

### Stomalgia - Treatment Methods

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#### ABSTRACT

The work is devoted to the study of methods of treatment of stomalgia. The relevance of the work is determined by the high prevalence of this disease - up to 26% among patients with chronic pain syndromes of the face and oral cavity. The disease is more common in women and in the elderly. Various terminology and classification of the disease are given. The clinical picture and diagnostic methods are described. The differential diagnosis of stomalgia with other pain syndromes is formulated. Treatment methods are described in detail with an assessment of their effectiveness:

- pharmacotherapy; - treatment with hyperbaric oxygen; - treatment using a constant magnetic field; - acupuncture and magnetoreflexotherapy; - laser therapy; - oxygen therapy; - hirudotherapy; - cryoreflexotherapy; - Treatment with transcranial electrical stimulation. Methods of complex treatment of various forms of stomalgia are proposed.

**Treatment of stomalgia.** Treatment of AS is a difficult task. Often it is ineffective or gives a short-term effect, as it is symptomatic and does not affect the pathogenetic mechanisms of the disease. In some proposed methods of SA treatment (1,3,5,6,10), the impact is carried out on the autonomic nervous system of patients with SA, but it is carried out without taking into account the nature of neurohumoral regulation of autonomic functions. Before starting treatment, all patients with stomalgia must undergo a mandatory sanitation of the oral cavity, which consists in the treatment or extraction of teeth, the elimination of local irritating factors (sharp edges of teeth, tartar, orthopedic structures made of dissimilar metals).

If necessary, a course of treatment of periodontal diseases and restoration of the occlusal height were carried out. Pharmacotherapy. Particular attention is paid to psychopharmacological and psychotherapeutic methods of treatment. First of all, such psychopharmacological drugs as tranquilizers were used: phenazepam, as the most effective drug, doses are selected individually (from 0.5 to 2 mg per day), and in the case of the development of depressive conditions, phenazepam is combined with small doses of tricyclic antidepressants (amitriptyline in dose of 50-100 mg per day, Azafen - 75-100 mg per day) for a month. Explanatory conversation is one of the methods of psychotherapeutic influence. During the conversation, the patient develops the correct attitude towards the disease, which is especially important in the presence of phobic disorders. Taking into account the dysfunction of the autonomic nervous system, patients were prescribed vegetotropic drugs: anticholinesterase (solution of galanthamine hydrochloride orally 7-10 drops 3 times a day before meals for 5-7 days, antihistamines - diazolin 1 tablet 2 times a day in a course followed by a break at 7 days). All patients were prescribed multivitamin preparations (undevit, hexovit and others), which include B vitamins, ascorbic acid, calcium pantothenate, nicotinic acid).

Local treatment of SA consisted in prescribing oral baths based on the collection of medicinal

herbs (chamomile officinalis, sage and peppermint) 100-150 ml 30-40 minutes before meals or between meals. For the purpose of an inhibitory effect on the peripheral mechanisms of SA, a 10% anesthesin suspension in vegetable oil, 1-2% citral solution or 5% pyromecaine ointment were used in the form of applications. Locally used and drugs that promote the regeneration of the epithelium on the affected areas of the oral mucosa (application of an oil solution of retinol, sea buckthorn oil, rosehip oil). With burning paresthetic phenomena, novocaine blockades (2% solution of novocaine, 4-8 ml) should be used as torus or mandibular anesthesia on the right and left simultaneously (taste - up to 12 injections). A solution of novocaine can be used together with vitamin B1 - with hyperacid gastritis or with vitamin B12 - with hypoadidic gastritis. These drugs have a temporary effect, but alleviate the suffering of patients with stomalgia.

Evaluation of the effectiveness of pharmacotherapy: The need for a course of pharmacotherapy within a month is justified by the results of scientists (E.N. Dychko, 1985; M.Yu. Kozlova, 1986) on the study of autonomic regulation in patients with stomalgia (a pronounced change in the tone of the sympathetic division of the autonomic nervous system occurs a month later from start of treatment). In patients with a good therapeutic effect of pharmacotherapy, the likelihood of exacerbation of stomalgia is reduced. The number of patients with satisfactory results after drug therapy is 63%. However, as a result of treatment in these patients, the burning sensation and pain did not completely disappear, despite the decrease in the intensity of complaints. The absence of a positive effect from the conducted drug treatment is observed in 14% of cases (E.E. Vasenev, 1997). Thus, we can conclude that drug therapy has a satisfactory therapeutic effect (reducing the intensity of complaints and improving the general condition).

Only in patients who first consulted a doctor about SA within a few months from the onset of the disease and who have an emotionally stable psyche, one can expect a good effect from pharmacotherapy Treatment with hyperbaric oxygen. For the treatment of patients with stomalgia, a multi-seat pressure chamber of the PDK-2M type can be used. The HBO course consists of a 20-minute trial session and 13-15 sessions, 5 sessions per week. Each session includes air compression up to 0.2 MPa (kgf/cm<sup>2</sup>) for 10-15 minutes, 45-minute oxygen breathing through KI-ZM inhaler masks at this pressure and decompression for 10-15 minutes. The HBO course should be carried out in combination with rational dental prosthetics and general therapeutic treatment.

