The Study of Facial Pain in A Practice of Dentist

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ABSTRACT

In clinical practice, dentists and neurologists often encounter facial pain of varying severity, localization and duration. The various etiologies and pathologies of pain symptoms, combined by the term "facial pain", reflect the anatomy and physiology of vegetative and somatic innervation of facial tissues. Differential diagnosis is fraught with great difficulties and is often erroneous.

Keywords: Odontogenic diseases, dentists and neurologists

Odontogenic diseases, especially dental ones, are one of the most common causes of facial pain. Pain in such cases always occurs in the same area of the face (Zakharyin-Ged zone). The nasolabial sulcus corresponds to the maxillary canines and the right maxillary premolars, and the buccal region near the wings of the nose (maxillary zone) corresponds to the second maxillary premolar and the right maxillary molar. The temporal region corresponds to the first maxillary molars, and the mandibular region corresponds to the second and third maxillary molars. The sublingual area corresponds to the first and second mandibular molars. Ear pain is usually present in the area of the mandibular molars and in the area of the maxillary molars in front of the goiter. The third mandibular molars correspond to the laryngeal protrusion on the anterior edge of the sternocleidomastoid muscle. The lower incisors, canines, and first premolars correspond to the maxillary region. Reflex facial pain does not always occur, but appears a few hours after the onset of toothache. After tooth extraction, the pain in the corresponding area disappears after 24 hours. Reflex pain can occur in zakharzino-hedazone even in the absence of pain in the affected tooth. With proper diagnosis and treatment of the affected tooth, the pain in the corresponding area disappears completely. Pain in the anterior palate can also be observed with prosthetic defects caused by occlusive disorders. Occlusive disorders associated with the absence of teeth cause changes in all components of TMJ, which leads to compression of the tympanic nerve and pain in the face, tongue and ears. Disorders of the temporomandibular joint often have a muscular origin in the form of myofascial pain dysfunction (dysfunction associated with overload of certain muscles). In recent years, 70% of back pain syndromes have been attributed to myofascial causes. Myofascial disorders in the facial muscular system develop by the same mechanisms as in the skeletal muscular system. 10-20% of facial pain syndromes are caused by myofascial disorders. The mechanism of myofascial pain is that in the initial stages, residual tension occurs in the muscle, followed by constant local muscle hypertension. Such local muscle hypertension can lead to short-term muscle spasms (seizures). For example,

