

TRIGEMINAL NEURALGIA, ETIOLOGY, CLINIC, EXAMINATION METHODS AND TREATMENT

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Abstract: Trigeminal neuralgia (trigeminal neuralgia) is a disease in which pain attacks (strong, shooting, burning) occur in the areas of innervation - temporal, frontal regions, facial skin, masticatory muscles, conjunctiva of the eyes and some zi occurs in areas that supply muscles with nerve fibers. oral cavity (for example, mylohyoid). Pain in the face is considered the most difficult in medicine, because it is associated with pathologies of the nervous system, ENT organs, dental system or eyes. However, trigeminal neuralgia is often the cause of such pain. The problem is in the first place in the ranking of neurological diseases due to a large number of factors: severe paroxysmal pain, social and work imbalance (it is very difficult for a person to work effectively, he is under constant stress), long-term. treatment. Symptoms can be detected, but only a specialist can determine the exact cause of the disease and prescribe a truly effective treatment. All conditions have been created for providing high-quality neurological and neurosurgical care in the 5th city hospital of Minsk: from diagnosis to treatment.

Key words: Trigeminal neuralgia, Pathogenesis, Primary and secondary neuralgia,

Trigeminal neuralgia develops due to a violation of the central component (blood circulation in the core) or peripheral (peripheral parts of the nerve). Therefore, different methods are used for treatment.

Pathogenetic mechanisms include vascular, endocrine-metabolic and immunological factors. Thanks to them, the sensitivity of the nuclei changes and the focus of pathological activity in the central nervous system is determined. After that, trigger (highly sensitive) areas appear in the innervation zones of different branches of the nerve, and when irritation occurs, pain attacks appear on the face.

Vascular factor is involved in classical neuralgia, when the nerve root is affected by a vertically intersecting arterial ring.

Vascular collision (conflict between nerve and vessel) is especially considered in people who have started to harden blood vessels and nerve fibers. With trigeminal neuralgia in the elderly, this is the most common condition.

Autoimmune processes (the body attacks its own cells) cause inflammatory reactions during dental treatment and colds. In this case, they cause trigeminal neuralgia and pain.

Classification

Trigeminal neuralgia is classified according to several criteria: the nature of its occurrence, the nature

of the pain, the affected area (localization).

Primary and secondary neuralgia.

The most popular classification is related to etiology (nature of the event).

Primary idiopathic. Occurs as a response to compression (squeezing) of the blood vessels of the trigeminal root. Often in practice, such compression occurs in the area of the brain stem.

Secondary symptomatic. Consequences of infections, swelling and their growth, bone changes.

To determine the nature of trigeminal neuralgia, the data of the tomography (neuroimaging) of the skull and nerve are used.

Treatment with true neuralgia should first of all focus on the nature of the disease, and with secondary neuralgia, the fight against the symptoms and elimination of the main disease is carried out.

Secondary neuralgia can be central and peripheral. In the central form, pain occurs in the area of one or more branches of the trigeminal nerve. In the peripheral form, the entrance zone of the nerve root to the medullary bridge is involved, in most cases, the ring of the cerebellar artery has pathological changes.

Nature of pain and affected area

Another classification is based on the nature of the pain.

The area affected and its extent may also vary, and adjacent zones may also be involved. In this regard, the following levels of damage are distinguished:

Damage to one of the peripheral branches of the trigeminal nerve. When the 1st network is affected, the sensitivity of the skin is disturbed (especially in the mucous membranes of the forehead and scalp, eyelids, the back of the nose, the upper part of the nasal cavity, a number of reflexes are disturbed, for example, ., superciliary). When the 2nd branch is affected, there is a loss of skin sensitivity in the cheeks and cheeks, a loss of skin sensitivity near the outer corners of the eyes, and there are problems with skin sensitivity. upper jaw, lips and this

Diagnostics

Based only on the survey, the doctor can distinguish third-degree neuralgia from Sjostad syndrome (with this syndrome, longer attacks), post-herpetic pain and typical migraines. To understand the full picture, it is important to make a comprehensive diagnosis:

Tomography. The most complete information about the state of the brain and the choice of a detailed scheme (the scheme is important for accurate placement) when conducting magnetic resonance imaging of the trigeminal nerve for correct diagnosis and correct treatment information is very important. The most accurate information can be obtained from contrast MRI.

Tomography (scanning) of the trigeminal nerve. Creating layer-by-layer images allows you to identify signs of neurovascular collision, destruction of the myelin sheath of nerves. The scan gives the doctor a complete picture of what the nerve being examined looks like and what happens where it exits the brain stem.

It is very important that tomography allows not only to determine the presence of neurovascular conflict, but also to understand its cause. It can be a collision of cerebellar arteries, a neuroma (neoplasm) of the nerve. In most cases, the examination of the trigeminal nerve is performed with the simultaneous examination of the facial nerve.

X-ray of the jaws (if you suspect that the main problem is dental disease).

