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# Determination of the Effect of Acupuncture on Cerebral Blood Flow in Patients with Ischemic Type Tserebrovascular Diseases

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**Relevance.** Vascular diseases of the brain are considered an important medical-sosial urgent problem not only in our region, but also on the scale of the entire Jahan. Because the prevalence of the disease, the high incidence of lethargy and disability, the inability of most of those who recover from this disease to continue their work activities and the loss of their place in the life expectancy of society make this problem even more difficult. That is why the life activity of patients with tserebrovascular disease continues to be a problem not only of angioneurology, but of society as a whole. It is observed that this pathology increases in the developed states of Jaxon, but also in our country.

Up to 3-17% of the complications of ischemic stroke in the world, up to 15-73% of contracture and synkinesia in European and Asian countries, idiopathic neuropathy up to 75% are observed, among which complications of 30% and complete muscle recovery are indicative of the relevance of the problem. In particular, it is of particular importance to predict a severe complication, which is formed on the basis of an analysis of the neurological, neurophysiological, neurovisual characteristics of the clinical course of complications after a stroke, a comparative diagnosis of muscle contracture and cognitive impairment, an algorithm for assessing, diagnosing and treating the patient's disability index on the face [2.4.6.8].

The purpose of the research work is to assess the effectiveness of ignareflexotherapy in patients suffering from ischemic stroke, regardless of the characteristics of the pathogineti of the origin of the disease.

### **Objectives of the study:**

assessment of the possibility of using ignareflexotherapy in patients with speech disorders as a result of ischemic stroke:

determination of the possibilities from ignareflexotherapy in the recovery of behavioral and sensory disorders in patients with ischemic stroke damage;

Determination of the effect of acupuncture on cerebral blood flow in patients with ischemic type tserebrovascular diseases;

assessment of the effectiveness of the method of treatment of cognitive disorders in ischemic strokes with ignareflexotherapy

In cases of acute circulatory disorders in the brain, the tactics of nondifferential and differential treatment are fundamentally different. Nondifferential (base) therapy is used in all types of acute circulatory disorders in the head brain, most often when the results of CT or MRI have not yet fully confirmed the diagnosis.

Base treatment vital organ activity is corrected. Base treatment takes into account the measures that are carried out in all forms of stroke. Their main principle is to prevent the development of complications that lead to secondary brain damage. Adequate base, which is carried out in intensive



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care or special departments, affects the course of the stroke and the state of the result of treatment [11.13.15.17].

Nondifferential (base) treatment is carried out according to the basic principles presented below:

- 1. Ensuring breathing is to prevent aspiration and restore adequate oxygenation. Respiratory assistance is aimed at measures to facilitate breathing, cleanse the respiratory tract of mucous substances, vomit residues, to which a change in posture, air from the mouth and nose is injected, intubation is carried out if necessary. For this, a breathing tube is installed, preventing the tongue from slipping back, dentures are removed from the oral cavity, the oral cavity and the upper respiratory tract are cleaned of mucus and mucus, oxygen moistened through a nasal catheter or mask is regularly supplied. According to the instructions, intubasia, the date of the Bronchotracheal folds, can be transferred to an artificial breathing apparatus.
- 2. Ensuring the stability of hemodynamics blood pressure and heart function are monitored. Blood pressure in ischemic strokes, if 200/120 mm.sim.top.from, when Thrombolytics are used 185/110 mm.sim.top.from, the estimated times of hemorrhagic stroke are 170/100 mm.sim.top.in cases that do not exceed, the blood is not offered to lower the pressure.

Indications for lowering blood pressure include not only its absolute level, but also a tendency to an increase in blood pressure, signs of an increase in brain edema, pulmonary edema, infarction myocardial, nephropathy, poor-quality arterial hypertension (retinopathy), disorders of the integrity of the walls of the vascular aneurysm.

It should always be borne in mind that myocardial infarction or other manifestations of Cardiological pathology are possible, since they are the main causes of destruction in the acute period of stroke, often requiring special treatment. When blood pressure drops (below 80/60), one should always assume the possibility of myocardial infarction. Early elimination of Cardiological pathology is achieved by the use of cardiac glycosides, antiarrhythmic drug priparates, sometimes by installing a cardiostimulator (heart failure, heart rhythm disturbances), which reduces blood circulation to tserebrovaskulya, increasing the state of ischemia.

