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ON THE QUESTION OF THE ETIOPOTHOGENESIS, CLINICS, DIAGNOSTICS OF GLOSSALGIA IN PATIENTS WITH NEUROPSYCHOLOGICAL DISORDERS

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Annotation: Glossalgia, or burning mouth syndrome (BMS), is a chronic pain syndrome characterized by a sensation of burning, tingling, itching, or pain in the tongue and oral mucosa when there are no noticeable morphological changes. Despite its centuries-long history of study, glossalgia remains one of the most complex and controversial problems in dentistry, neurology, and psychosomatic medicine, as its clinical manifestations are formed at the intersection of peripheral, central, and psycho-emotional mechanisms. Most often, glossalgia occurs in women during perimenopause and postmenopause, which is associated with hormonal and neurovegetative changes. The prevalence of this syndrome varies from 1.8 to 5.5%, however, real indicators can be higher, considering the often disguised nature of symptoms and late medical attention.

Keywords: pain, burning, psychological distress, unpleasant sensations

Purpose of the study: To assess the significance of dental and neuropsychological disorders in the diagnosis and treatment of Glossalgia.

К ВОПРОСУ ЭТИОПОТОГЕНЕЗА, КЛИНИКИ, ДИАГНОСТИКИ ГЛОССАЛГИИ У ПАЦИЕНТОВ С НЕЙРОПСИХОЛОГИЧЕСКИМИ РАССТРОЙСТВАМИ

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Аннотация: Глоссалгия, или синдром жжения полости рта (burning mouth syndrome, BMS), представляет собой хронический болевой синдром, характеризующийся ощущением жжения, покалывания, зуда или болезненности языка и слизистой оболочки полости рта при отсутствии заметных морфологических изменений. Несмотря на более чем вековую историю изучения, глоссалгия остаётся одной из наиболее сложных и дискутабельных проблем стоматологии, неврологии и психосоматической медицины, поскольку её клинические проявления формируются на пересечении периферических, центральных и психоэмоциональных механизмов. Наиболее часто глоссалгия встречается у женщин в период перименопаузы и постменопаузы, что связывают с гормональными и нейровегетативными перестройками. Распространённость данного синдрома варьирует от 1,8 до 5,5%, однако реальные показатели могут быть выше, учитывая нередко замаскированный характер симптомов и позднее обращние за медицинской помощью.

Ключевые слова: боль, жжения, психический расройсва, неприятный ощущения

Цель исследования: Оценить значение стоматологических и нейропсихологических нарушений в диагностике и лечении Глоссалгии

NEYROPSIXOLOGIK BUZILISHLARI BO‘LGAN BEMORLARDA GLOSSALGIYANING ETIOPATOGENEZI, KLINIKASI, DIAGNOSTIKASI MASALASIGA DOIR

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Annotatsiya: Glossalgiya yoki og‘iz bo‘shlig‘ining achishish sindromi (burning mouth syndrome, BMS) surunkali og‘riq sindromi bo‘lib, sezilarli morfologik o‘zgarishlar bo‘lmaganda til va og‘iz bo‘shlig‘i shilliq qavatida achishish, sanchish, qichishish yoki og‘riq hissi bilan tavsiflanadi. Bir asrdan ortiq o‘rganish tarixiga qaramay, glossalgiya stomatologiya, nevrologiya va psixosomatik tibbiyotning eng murakkab va munozarali muammolaridan biri bo‘lib qolmoqda, chunki uning klinik ko‘rinishlari periferik, markaziy va psixoemotsional mexanizmlar kesishmasida shakllanadi. Glossalgiya ko‘pincha perimenopauza va postmenopauza davridagi ayollarda uchraydi, bu gormonal va neyrovegetativ o‘zgarishlar bilan bog‘liq. Ushbu sindromning tarqalishi 1,8 dan 5,5% gacha o‘zgarib turadi, ammo haqiqiy ko‘rsatkichlar ko‘pincha alomatlarning yashirin tabiatini va tibbiy yordamga kech murojaat qilishni hisobga olgan holda yuqoriroq bo‘lishi mumkin.

Kalit sozlar: og‘riq, achishish, ruhiy ezilish, yoqimsiz his-tuyg‘ular

Tadqiqotning maqsadi: Glossalgiyani tashxislash va davolashda stomatologik va neyropsixologik buzilishlarning ahamiyatini baholashdan iborat.

In the etiology of glossalgia, a wide range of factors are distinguished, which are conditionally divided into three groups: peripheral, central and systemic-psycho-emotional. Peripheral mechanisms include taste receptor dysfunction, changes in saliva composition, impaired innervation of the anterior two-thirds of the tongue, and mild inflammatory processes of the mucous membrane, which, however, are not detected by a standard clinical examination. Special attention is paid to the role of chorda tympani: studies show that its hypofunction contributes to a decrease in taste sensitivity and compensatory hyperactivation of the trigeminal nerve, which leads to pain. Central neuropathic mechanisms include the development of central sensitization, impaired mechanisms of antinociceptive control, changes in the activity of limbic structures, and dysregulation of neurotransmitter systems, including serotonergic, gabaergic, and dopaminergic. This pathogenetic pathway explains the chronic course of pain, the lack of correlation between clinical and local changes, and the low effectiveness of standard analgesics. Systemic factors include deficiency of B vitamins, iron, folate, thyroid dysfunction, metabolic syndrome, and hormonal changes. Psychoemotional aspects play an important role: anxiety, depression, chronic stress and somatoform disorders significantly enhance the perception of pain and form a vicious circle of chronic dysesthesia. Psycho-emotional aspects are also the subject of active discussions. Most studies confirm the high prevalence of anxiety and depressive disorders among patients with glossalgia. However, the key question is whether these disorders are a consequence of chronic pain or whether they act as a trigger leading to sensorineural dysfunction. There is evidence that in some patients the development of glossalgia coincides with acute stressful events, which supports the psychosomatic model. However, the statistical relationship between depression and glossalgia does not prove causality. The heterogeneity of the psychoemotional profiles of patients creates additional difficulties: anxiety dominates in some, somatoform manifestations or depression in others, which indicates the need to stratify patients by psychotype in order to select effective therapy.