the chewing muscles can spasm and cause pain when opening the mouth or yawning. In addition, such muscle hypertension often leads to constant muscle tension, which in turn leads to chronic pain. Prolonged local muscle hypertension can lead to secondary disorders (vascular, metabolic and inflammatory) in spastic muscles, which can increase pain. In addition, local muscle hypertension can cause local or reflex pain, which becomes a trigger point (TP). On the face, trigger points most often occur in the masticatory muscle, temporal muscle, lateral pterygoid muscle and medial pterygoid muscle. In facial muscles, myofascial disorders occur less frequently in response to hypertension of the sternocleidomastoid muscle, masticatory muscle and trapezius muscle. The circular eye muscle, zygomatic muscle and platysis are also often affected. Prosopalgia can also occur in various visceral disorders, since visceral pain afferations radiate through the sensitive fibers of the vagus and diaphragmatic nerves into the cells of the trigeminal nucleus, which are projected onto various parts of the face. Prosopalgia is also observed in the pathology of the cervical roots caused by diseases of the spine (for example, osteochondrosis, spondylitis).), neuropathy of the popliteal ganglia of the facial nerve (hanging syndrome), glaucoma, sinusitis and myositis. Myofascial pain dysfunction of the masticatory muscles as a result of psychoemotional overstrain. The cause of such dysfunction may be muscle fatigue, tension and pain in the chewing muscles due to the usual gnashing of teeth during emotional stress. Muscle tension is a normal physiological response to emotional stress. The muscles of the face and jaw are most sensitive to changes in the emotional state of a person, and their tension is recognized with mental or negative emotional stress. When muscles are in constant tension due to chronic stress, myofascial disorders form in the masticatory muscles. Brexism (involuntary clenching or unclenching of the jaws), observed during sleep, especially in its second phase, can also cause an overload of the chewing muscles. Brexism is common in patients with emotional disorders, anxiety, depression and hypochondria. Treatment in such cases should include sedatives, tranquilizers and, if necessary, antidepressants and muscle relaxants. Several pathological factors are often involved in the cause of myofascial pain dysfunction of the masticatory muscles, to which are added factors of mental and emotional overstrain that exacerbate existing pain. Therefore, a thorough analysis of the causes of the disease is necessary for successful treatment. For example, patients with occlusive lesions may experience increased tension of the masticatory muscles due to emotional disorders. This condition can be aggravated by reflex pain from the muscles of the upper shoulder girdle or neck. Trigeminal neuralgia (HTN) is the most common form of paroxysmal (paroxysm-like) facial pain and is considered the most unbearable type of facial pain HTN is a multi-focal condition; an important pathogenetic mechanism of HTN is compression of the roots of the trigeminal nerve (for example, congenital or acquired stenosis of the infraorbital canal, mandibular canal, lesions of the alveolar bone). In the case of tumors of the posterior cranial fossa, the root of the trigeminal nerve may be compressed. There is a hypothesis that tumors in the posterior cranial fossa compress the roots of the trigeminal nerve or the nerve is compressed by looped convoluted vessels (usually the upper and lower cerebellar arteries). The central mechanisms of pain attacks are activated a second time under the influence of pathological afferent influences from the periphery. This is manifested by sharp and intense pain attacks in the area innervated by the trigeminal nerve. In secondary (symptomatic) trigeminal neuralgia caused by a tumor lesion of the trigeminal nerve, atypical symptoms appear already in the early stages of the disease. The disease is more common in the elderly. The pain attacks are localized in the innervation zone of the trigeminal nerve branch and last from several seconds to several minutes, their severity can be compared to a "shot" or a lightning strike. They are characterized by the presence of a "trigger" zone, vegetative symptoms (lacrimation, hyperemia, hyperhidrosis, epistaxis (on the affected side), increased salivation and painful tics). Seizures often occur in the mornings in the

autumn-winter period. Glossopharyngeal neuralgia (Sicard syndrome) occurs as a result of injury to the tonsillar bed, for example, due to elongation of the lingual process or carotid artery aneurysm. This condition is common before the age of 50. It is characterized by burning paroxysmal pain lasting from several seconds to three minutes. The place of localization of pain: the root of the tongue, palatine tonsils, mandibular angle, anterior part of the parotid gland. Circumferential zone: tonsils, tongue root, parotid gland. During an attack, the patient cannot speak or swallow saliva, assumes an impossible position, for example, tilts his head to the affected side. After the attack, a strong laryngeal cough occurs. A diagnostic test for Sicard syndrome is anesthesia of the pharyngeal mucosa or the administration of an anesthetic during palpation of the oral cavity. Nodular neuralgia of the pterygium (Sluder syndrome) is a vegetative sore throat that develops as a result of damage to this node and is associated with paroxysmal autonomic dysfunction. The etiology of the disease has not been precisely established; mechanical, allergic, psychogenic and other factors are important. A curvature of the nasal septum is often detectedIt is believed that the main role in the development of the lesion of this node is played by local pathological processes. Common infectious, allergic, constitutional and psychogenic factors are important. The development of pain attacks with local vasomotor disorders is associated with the release of serotonin, histamine and kinin, as well as with the stimulation of nodes and their connections. Stimulation of nervous mechanisms and accumulation of biogenic amines in the blood cause the development of systemic vegetative-vascular reactions (dizziness, nausea). Based on the above, the disease can be divided into local and systemic forms. The paroxysmal pain lasts from a few minutes to several hours or even days. The pain may be constant or increase in paroxysms. Exacerbations can last for weeks or months. The pain is, in fact, burning, tearing, similar to the feeling of hot sand. The place of seizures: the face, head, neck, arms and half of the trunk, radiating into the eyes, nose or suborbital area. Seizures are associated with vegetative-vascular, secretory and nutritional disorders. The diagnostic criteria for this disorder is the use of anesthetic solutions (lidocaine, dicaine) on the mucous membranes of the middle nasal passages to eliminate or reduce pain. Patellar ganglion syndrome (Hunt syndrome) is characterized by paroxysmal pain in the ear area, headache, impaired salivation and lacrimation, tinnitus, dizziness, horizontal nystagmus, hypersensitivity of the tongue and ears, shingles in the ears, tongue and palate. Transient facial neuropathy occurs in the first 10 days after the appearance of rashes. The taste sensitivity in the anterior 2/3 of the tongue disappears. Nasothoracic neuralgia (Charlene syndrome). The etiology is unknown. It may be a consequence of cribrositis, hypertrophy of the nasolacrimal sulcus, deformation of the nasal septum or eye injury. The pain is localized in the eyeballs, the corner of the eye and the root of the nose, and spreads to the frontotemporal region. Vegetative disorders are observed (photophobia, lacrimation, signs of keratoconjunctivitis), seizures last from 20 minutes to more than 1-2 hours. The period of exacerbation lasts 1-2 months and most often falls in autumn and winter. The pain is characterized by cutting, bursting, and neuropathy: iatrogenic, narrowing of the eye slit, decrease in normal reflexes. Tonsillitis is manifested by paresthesia of the oral cavity, the tip of the tongue and its lateral surfaces with symptoms such as tingling, burning and "exciting goosebumps". It is mainly observed in middle-aged and elderly people, but it can also occur in young people. It is more common in women, the intensity of pain varies and is associated with eating. Over time, dysesthesia increases in frequency, becomes more prolonged and increases. The duration can range from several months to several years. Various local and general causal factors are involved in the development of glossodynia. Local factors: mechanical, physical and chemical. Possible causes include injuries to the tongue with sharp edges of teeth, allergic reactions due to the presence of dentures in the mouth, crowns made of various metals or other dentures, as well as reactions to plastics. The

