



Hirudotherapy in the Rehabilitation of Patients with Acute Cerebrovascular Accident

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ABSTRACT

Acute disorders of cerebral circulation (ONMC) due to the high prevalence, disability and mortality are one of the most pressing problems of modern medicine. In order to identify the most optimal conservative methods of rehabilitation treatment of small-volume stroke-hematomas, we examined 30 patients with ONMC who received additional treatment with medical leeches during the rehabilitation period. As a comparison group, 32 patients with stroke-hematomas of small volume were taken, whose treatment was carried out in accordance with the algorithms of evidence-based medicine. During the study, in which the general condition and neurological status of the patient were assessed, as well as constant monitoring of blood pressure was carried out, we revealed a noticeable stabilization of vital signs, improvement of the neurological and general condition of patients on the 3rd day of hirudotherapy.

Keywords:

Arterial Hypertension, Stroke-Hematoma, Hirudotherapy

Introduction.

Intracerebral hemorrhages (IUD) are one of the most common pathologies. Mortality in stroke-hematomas remains high and reaches 40% [1]. According to the conducted studies, it is associated with the degree of depression of consciousness on the Glasgow coma scale, the volume of hematoma, the breakthrough of blood into the ventricles of the brain and the age of patients [2].

Early diagnosis and treatment of acute cerebral circulatory disorders due to the high prevalence, disability and mortality of the population from stroke is one of the most important medical and social problems of modern society. Although hemorrhagic stroke (GI) accounts for only 15% in the structure of ONMC, it is the most dramatic of all cerebrovascular processes in terms of the severity of development, course and outcome of the disease. The most common form of this group (in 80.8% of cases) is non-traumatic intracerebral hemorrhage (NVMC), characterized by sudden extravasation of blood

into the parenchyma of the brain. NVMC is characterized by a high level of mortality and disability, occurring at a younger age than with ischemic stroke [3].

Pathologies of cerebral vessels, in particular cerebral stroke, put forward urgent socio-economic tasks that need to be solved, and the provision of neurological care to the contingent with this pathology needs further modernization. Cerebral strokes are the main cause of persistent disability and occupy the first places in the causes of death worldwide [1]. In terms of the socio-economic damage caused, non-traumatic hemorrhages occupy one of the first places among all costs caused by the morbidity of the population.

Small supratentorial IUDs can clinically occur as a cerebral hypertensive crisis, ischemic stroke or transient ischemic attack, and also have an asymptomatic course [4].

The purpose of the study. Evaluation of the effectiveness of hirudotherapy in the prevention and long-term rehabilitation treatment of hemorrhagic stroke.

Material and methods of research. From 2014 to 2016, 30 patients with small-volume stroke hematomas (control group) aged 44 to 65 years were examined, including 17 men and 13 women who were admitted to the Andijan branch of the Republican Scientific Center for Emergency Medical Care in the first 48 hours from the onset of the disease.

The comparison group consisted of 32 patients aged 43 to 61 years, including 18 men and 14 women, who were also admitted to the Andijan branch of the Republican Scientific Center for Emergency Medical Care on the first day after the onset of the disease.

The average score on the Glasgow coma scale left 13 -15 points.

The severity of neurological deficit in patients with small hematomas at admission averaged 6 points on the NIH stroke scale, the daily life activity index on the Bartel scale was 48 points. To objectify the severity of the existing clinical symptoms and assess the severity of the patient's condition at admission and in dynamics, the following scales were used:

1. NIH stroke scale
2. Modified Rankin scale.
3. Frankel conduction disturbance assessment scale.

In addition to the standard clinical examination, each patient was constantly monitored for blood pressure + ECG.

The localization and nature of brain changes diagnosed clinically were clarified by M-ECHO and CT brain data.

CT and M-ECHO analysis determined localization, hematoma volume, degree of displacement of brain structures and other concomitant changes.

When examining 30 patients with small hypertensive intracerebral stroke hematomas of hemispheric localization, half of the patients (50%) had them located in the left hemisphere of the brain, and the rest - in the right (50%). According to the level of impaired consciousness during post-stupor, patients were distributed as follows: clear consciousness — 1 (8.3%) patient, moderate stun — 3 (25.0%), deep stun — 5 (41.6%), sopor — 2 (16.6%), moderate coma - 1 (8.3%). Apoplectic variant of the course was observed in 7 (58.3%)

patients. A progressive course with gradual depression of consciousness and an increase in neurological deficit was observed in 3 (25.0%) patients, in 2 (16.6%) the disease proceeded with the progression of neurological deficit without depression of consciousness. In relation to the internal capsule, intracerebral hemorrhages in patients were distributed as follows:

Table 1. Distribution of stroke-hematomas by localization

IUD localization	Number of patients
lateral	10 patients (36.7%)
medial	8 patients (23.3%)
mixed	8 patients (30%)
lobar	4 patients

All the patients included in the study suffered from arterial hypertension (AH). The duration of AH varied from 2 to 30 years.

Table 2. Distribution of patients with ONMC by degree of AH

Degree of hypertension	Number of patients, % (n=30)
1 degree (140-159/90-99 mmHg)	3 (10%)
2 degree (160-179/100-109 mm Hg)	12 (40%)
Grade 3 ($\geq 180/\geq 110$ mmHg)	15 (50%)

In the majority of patients (60%), this violation of cerebral circulation was the first. In the remaining patients (40%), information was obtained about the recurrence of cerebral circulation disorders. This group included 7 patients with cerebral hypertensive crises accompanied by blood pressure rises, headache, dizziness, vomiting, poor general well-being and 4 patients with a history of cerebral circulatory disorders accompanied by focal neurological symptoms of various nature.

The scale of the National Institute of Health Stroke Scale [NIHSS] was used to objectify the severity of existing clinical symptoms and assess the severity of hemorrhagic stroke.

The NIHSS scale with a range of values from 0 to 36 points (norm - 0 points) evaluates the severity of disorders of consciousness, higher

cortical functions, cranial innervation (dysarthria, paresis of facial muscles), motor, coordination and sensory functions.

In the neurological status of patients with small IUD, the following were noted: motor disorders – in 29 patients, speech disorders – in 18 patients (60%), dysarthria in 12 (66.7%), sensitivity disorders – in 24 patients (80%), disorders of cranial nerve innervation – in 27 patients (90%).

Results and their discussion.

In the control group, along with the traditional therapeutic approach (dehydration, resorption therapy), hirudotherapy was carried out comprehensively. Treatment with medical leeches was started on the 10th–14th day of therapy for cerebral circulation disorders (in 78% of cases - after discharge from the hospital). A standard course of hirudotherapy (5-7 days) was carried out. Leeches were superimposed in the projection of the vertebral and temporal arteries 1-2 times a day. Relative to the comparison group, stabilization of blood pressure and the general condition of the patient, as well as a noticeable improvement in the neurological status of the patient, was noted already on 3-4 days.

Table 3. Assessment of the condition of patients on the Frankel scale on the 3rd day of hirudotherapy.

	Control group (3 days of hirudotherapy)	Comparison group (hirudotherapy was not performed)
A	-	3
B	3	6
C	8	12
D	17	9
E	7	2

Conclusions.

1. Small hypertensive supratentorial intracerebral hemorrhages are a special form of cerebral circulatory disorders. Small stroke-hematomas most often develop with arterial hypertension with a prolonged crisis course and are accompanied by a clinical picture of acute stroke with reversible or persistent neurological disorders.

2. For the speedy rehabilitation and early activation of patients with intracerebral hemorrhages of small volume at the post-hospital stage, it is advisable to treat with medical leeches.

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