movements by "functional overload of the masticatory muscles by hypertension".

Combining the ideas of different authors, the concept is that any proprioceptive impulse, including a pathological one, exerts a physiological Kuchaigan excitation in the downward-facing nucleus of the tricorn nerve, which, with prolonged exposure, can become a pathological condition. At the same time, the somatosensory membrane also occupies a

special place in ultrasound in the sensation of pain.

L. L. Shvars (1955) is the founder of the beginning of the first research, as a result of which in 1969 D. M. Together with Laskin introduced a psychophysiological theory to explain the dysfunctional syndrome of PZHD. According to him, a stressful situation produces psychovegetative stimulation of the body, which leads to an increase in the tone of the masticatory muscles, their spasm and dysfunction of the BPH. As a result of the study of the masticatory muscles using needle EMG, TN found a positive reaction to high levels of activity and psychoemotional effects on its own [4]. These are m. masseter and m. temporalis, the bioelectric activity in the quiescent state (BEF) [5] is increased, which is a manifestation of a dysfunctional spasm. According to the authors, with muscle spasm, painful areas appear – muscle zones of the "trigger" or "Trigger", from which the pain spreads to the articular areas of the face and neck. The work of a number of researchers [6] suggests that there is a sympathetic innervation of the muscle spindles, which is a proprioceptive component of muscle tissue. Many proponents of the occlusive-articulatory theory of dysfunctional disorders believe that the main cause of their development is a violation of the chewing apparatus. [2, 5, 6]. Factors supporting myofascial pain syndrome (MFI) include secondary changes in chewing, facial muscles, and Pph, as well as the presence of psychovegetative syndrome [4]. I. N. Baradina and co-authors believe that occlusion disorders are the main cause of functional disorders of chewing, so the elimination of the imbalance should lead to correction [4]. However, the restoration of the physiological connection between the teeth in the MFI does not lead to functional muscle recovery. At the same time, it should

be noted that there are a number of patients with functional disorders, but there are no disorders in the dentoalveolar joint. This indicates that the MFI can be a violation of occlusion. Bruxism of all parafunctional disorders of the masticatory muscles is the most negative risk factor for the development of PPHD and myofascial pain [11]. D. Sh. According to Shukrullayeva (2016), bruxism is observed in 10-21.4% of the adult population, in 15.6-18% of children and adolescents. Such a high rate of paraphylaxis is explained by the influence of emotional factors on a person's life. The internal and external majority of authors of cs consider as confirmation of the fact that psychoemotional stress is the leader in the formation of bruxism on the basis of the clinical and experimental base [3, 8]. The reason is the clenching of teeth during sleep, emotional stress, manifested by a constant or constant frequency, and chewing without eating, in cases of simultaneously exacerbating muscle disorders [10]. Emotional stress is associated with the occurrence of bruxism and paraphony of the masticatory muscles A.V. Simbalistov, T. A. Lopushanskaya (2012), S. Sato and other scientists. (2008) the theory that bruxism is a causal factor for the somatic realization of psychological stress. In recent years, many publications have pointed to the importance of psychosomatic factors in the occurrence of ODS in PPHD. A number of scientists believe that chronic emotional stress (repeated mental trauma) is a key factor in the occurrence of disorders of the regulatory system of the neuromuscular apparatus and joint diseases [7, 10]. CHPJB pathology is most often observed in patients with long-term emotional stress, as well as in latent depression and some nervous disorders. Emotional disorders, mainly in the form of depression and anxiety, were detected in

40.3% of the examined individuals with CHPJB dysfunction [7, 8]. The results of a clinical study conducted by Semenov (2013) showed that patients with CPHD have psychopathological disorders in addition to specific clinical manifestations, which are characterized by complexity and diversity. The author provides information that 40% of patients with this disease are in a state of psychoemotional stress. Affective diseases are mainly characterized by depression and anxiety. As a result of a neuropsychological examination of patients in this category, they were found to have a high level of anxiety and depressive disorders. These psychopathological disorders are directly related to the extent to which the degree of pain symptoms in PPHD is expressed [3, 4]. V. V. Gorbachev (2006) found that in 71.8% of cases, the cause of masticatory muscle hypertension is chronic emotional stress. Many researchers studying the psychophysiological aspects of CHPJB pathology believe that this disorder develops as a reaction to stress [5]. Hyperactivity of the Chpjb muscles in people with ODS was also detected during examinations and watching horror films. However, other researchers do not support this view of the nature of GPJB ODS. They believe that the link between muscle hyperactivity and CHPJB ODS is not reliably proven, and emotional stress may be the result of pain, but not the cause. Chronic emotional stress (repeated mental trauma), leading to hypertension of the masticatory muscles, is caused by socio-psychological reasons: family and professional problems, concomitant diseases, illness or death of loved ones, a sign of aging. As a result, the violation of the function of the BPH detected in the examined patients falls on the *locus minoris resistentiae* (the place of least resistance) and leads to a chronic form of

muscle tension [10]. CHPJB g is a similar model for the development of pain dysfunction. And D. Montgomery proposed Raf (1990). According to their ideas, the development of musculoskeletal pain disorders (stress-muscle hyperactivity-Pain, SMP-model) and pain syndrome is explained by the following form: stress-muscle hyperactivity-pain [9]. Summing up the review of more than 60 articles, we come to the conclusion that psychological, emotional factors, unexplained mental manifestations, as well as socio-economic status lead not only to hyperactivity of the tone of the masticatory muscles, but also to a decrease in the "flexibility" of the individual, which together contributes to the formation and development of PZHB ODS.

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