

(basic, 30 people), regular treatment was optimized by including reflexotherapy. At the same time, in order to correct the immunological disorders, acupuncture points with immunoregulatory effects were punctured daily (in addition to the standard acupuncture regimen, which was developed depending on the existing neurological deficit). Reflexotherapy procedures were prescribed from 2-3 days of the patient's stay in the hospital (in the absence of contraindications), with 20-30 minutes duration of the exposure by a harmonizing method, 10-12 procedures per course.

The immunological study was conducted on the 2nd day of patients' stay in the hospital and 15 days after the beginning of the course of early rehabilitation. Phenotyping of peripheral blood lymphocytes was carried out by indirect immunofluorescence using monoclonal antibodies to clusters of differentiation of CD3 +, CD4 +, CD8 +, CD20 +, CD16 +, CD25 +. The smears were counted using a luminescent microscope "Lumam-R8" and a combination of light filters. The concentration of serum immunoglobulins was determined by the Mancini method of radial immunodiffusion using monospecific antisera. As normative values, we applied indicators of 20 healthy individuals, represented by sex and age.

Results and discussion A comparative analysis of the immunological examination in the control group showed that significant changes in the immune status against the background of the generally accepted standard treatment of ischemic stroke did not occur, except for a significant decrease of increased B-lymphocyte counts (CD20+) to the norm (from 17.3% to 10.8%, $p < 0.05$).

In the main group of patients in whom the basic complex of rehabilitation measures was optimized by the including reflexotherapy, there was a significant decrease in leukocytes in peripheral blood (from $7.6 \times 10^9 / l$ to $6.0 \times 10^9 / l$, $p < 0.05$) and a significant increase in the lymphocyte count (from 28.6% to 34.33%, $p < 0.05$). There was also a significant increase in the relative and absolute indices of the T-lymphocyte (CD3 +) content (from 47.4% to 52.9%, $p < 0.01$, $0.82 \times 10^9 / l$ to $1.1 \times 10^9 / l$, $p < 0.05$) and immunoregulatory cells of T-helpers (CD4 +) (from 32.7% to 38.7%, $p < 0.05$). The tendency to increase the cytotoxic T-lymphocytes (CD 8+), natural killers (NK cells, CD16 +), IRI and the tendency to decrease CD25 + cells expressing the IL-2 receptors ($p > 0.05$) was registered. On the part of the humoral immunity, there was a significant decrease in the number of B-lymphocytes to normal values (from 17.17% to 10.2%, $p < 0.01$) with an increase in IgA production ($p > 0.05$) and a reliable increase in the level Ig G (from 12.8 g / l to 13.9 g / l, $p < 0.05$). Thus, practically all the indicators of the immune status under the influence of acupuncture treatment reached normal values. While in the control group, where standard treatment was conducted, there was no significant change in the indices, and such important immune status indicators as T-lymphocytes (CD3 +), T-helpers (CD4 +), NK cells (CD16 +), remained below normal.

Against the background of a significant immune status improvement in the main group, there was a more significant regression of the neurologic deficit according to the NIHSS scale on average by 4.6 points (to 1.43 ± 0.14 points, $p < 0.001$), whereas in the control group less pronounced positive dynamics - by 2.6 points (to 3.5 ± 0.54 , $p < 0.05$) was registered.

Thus, a comprehensive clinical and immunological study of the effectiveness of non-drug correction of immunological disorders in the acute period of ischemic stroke showed high effectiveness of acupuncture, with relative simplicity and safety of its application. Correction of immunological disorders is the prevention of the development of infectious complications in the acute period of ischemic stroke, and, consequently, accelerates the process of early rehabilitation.