causes of glossodynia include visceral diseases (chronic diseases of the gastrointestinal tract, liver and pancreas), diabetes mellitus and menopausal disorders. Auriculotemporal syndrome (neuropathy of the auricular nerve, Frey-Bayarge syndrome). Vegetative temporal neuropathy is manifested by burning, aching, throbbing pain in the temple, ear or mandibular joint, often radiating into the lower jaw. Seizures are always accompanied by hyperemia of the skin and excessive sweating in the parotid temporal region. Seizures are usually triggered by eating, physical exertion, general overheating, smoking and sometimes emotional overstrain. Parotemporal syndrome can be a complication of pyogenic mumps with destruction of the parenchyma of the parotid salivary gland and involvement of the parotid nerve innervating it. In this case, both reflex and liquid salivation from the parotid salivary glands is disrupted. Gangliosis of the submandibular and sublingual segments. It is extremely rare. The etiology is different. This is usually a traumatic lesion of the vegetative ganglia due to inflammatory diseases of the maxillofacial region, especially surgical interventions. Dysfunction of the submandibular lymph node is characterized by constant pain in the submandibular region, which is emphasized by attacks of acute pain with a vegetative component lasting from 10 minutes to several hours. During seizures, pain radiates to the sublingual area and the corresponding half of the tongue. Hyperalivation is usually observed, less often thirst. A pain point in the submandibular triangle is characteristic. When the sublingual tubercle is affected, the clinical picture is similar, but the pain is mainly observed in the sublingual area, and the tip of the tongue is mainly irradiated. The sore spot is usually located on the medial side of the mandibular ridge. Most often, both vegetative ganglia are involved in the process. The localization of pain is determined by the presence of a lesion in one of the vegetative ganglia. The relationship between pain and eating is unknown. The course of the disease is characterized by dystrophic changes in the mucous membrane of the anterior two-thirds of the tongue, such as desmoplastic glossitis, taste disorders and increased fatigue of the muscles of the tongue. Psychoemotional disorders and hypochondriacal states are common.

Conclusion: Thus, facial pain includes syndromes with different origins and clinical manifestations associated with the peculiarities of innervation, blood supply and function of the alveolar system. Diseases similar in symptoms require careful diagnosis, exclusion of local causes of oral pain and assessment of the general state of health, especially neurological.

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