- 3. Brain tumors and intraocular pressure increase brain damage in the event of a stroke.
- 4. One of the important components in the quality treatment of stroke is thecidin, which is to mend the water-electrolyte balance. One of the main laws of infusion treatment in stroke is the provision of normovolemia, due to which the control of the exact account of the amount of poured and separated fluids, the moisture and turgor of the skin, the moisture content of the tongue, the indicator of hematocrit is required.
- 5. Hypoglycemia and hyperglycemia are frustrating for the brain in both cases, so normoglycemia should be ensured. If the blood sugar level is more than 200 mg% for 6 hours, it is advisable to temporarily use a small amount of insulin (4-8 ED subcutaneously, 2-3 Mahal per day under the control of blood sugar levels, for 2-4 days).
- 6. An increase in body temperature of more than 38 c0 increases brain injury, therefore, in such cases, it is necessary to wipe the body with an alcohol-aqueous solution through the external cooling pathways (alcohol-water solution), put an ice bag on the trunk vessels (axillary and chov sac)and apply analgesics or YAGDV(diclofenac, aspizol), in combination with antihistamine drugs, sometimes vasodilators or droperidol can be used.
- 7. In psychomotor agitation, relanium is used 10-20 mg, oxybutyrate sodium, 30-50 mg/kg into a venous vessel, magnesium sulfate 2-4 mg / h into a venous vessel, galoperidol, 5-10 mg intravenously or intramuscularly.
- 8. In the paralyzed legs of patients with ischemic stroke, in order to prevent deep vein thrombosis, a small dose of nephractional heparin (2.5-5 thousand ED subcutaneously, 2 times a day), small molecular heparin (fracsiparin, 0.3 ml subcutaneously, 2 times a day) is used.
- 9. Metoclopromide (tserukal), domperidone (motilium), torekan, etaperazine, vitamin V6 are made when the nausea is overwhelming and vomiting occurs.



Differential treatment will depend on the form of acute circulatory disorders in the head brain. According to the recommendation of the WHO organization, it should not be carried out if the diagnosis is not confirmed by CT and MRI data.

The result of the treatment and the goals set forward depend on the period of remission of the disease. Neurons that cause ischemia and functional impairment in the first 3-6 hours, but retain their survival, have the opportunity to save their lives if they appear ischemic "pnembra" around the foci of necrosis (therapeutic "window").

The basic principles of theoretical groundbreaking treatment will be based on the following goals:

- 1) ensuring sufficient blood circulation as quickly as possible in the ischemic stroke (recirculation and reperfusion);
- 2) to ensure adequate metabolism of brain tissue observed for ischemia and to take neuroprotective measures

Ensuring as much blood circulation as possible in the ischemic area makes it possible to stabilize all hemodynamics and apply Thrombolytics to improve the permeability of occlusive blood vessels.

In patients who have been observed for strokes in special centers, Thrombolytics are administered in the first hours, as soon as the first symptoms of the disease occur, if they occur as a result of thrombosis or embolism of large cerebral blood vessels. The most effective and safe method is tissue plasminogen recombinant activator – alteplazani (0.9 MK/kg intravenously, Mac. Up to 90 mg; 10% of the amount is administered in the BOL'yus method, and the rest of the dose - for 1 hour). According to the results of new data, alteplase, as a drug that improves the final course of a stroke, is the only drug approved in evidence-based medical examinations.

The alteplase medication can be used in the following basic guidelines:

if the first symptoms of a stroke have appeared not earlier than -3 hours or more, then the risk of hemorrhagic complications increases( if the time interval in which the first signs appear is non-normal the drug does not apply), when a hemorrhagic stroke is tesno through CT, arterial blood pressure is 185/100 mm.sim.top. when not higher than, when there are no contraindications: coagulopathy, newly occurring stomach and 12-finger intestinal ulcers, conducted around jarrochlik practice, in severe somatic diseases.

The importance of using anticoagulants in the treatment of strokes has not been resolved until now. Medical examinations did not directly prove the effectiveness of anticoagulants (heparin) for 12 hours after the occurrence of the first signs and the use of kechrok. However, in practice, the heparin remedy has been used in the following cases: in TIA and developing strokes (especially in occlusive or stenotic narrowing of the large internal or external cranial arteries).

Antiagregants in particular aspirin, 100-325 mg/milk are used when anticoagulants and Thrombolytics are prescribed. At the same time with aspirin, blockers of the N2-receptor, omeprazole, sucralfate and other gastroprotectors are given.

Sa + channel antagonists, in particular nimodipine, have the effect of neuroprotective effect when 30-60 mg is administered 3-4 times a day or 10 mg intravenously by drip at a rate of 2 mg/Hour 2 times a day or nicardipine, 20 mg 2 times a day in the first 6-12 hours of ischemia in the early periods.

To improve the hemorreological condition of the blood: reopoliglyukin, reomacrodex 400.0 ml drip into a vein 1-2 times a day for 5 days), hemodilyussia using solutions of albumin, freshly cooled plasma or crystalloid.

In order to protect the nutrition of the brain, drugs with a selective laxative effect are given to the metabolism of the brain.

Hypoxic protectors (antigypoxants) are agents that reduce the side effects of hypoxia on the brain structure. It is advisable to use aktovegin as an antigypoxant. This tool increases the demand of



living cells for oxygen and glucose in conditions of hypoxia and ischemia, thereby increasing microcirculation and metabolism in nerve tissues.

L-carnitine drugs, mexidol, 200-400 mg №10 2 times a day in drops in a vein.

Glycine amino acid-2 tablets are given 3 times a day under the tongue in the acute course of a stroke, glycine greatly reduces the general cerebral and focal signs, accelerates the regression of consciousness disorders.