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THE USE OF COMBINED METHODS OF REFLEXOTHERAPY IN THE EARLY REHABILITATION OF STROKE

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Abstracts: In order to study the effectiveness of combined reflexotherapy methods, the early rehabilitation course for 70 patients with acute ischemic stroke, divided by random sampling into 3 groups, were held. In the main group (30 people), the basic treatment complex was optimized by the combined use of dynamic electroneurostimulation (DENS) and acupuncture. Monitoring of the status of two comparison groups (20 people each), cor-

responding to the main group by sex, age and severity of neurologic symptoms was conducted simultaneously. In the first comparison group, basic therapy was supplemented with DENS, in the second - with acupuncture. Monitoring was carried out in the 1st and 15th day from the beginning of treatment. In the main group at the end of the course of treatment, significantly higher scores ($p < 0.001$) on all scales were obtained, compared with the comparison groups ($p < 0.01$). On the 15th day from the beginning of treatment a decrease of neurological deficit on the NIHSS scale was 5,2 points, Barthel Index increased for 30 points. Thus, the combination of two highly effective techniques (DENS and acupuncture) in one procedure causes a more pronounced recovery of lost functions among patients who had cerebral ischemic stroke and, therefore, more rapid adaptation to everyday life.

Key words: acute period of ischemic stroke, early rehabilitation, non-drug treatments, dynamic electroneurostimulation (DENS), acupuncture, reflexotherapy.

In regards to the increased frequency of strokes and high level of disability, which violate social adaptation, it turned out to be very important to optimize the rehabilitation in acute cerebral stroke, especially over the last decades. Worldwide statistics is disappointing: among all the reasons of primary disability, post-stroke disability is in the lead. Every year brain stroke affects up to 500 thousand people in Russia [5]; among those who survive, only 18-20% go back to work.

Acute and early restoration periods are the most promising for patients' recovery, as they are determinant for the formation of residual neurological deficit. In regards to the above mentioned facts, the matter of finding new and more effective ways of treatment for this disease becomes more and more important.

Recently, combined methods of reflexology were implemented into the treatment of cerebral disorders. One of the most effective methods of non-invasive treatments that combines advantages of physio- and reflexotherapy is dynamic electroneurostimulation (DENS).

Earlier, we conducted a study of the effectiveness of the inclusion of DENS therapy in the scheme of early rehabilitation of individuals in the acute period of ischemic stroke [3]. However, the use of DENS in a hospital is difficult because the procedure requires quite a lot of time. We tried to solve the problem by combining DENS and acupuncture [4].

The purpose of this study was an investigation of the effectiveness of combined use of acupuncture and DENS therapy in acute period of ischemic stroke, the effects on motor, sensory, coordinative neurological disorders and the activity level in everyday life.

Materials and methods. The study and the course of early rehabilitation of 70 patients in the acute period of ischemic stroke were held in primary vascular center of Blagoveshchensk. The group under examination consisted of approximately equal amount of man and women at the age of 37 to 77 years old. 63.4% of patients suffered from ischemic stroke in the basin of the left or right middle cerebral artery, 36,6% - in the vertebrobasilar basin. All patients had motoric disorder of varied severity. Almost half of the patients had sensory disorders, coordination disorders, damage of the cranial nerves and partial motor (or sensorimotor) aphasia. Diagnosis of stroke for all patients was confirmed by CT examination. Assessment of the severity of neurological deficit was carried out on the scale NIHSS [1]. To assess the patient's activities of daily live after a stroke Barthel ADL index [2] was used.

In the main group (30 people), the basic treatment complex was optimized by the combined use of DENS and acupuncture. Monitoring of the status of two comparison groups (20 people each), corresponding to the main group by sex, age and severity of neurologic symptoms was conducted simultaneously. In the first comparison group, basic therapy was supplemented with DENS, in the second - with acupuncture. Monitoring was carried out in the 1st and 15th day from the beginning of treatment.

DENS therapy was carried out with the apparatuses «DENAS PKM» 4th Generation" (the registration certificate № FSR2009/06316 from 27.12.2013) with the use of trailing electrodes (auricular and massage electrodes and a comb) and simultaneous acupuncture of meridian points of extremities. Universal areas (predominantly trigeminal zone, hands or feet) are stimulated by DENS method. Selecting other areas depended on in what basin had a stroke. Stimulation of auricular points (55, 51, 25, 29, 95, 100) is done by remote "point" therapeutic electrode for 1-2 minutes each, 2-3 points on the procedure. Also, impact area of the scalp was stimulated by the remote "comb" electrode, depending on available focal neurologic deficit. The level of power of the energy impact momentum is selected individually at comfort sensations. 2-3 above mentioned impact zones are chosen for one procedure (scalp area - every day). Acupuncture meridian points of diseased extremities were carried out simultaneously, using harmonizing or mild stimulating method. Symmetrical points of healthy side can also be used. If there was paresis of facial muscles, acupuncture points of the face on the channels of the stomach and large intestine has been stimulated. Procedures were held once a day, 10-15 procedures per course.