To achieve a positive result, a single course of HBO is sufficient. Contraindications to the treatment of HBO are: 1. a history of epilepsy and other convulsive seizures; 2. the presence of cavities in the lungs (abscesses, cavities, air cysts), liver and other tissues; 3. tense pneumothorax; 4. severe forms of hypertension; 5. violation of the patency of the Eustachian tubes and canals; 6. claustrophobia; 7. the presence of hypersensitivity to oxygen. Efficiency of HBO application: Measurement of oxygen tension (pO<sub>2</sub>) in arterial blood, carried out in the buccal areas using a transcutaneous meter developed by the Institute of Experimental and Clinical Surgery of the Ministry of Health of Georgia, shows that in patients with stomalgia before the HBOT session, pO<sub>2</sub> was 73.2 ± 72 mm Hg . Art., during the session - 979 + 72 mm Hg. Art. Thus, the therapeutic efficacy of HBO occurs with an increase in transcutaneous oxygen tension by an average of 13.4 times (E.M. Ter-Pogosyan, V.I. Klevtsov, A.K. Iordanishvili, T.V. Volkhina, 1987).

When evaluating the immediate and long-term results of treatment using non-specific therapy methods, the dynamics of complaints, well-being and objective data should be taken into account. A good therapeutic effect is characterized by the complete disappearance of the clinical manifestations of stomalgia; satisfactory - a decrease in the intensity of the area of the paresthetic mucous membrane of the oral cavity and tongue and a noticeable improvement in the general condition. In the absence of a therapeutic effect, there are no significant changes in the well-

being and condition of the patient.

The method of treatment of stomalgia with the use of laser therapy (LT) (E.M. Ter-Pogosyan, S.A. Kovrigin and A.K. Iordanishvili, 1989). For LT, installations with a helium-neon laser of the LG-75 type with a wavelength of 632.8 nm are used. Output power 25 mW, power density 0.4-2.0 mW/cm<sup>2</sup>. In this case, a focused beam affects biologically active points, and a defocused beam affects the fields of the parasthetic mucous membrane of the oral cavity and tongue. The exposure time for each point or field is 30 s. The LT course includes 10-14 procedures, the first five of which are carried out daily, and the next - every other day. If there is no therapeutic effect after 15-20 days, the course of LT is repeated. To achieve a positive therapeutic effect, as a rule, it is necessary to conduct a 1-2-fold course of RT. Contraindications to LT treatment are: 1. condition after myocardial infarction; 2. circulatory failure III degree; 3. severe disorders of cerebral circulation; 4. hypertension stage III; 5. hypotension, malignant tumors; 6. uncompensated forms of diabetes; 7. blood diseases.

Treatment with oxygen therapy (CT). Oxygen from the oxygen bag is drawn into a 20 g syringe by puncturing the rubber hose of the bag, previously treated with 96% ethanol, with an injection needle. The first portion of oxygen is released into the air, the second is injected with a thin needle into the tissues of the oral cavity under the mucous membrane. For the implementation of painless oxygen administration, the following conditions are observed: oxygen is injected under the movable part of the mucous membrane, the periosteum is not injured by the needle, the needle is immersed in tissues no more than 2-3 mm, the needle is directed along the alveolar arches of the jaws and neurovascular bundles. Injections are carried out under the mucosa of those parts of the parasthetic mucosa indicated by the patient. The injection needle is injected under the mucous membrane after its preliminary anesthesia with 10% lidocaine aerosol. Oxygen is injected until the mucous membrane turns white and the so-called "cushion" is formed. A sterile gauze ball should be applied to the puncture site so that oxygen does not escape from the tissues through the puncture site. Up to 4 injections are performed per visit, up to 5 ml of oxygen is injected through each of the punctures. The CT course consists of 10-12 oxygen injections (up to 20 ml of oxygen per visit), which are carried out every other day. In the absence of a positive therapeutic effect, the course of CT is repeated after 25-30 days.

Cryoreflexotherapy. This type of treatment is used to eliminate disorders of the capillary blood flow of the mucous membrane with the help of porous autonomous applicators made of titanium in the form of rollers, and at the end of the course, hemomicrocirculation is stabilized (T.N. Ulko, S.I. Tokmakova, SAUlko, D.A. Cherepkov, A.P. Goncharov, 2001).

Cryogenic applicators have the following properties:

1. the ability to absorb liquid nitrogen and carry out cryotherapy both due to the cooled metal and due to the evaporation of the refrigerant contained in the pores;
2. do not stick to frozen tissues;
3. autonomy;
4. ease of manipulation in the oral cavity, etc.