The role of hormonal factors, especially during menopause, although clinically obvious, also remains poorly understood. The mechanisms of the effect of estrogen deficiency on the sensory and neurovegetative processes of the oral mucosa require further study. It is unclear whether a decrease in estrogen levels causes direct neuropathic changes or whether it is mediated by a violation of microcirculation, a decrease in pain threshold, or a change in the regulation of salivary gland secretion. There is also a debatable question about the possible association of

glossalgia with autoimmune disorders, since data on changes in cytokine levels, autoantibodies, and systemic markers of inflammation are contradictory.

The clinical manifestations of glossalgia vary, but most often patients complain of a burning sensation of the tongue, which increases during the day, disappears or decreases with meals. Subjective dry mouth with normal saliva production, taste disorders in the form of a metallic or bitter taste, paresthesia and a feeling of "foreign body" are often present. Symptoms can persist for months and years, combined with anxiety, sleep disorders, and a decreased quality of life. The diagnosis of glossalgia is of considerable complexity and is a diagnosis of exclusion. To establish a diagnosis, it is necessary to exclude candidiasis, allergic reactions to dental materials, leukoplakia, galvanosis, traumatic glossitis, gastroesophageal reflux, as well as deficient and endocrine conditions. Laboratory tests play an important role: the level of vitamin B12, folic acid, ferritin, glucose, thyroid hormones and the female hormonal profile. If small fiber neuropathy is suspected, a tongue biopsy and quantitative sensory assessment (QST) are performed. These methods can reveal a decrease in the density of peripheral nerve fibers and objectify the neuropathic nature of pain. Glossalgia treatment is complex and requires a multidisciplinary approach, including the participation of a dentist, neurologist, endocrinologist and psychotherapist. Drug therapy is mainly aimed at correcting neuropathic pain and includes the use of antidepressants (amitriptyline, fluoxetine, sertraline, duloxetine), anticonvulsants (gabapentin, pregabalin), alpha-lipoic acid preparations, as well as topical or systemic clonazepam in small doses. In case of confirmed metabolic disorders of iron or B vitamins, appropriate replacement therapy is indicated. Non-drug methods include cognitive behavioral therapy, correction of anxiety and depression, normalization of sleep, elimination of stress factors, and, if necessary, training in strategies for controlling chronic pain. Local remedies are also used in the form of capsaicin-containing rinses, moisturizing gels and preparations to reduce sensory hyperreactivity of the mucous membrane. The modern approach involves individualizing therapy, taking into account the combination of neuropathic and psychosomatic mechanisms, which makes it possible to achieve a maximum reduction in the severity of symptoms.

Despite significant progress in the study of glossalgia, many aspects of its pathogenesis and treatment remain insufficiently investigated, which determines the high interest in further scientific work. To date, the clinical manifestations of the syndrome and its association with anxiety-depressive disorders and peripheral neuropathy of small fibers have been well studied. Convincing data have been obtained on a decrease in the function of chorda tympani and a violation of the balance between gustatory and somatosensory innervation of the tongue. Neuroimaging studies confirm changes in the activity of structures involved in pain modulation, in particular the anterior cingulate cortex, insula, and dorsolateral prefrontal cortex, which confirms the involvement of central sensitization in the formation of symptoms. Nevertheless, questions about the primary or secondary nature of the detected violations remain unresolved. It is unclear what triggers the pathological cascade: peripheral neuropathy or dysfunction of the central pain mechanisms. There is evidence that a decrease in the density of nerve fibers of the tongue may be a consequence rather than a cause of chronic pain, which complicates the interpretation of biopsy findings. The role of hormonal changes, in particular estrogen deficiency, in the development of glossalgia has not been sufficiently studied: although the clinical correlation is obvious, the mechanistic pathways remain unclear. The issue of the effects of vitamin and micronutrient deficiencies remains controversial. Not all patients with glossalgia have pronounced metabolic disorders, which indicates the heterogeneity of the pathogenesis and the need to identify subtypes of the disease.

From the point of view of therapy, despite the existing recommendations, the effectiveness of most methods remains moderate. Alpha-lipoic acid preparations and topical clonazepam show good short-term results, but data on the long-term effect are limited. Antidepressants and anticonvulsants do not help all patients, which indicates the heterogeneity of pain mechanisms.

The role of modern methods such as low-intensity laser therapy, transcranial magnetic stimulation, vagus nerve modulation, and new forms of psychotherapy, including mindfulness-based approaches, has not been sufficiently investigated. The genetic and immunological factors that may determine a predisposition to the development of the syndrome have not been fully studied.

In the future, an important area of research is the development of biomarkers of glossalgia, allowing to differentiate its subtypes, predict the response to treatment and conduct personalized therapy. Potentially significant areas include the assessment of neuropeptides, cytokines, the analysis of the oral microbiome, the use of functional MRI and quantitative sensory assessment as objective diagnostic tools.

Conclusions

Thus, despite the considerable amount of data available, glossalgia remains a complex and multicomponent syndrome with a number of unresolved scientific issues. Large-scale, multicenter research is required aimed at studying the neurobiological foundations, psychosomatic relationships and the search for effective treatment strategies that will improve the quality of life of patients and increase the effectiveness of medical care.

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