The use of cortexin gives an effective result due to the endothelial effect of the vascular wall and the reduction of the autoimmune process on neurons, which allows them to be stored in areas of the penumbra that have suffered ischemia. For this reason, the antiapoptosis of the cortex is assessed as an effect.

Instenon is a highly combinable activator of blood realology and brain trophism. It is given to the vein in a 5% solution of glucose in drops in the acute period of ischemic stroke between the muscles 2.0 times a day for 5-7 days until clinical improvement.

The reflex effect is carried out in the presence of many parts of the brain, in the presence of nervous and humoral mechanisms based on an integrative analysis of the information received. Currently, there is information that the action in response to acupuncture and acupuncture points is carried out through the nervous system, including neurogumoral mechanisms. Stimulation of acupuncture points causes the most pronounced reflex effect in the segment of the metamer or spinal cord in the internal organs, which is closely related to the stimulated point. This principle has a well-defined neuroanatomic basis, since the individual spine segments include not only the corresponding areas of the skin (dermatomes), but also muscles (myotomas), bones and ligaments (sclerotomes), vessels and internal organs (enterotomes) [66;75-80, 7;375 b]. They are based on the mechanism of convergence of different modal afferent impulses to the same nerve elements. This is understood to mean the viscerosomatic and somatovisceral effects of acupuncture. The peripheral and Central level of response to acupuncture can be conditionally distinguished. At the origin of the central reaction, the spinal cord, brainstem, hypothalamic and cortical levels are also distinguished. At the peripheral level, the excitation property of dermal points and the corresponding receptor are formed. It turns out that reflexology changes the excitability of brain neurons, stimulates the synthesis of various biologically active compounds, due to which not only pain sensations are blocked, but also reduces long-term States of tension or excitation, which control blood pressure, muscle tone, hormonal secretion, etc.in different centers of the brain. Histological research of acupuncture points makes it possible to combine reflex and neurogumoral theories. From Vaidan Ya.A. and Zalsman V.K. (2007) they focus on the accumulation of mast cells in the area of acupuncture points. Kudryavtsev V.A. (2008) showed that heparin and histamine are bound in mast cells, and when they are eliminated, the amount of histamine in cells decreases. At biologically active points, an increase in fibroblasts, histiocytes, leukocytes, fat cells and, most importantly, mast cells was detected. They also contain histaminergic nerve bundles. The change in the content of biologically active substances is based on the excitation of acupuncture points and the response of higher vegetative centers [2.4.6.8.10.12.14.16].

As a result of the reaction of the hypothalamic - pituitary gland - adrenal cortex, the production of ACTG and endorphins increases. AKTG, in turn, activates the release of steroids, which have a desensitizing and anti-inflammatory effect. Thus, by affecting the hypothalamic - pituitary - adrenal system, the protective and adaptive capabilities of the body in reflexology increase. Vasilenko A.M. and others have proven the role of bone marrow peptides in regulating pain sensitivity, developed the neuro-endocrine-immune theory of reflexology (2018). The convergence of the point of view of classical acupuncture and European Medicine is facilitated by the study of the mechanism of action of craniopuncture, where the dependence of the impact on the affected area is determined. Craniopuncture (brain acupuncture, scalpotherapy) is a microacupuncture system based on its action on specific areas in the scalp area. The effect does not affect one point, but the zone, the localization of which to some extent corresponds to the anatomical projection of brain structures (mainly shells). Currently, about 20 linearly located craniopuncture zones are known: motor, sensory, optical,

auditory, speech, vasomotor, etc. It is believed that zone stimulation leads to functional changes in the corresponding area of the cerebral cortex, i.e. the" sleeping brain " wakes up in such pathologies of the nervous system: cerebral blood vessels and injuries, cerebral palsy, Parkinsonism, epilepsy, speech and visual impairment, Meniere's disease, chorea, hearing loss, the appearance of noise in the ear, enuresis, etc. The effect of craniopuncture is theoretically confirmed by modern neuroanatomic and 27 neurophysiological data on the total innervation of certain areas of the brain and scalp (for example, the participation of pair V cranial nerves in the innervation of the scalp; vegetative vascular plexuses of the head and brain, having a common "mother" source, etc.) Naturally, in such cases, stimulation of a certain area of the head leads to functional changes in the corresponding area of the cerebral cortex, and this process will be associated with various functions of the body. In the cerebral cortex, the receptor fields of internal organs are also expressed: in particular, the internal organs that send information to the brain along the abdominal nerves have their place in the postcentral part of the Cerebral Hemispheres[1.3.5.7.9.11.13.15.17].

Together with interoreceptors, visceral afferentation penetrates into the corresponding parts of the Shell and interacts with somatic sensory systems, which leads to the formation of stagnant somatovisceral compounds. Thus, the use of scalpotherapy determines the systemic nature of the reflex response, affecting not only the central nervous system, but also the work of internal organs. This approach serves as the basis not only for the treatment and Prevention of neurological diseases, but also for influencing the cerebral circulatory system by stimulating the corresponding projection areas of the brain.

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