Results and discussions. In the group of patients who received DENS therapy in combination with acupuncture, on the 15th day from the beginning of treatment there was a significant decrease in the severity of the neurological deficit according to the NIHSS scale (on average, by 5.2 points). The Barthel Index increased by 30 points in comparison with the initial level of patient activity. In the comparison groups, similar indicators were 3.6 (on the NIHSS scale) and 24.5 points (Barthel's index) in the 1st comparison group and 3.5 points and 22.7 points respectively in the 2nd comparison group. Thus, the positive dynamics was observed in all groups, but the investigated group after treatment obtained significantly ($p < 0,001$) higher scores on all scales compared to comparison groups ($p < 0,01$). The findings suggest that a more rapid and pronounced regression of neurological deficit in the group of patients receiving combined use DENS and acupuncture. All patients in this group showed improve-

ment (in the form of a significant regression of neurological deficit until the full restoration of impaired functions).

The novelty of the method is optimization of the therapeutic effects as a result of a combination of two high-performance techniques (DENS and acupuncture) in one procedure. The positive aspect of this method of treatment is a significant reduction in the time spent on the procedure due to the impact on the paretic extremities with acupuncture needles simultaneously at several points. Thus there is no need for long and sequential treatment of limbs with DENS is used without acupuncture. Stimulation of the scalp area using DENS allows to handle it absolutely without any pain. Impact on cervical-collar zone and lumbosacral zone using external electrodes (applicators) devices DENS can be used to treat patients with severe motor disabilities and limited mobility in bed. Additionally, we have experience of application of acupuncture and DENS as independent procedures (for example, classic acupuncture in the morning, and DENS in the afternoon.) The efficiency of this combination is very high, but time-consuming due to the DENS therapy.

Described method of treatment can be implemented in any specialized medical facility.

Conclusions.

Thus, application of this method has several advantages:

1. Possibility of using DENS-therapy and acupuncture at any stage of rehabilitation, including the acute phase.
2. Optimization of therapeutic effects as a result of a combination of two high-performance techniques: DENS and acupuncture in one procedure.
3. Faster recovery of lost functions after cerebral ischemic stroke, the growth rate of regression of neurological deficit, and thus improved the quality of patients' life.
4. Significant decrease in the severity of pain during the procedure.
5. Reduction of the time required for conduction of procedure and simplification the procedure itself.

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TWO-STAGE TREATMENT OF COMPRESSION-RADICULAR SYNDROMES CAUSED BY HERNIATED INTERVERTEBRAL DISCS

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Abstracts: 80 patients with herniation of intervertebral discs in the lumbosacral region of the vertebral column were examined. 40 patients received a course of traditional medical treatment, while 40 patients underwent a two-stage treatment of compression-radicular syndromes. The first stage included the use of acupuncture and pharmacopuncture by the homeopathic preparation of Zeel T. The second stage is the long-term use of electrophoresis with karipazim against the background of complete clinical recovery of patients. The complex usage of acupuncture and pharmacopuncture by the preparation of Zeel T in the first stage of treatment of intervertebral hernias makes it possible to significantly reduce the intensity of the pain syndrome, the violation of the statics of the spine, and the loss of functions of the damaged spinal nerve. The usage of electrophoresis with karipazim allows conservatively to reduce the volume of the herniated intervertebral disc, which in turn increases the duration of remission, reduces relapses in the future and can be used as an effective supplement to traditional treatment.

Key words: pharmacopuncture, electrophoresis of karipazim, compression-radicular syndromes.

Herniation of intervertebral discs is a widespread occurrence of osteochondrosis of the vertebral column and it often determines the quality of life and the level of social adaptation of patients.

The present research is aimed at evaluation the effectiveness of two-stage treatment of compression-radicular syndromes caused by herniated intervertebral discs.