Angiography. It is important to check (confirm) the vascular origin of the aneurysm and the vascular ring or aneurysm with an impressive size.

Also, in most cases, blood and urine tests are prescribed (the role of these studies is especially valuable in pathologies caused by infectious diseases).

Treatment

Treatment is aimed at relieving pain and preventing recurrence of the disease.

For mild cases of the disease, drug treatment helps for advanced stages and large affected areas, surgical treatment is used; In addition, it helps to overcome the nature of the disease itself.

Physiotherapy methods are also used in the treatment. But most doctors are inclined: they are not primary, but effective only as an adjunct: they enhance the effect of conservative drug treatment and can be used after surgery in the rehabilitation phase. For example, drug treatment in the acute phase can be effectively combined with light therapy, especially low-dose infrared radiation therapy. In the acute period and in the rehabilitation period, phonophoresis, electrophoresis and darsonvalization provide the desired effect. In the non-acute stage, it is useful to take medicinal baths (for example, with minerals), massage, acupuncture and paraffin therapy.

Drug treatment

The following drugs are prescribed for conservative therapy:

Medicines to deal with symptoms (pain). The most common drugs used in drug therapy are carbamazepine, finlepsin, and tegretol. Carbamazepine is the drug of first choice in many clinics. It is effective in relieving pain in 70-80% of patients with trigeminal neuralgia.

Antispasmodics and muscle relaxants with central action. One of the common drugs in this situation is baclofen.

Blockades with alcohol (injection) aimed at "freezing" the affected area of the face have an effect, but it is short-lived. Therefore, such an injection is often used as a temporary measure, for example, during the preparation stage for surgery.

Metabolic drugs. Their role is important for stabilizing the energy potential of cells and creating an antihypoxic effect.

Anticonvulsants. It helps to slow down the transmission of nerve impulses.

B vitamins. They have a neurotropic effect (they improve the metabolism of mediators and certain analgesic activity, thus enhancing the effect of painkillers).

Surgery

Surgical operations are the most effective to combat trigeminal neuralgia. They allow not only to relieve pain, but also to destroy the chain of impulses and affect the tension between the root of the cranial nerve and the vessel adjacent to it.

In this case, microvascular decompression of the trigeminal nerve root is the most effective and safe (the nerve is preserved). The operation involves the installation of a seal (protection) between the nerve and the vessel.

Microvascular decompression of the trigeminal nerve root is a transcranial endoscopic intervention, performed through a mini-access (in fact, we are talking about a cosmetic incision - no more than 2.5x2 cm, minimal blood loss, long-term rehabilitation is not required)

Mechanical destruction of peripheral branches, glycerin rhizotomy, laser thermocoagulation and radiofrequency destruction can also be used. They make it possible to overcome pain, but unlike

microvascular decompression, unfortunately, such operations do not have the task of preserving the nerve. Therefore, such operations are often used in cases where microvascular decompression of the trigeminal nerve root is impossible for some reason. For example, glycerin rhizotomy is often the only possible way to deal with neuralgia in elderly patients with severe physical condition with a list of other diseases.

Modern surgical methods similar to mechanical destruction make it possible to eliminate additional destructive interventions and at the same time stimulate the necessary deep structures.

Among the complications of surgical intervention with the help of glycerin rhizotomy and radiofrequency destruction, there are sensory disturbances in the face and keratopathy (the appearance of corneal dystrophy).

Complications that can occur after microvascular decompression can be brain stem ischemic infarction, air embolism, trochlear nerve damage, cerebellar hematoma, paresis (reduction) of facial muscles.

Therefore, it is very important to clearly consider the level of risk for the patient and choose the right surgical technique. Whether one or the other is suitable in each specific case depends on the individual characteristics of each patient. Careful attention to these details will help reduce the risk of complications.

It is also important where the operation is performed. All the nuances are important: how accurate the initial diagnosis is, the skills and experience of the neurosurgeon.

Consequences and complications

It is important to start treating neuralgia on time. Timely treatment is fraught with the following complications:

Constant pain (both headache and facial pain).

Facial nerve paralysis and resulting facial asymmetry.

Impairment of hearing and vision.

Weakening of facial muscles, appearance of wrinkles.

Behavioral disorders. Constant fear. One always thinks that another attack is imminent. Therefore, he tries to make minimal movements when chewing (or when chewing, moving food behind one cheek) and smiles a little.

Prognosis

Developed trigeminal neuralgia is associated with rapid deterioration of a person's quality of life, as the pain becomes very debilitating.

Surgical intervention provides a particularly favorable prognosis. Even with traditional surgical interventions, relapses occur in no more than 15% of cases. With microvascular decompression and other endoscopic interventions, the probability of relapse decreases to 3-5%.

The longest remission is characteristic of patients who underwent microvascular decompression or laser elimination.

At the same time, the prognosis is especially favorable for patients who carefully monitor their teeth after surgery, who are treated quickly with a runny nose, and who regularly consult a neurologist.

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