Cryoanalgesia is carried out daily, from 3 to 6 sessions per course. At the same place, the applicator is rolled 2-3 times with the interval necessary for recharging it. Cryocontact per unit area takes 2-3 seconds (M.D. Filyurin, S.I. Tokmakova, A.A. Bashtova, T.V. Voblova, T.N. Ulko, 2001).

Treatment with transcranial electrical stimulation (TCES). (T.D. Kiryanova, 1992). TKES is a non-drug method of pain relief for chronic pain syndromes (V.P. Lebedev et al., 1986). The

industry produces a number of devices for conducting TKES in series: "Transair - 2", "Transair - 4c", "Etrans - 1", etc., which have the same output characteristics. The apparatus "Transair - 2" is intended for dosed exposure to electric current on the central nervous system of a person. This device reproduces the optimal electrical parameters: the summed transcranial exposure to direct current and rectangular pulses with a frequency of 77.5 Hz and a duration of 3.5 ms, while the ratio of direct and average pulsed currents was 2-5: 1 (Lebedev V.P. et al. ., 1983), which allows you to get a pronounced analgesic effect. The course of treatment is 10-12 procedures. The apparatus for TKES has two types of electrical action: a mode with high-frequency pulse filling and a therapeutic mode. The first procedure is carried out in the mode with the filling of pulses, the subsequent ones in the usual mode. The procedure is carried out with the patient lying down or sitting. The set of apparatus for TKES includes two pairs of electrodes, which are fixed on the patient's head. Frontal electrodes are fixed above the superciliary arches, occipital electrodes on the mastoid processes. Under each electrode, a gasket is inserted, abundantly moistened with tap water (an eight-layer gasket made of white flannel). After fixing the electrodes and pads, the patient is connected to the electrostimulator using a connector. The current strength is gradually increased until the first sensations appear in the patient. After that, the current strength is increased discretely. Since at the moment of increasing the current strength under the cathodes, the patient experiences slight discomfort, which almost completely disappears after 1-3 minutes. The minimum therapeutic effect has a current of 2.5 mA. With increasing current, the analgesic effect increases. The time required to reach the minimum therapeutic current strength is from 10 to 30 minutes, due to the different threshold of pain sensitivity. The duration of the first procedure is 30 minutes, the next - 40 minutes, the start time of the procedure is fixed after reaching the minimum therapeutic current. After the time has elapsed, the current strength is gradually reduced to zero, the patient is disconnected from the device and the electrodes are removed from the head. After each TKES session, the patient should be allowed to rest for 10-15 minutes. Evaluation of the effectiveness of treatment is carried out according to the parameters of systemic circulation and the structure of the heart rhythm. Based on the concept of the cardiovascular system as an indicator of the adaptive activity of the whole organism (R.M. Baevsky, 1979), the assessment of the level of tension of regulatory mechanisms and, consequently, the effectiveness of treatment can be made according to the parameters of systemic circulation (BP, heart rate) and structure heart rate (variable pulsometry). Arterial pressure (BP) can be assessed by the parameters of systolic and diastolic pressures determined by the Korotkov method, followed by the calculation of pulse and mean hemodynamic pressure (SHP) by the Folkow-Neal method.

**Conclusion.** The disorders of the affective sphere found in patients (depression, anxiety, bad mood) are so associated with complaints of a dental nature that they are initially interpreted by dentists and consultants (therapist and neuropathologist) as secondary neurotic disorders (A.K. Iordanishvili, 1991). If diseases of the internal organs are detected, the treatment of stomalgia is carried out in conjunction with a doctor of the appropriate profile. The specialist prescribes treatment that provides for the normalization of the functions of internal organs and body systems. The dentist conducts oral cavity sanitation, including therapeutic, surgical and orthopedic measures, and prescribes local symptomatic therapy. Subsequently, patients with symptomatic forms of stomalgia are under constant dispensary observation by a specialist doctor and a dentist (E.M. Ter-Poghosyan, A.K. Iordanishvili, 1988). In the ischemic form of stomalgia caused by tissue hypoxia due to impaired blood microcirculation in the oral mucosa, hyperbaric oxygen therapy (HBO) and magnetotherapy (MT) with an alternating (using the Potok-1 apparatus) or a constant magnetic field (PMF) have a pathogenetic effect. A positive therapeutic result is given by acupuncture according to the second version of the inhibitory method, irradiation of the mucous membrane with helium-neon laser light while simultaneously stimulating acupuncture points with a laser, as well as magneto-reflexotherapy (MRI),

hirudotherapy (HT) and oxygen therapy (CT). Of the drugs, good results were noted with alternating injections of a 1% solution of spasmolytin and a 2% solution of novocaine, administered alternately in 4 ml simultaneously from both sides, according to the type of mandibular or torus anesthesia. The course of treatment is 10-12 injections. A sufficiently large number of methods for treating stomalgia are listed, however, not one of them can guarantee a complete cure for the patient. Therefore, approaches to treatment should be complex, pathogenetic, aimed at normalizing the functions of the animal and autonomic nervous system. These patients should be under constant follow-up.

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