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Optimization of Conservative Treatment of Hemorrhagic Stroke in the Acute Period

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Abstract: The study analyzes the modern possibilities of complex conservative therapy of hemorrhagic stroke, develops the main therapeutic targets, taking into account the pathophysiological reactions that occur in violation of cerebral circulation. 513 cases of hospitalization of patients diagnosed with hemorrhagic stroke, including intracerebral hemorrhage complicated by blood breakthrough into the ventricular system of the brain, were analyzed in the period from 2022 to 2023. on the basis of the Samarkand branch of the Republican scientific and practical center for emergency medical care in the department of neuro-intensive care. The age of the patients is from 44 to 80 years old. All patients underwent a general clinical examination (anamnesis collection, anthropometric and physical examination of the patient, measurement of blood pressure, heart rate). Laboratory and instrumental examination included clinical blood tests, biochemical blood analysis, examination of hemostasis parameters, lumbar puncture with examination of cerebrospinal fluid, upon admission and in dynamics on the 2nd and 7th day of admission, ECG, echocardiography, X-ray of the skull, lungs, ultrasound according to indications. The assessment of clinical symptoms and their severity before and after treatment was performed on the Glasgow Coma Scale (SCG). The analysis of the outcomes of hemorrhagic stroke, including with a breakthrough of blood into the ventricular system of the brain, showed the expediency of early hospitalization in a specialized hospital, and the effectiveness of the developed combined scheme of conservative treatment, the main directions of which are prolonged anesthesia, relief of vasoconstrictor cerebral reaction, neuroprotective therapy.

Key words: hemorrhagic stroke, conservative treatment, acute cerebrovascular accident, etc.

Relevance. Acute cerebrovascular accident is the most important problem of modern medicine. Hemorrhagic stroke is an acute violation of cerebral circulation, in which cerebral vessels rupture due to a sharp increase in blood pressure, head injury, changes in the vessels themselves (atherosclerosis, aneurysms, collagenoses), accompanied by hemorrhage into the brain or its membranes [2, 6]. Cerebrovascular pathology continues to occupy leading positions in the structure of general morbidity and mortality [3, 7]. At the same time, cerebral hemorrhage occupies a special place among the various types of cerebral circulatory disorders. In recent years, there has been a tendency to increase the number of hemorrhages (intracerebral, subarachnoid). The ratio of ischemic and hemorrhagic stroke is gradually approaching [4, 8].

Hemorrhagic stroke is a life—threatening condition that ranks second among the causes of sudden death after heart disease and belongs to one of the most severe forms of acute vascular pathology of the brain. In the structure of cerebral strokes, hemorrhagic stroke accounts for 10-15%, while parenchymal hemorrhages dominate, subarachnoid hemorrhage is less common (5%) [6, 10]. There are two mechanisms of hemorrhagic stroke development: by the type of rupture of a pathologically altered vessel (85% of cases) with the formation of an intracerebral hematoma and by the type of diapedesis (15%). When blood breaks into the subarachnoid space, parenchymal-subarachnoid hemorrhage develops, parenchymal-ventricular hemorrhage develops into the ventricles of the brain, which in 85% of cases causes death. The mortality rate of patients from hemorrhagic stroke is 40-50% in the acute period of the

disease [5, 9].

The clinical picture of hemorrhagic stroke, as a rule, does not cause difficulties for clinicians: acute onset, pronounced cerebral syndrome, depression of consciousness, focal symptoms, the nature of which depends on the localization of the vascular basin [1, 5]. Most often, GI develops against the background of a hypertensive crisis with pronounced cerebral symptoms [7, 9]. Upon examination of the patient, there is facial hyperemia, sclera, hoarse breathing, bubbling, tense pulse, high blood pressure, in severe cases, the onset of the disease may be accompanied by the development of an epileptic attack, meningeal symptoms may be detected. The rapid development of depression of consciousness from stupefaction to coma is characteristic. The degree of depression of consciousness depends on the vastness and localization of the hemorrhagic focus. Focal symptoms are detected from the very beginning of the disease and, as noted above, depend on the topical localization of the lesion [2, 8].

This forces us to analyze the modern possibilities of conservative treatment of this type of pathology, the effectiveness of which is traditionally evaluated with caution, often pessimistically. The issues of surgical treatment of intracerebral hemorrhages are discussed more often than conservative ones [10].

Objective: To analyze the modern possibilities of complex conservative therapy of hemorrhagic stroke, to develop the main therapeutic targets, taking into account the pathophysiological reactions that occur in violation of cerebral circulation.

Materials and methods of the study: 513 cases of hospitalization of patients diagnosed with hemorrhagic stroke, including intracerebral hemorrhage complicated by blood breakthrough into the ventricular system of the brain, were analyzed in the period from 2022 to 2023 in the Samarkand branch of the RNCEMP in the department of neuro-intensive care. The age of the patients is from 44 to 80 years old. All patients underwent a general clinical examination (anamnesis collection, anthropometric and physical examination of the patient, measurement of blood pressure, heart rate). Laboratory and instrumental examination included clinical blood tests, biochemical blood analysis, examination of hemostasis parameters, lumbar puncture with examination of cerebrospinal fluid, upon admission and in dynamics on the 2nd and 7th day of admission, ECG, echocardiography, X-ray of the skull, lungs, ultrasound according to indications. Clinical symptoms and their severity before and after treatment were assessed using the Glasgow Coma Scale. In all cases, patients are examined by a neurosurgeon. Cases of surgical treatment were not included in this study.

The results of the study and their discussion: The time of admission to the hospital, from the moment of the disease, was up to 6 hours in 68% of patients, more than 6 hours in 12%, 20% of patients were admitted on 2-3 days of the disease. The screening method for verifying the diagnosis was computed tomography of the brain (MSCT). In 304 cases (59.26%), the study was conducted within 40 minutes of admission, in the rest — within 8-12 hours.

The analysis of background diseases revealed hypertension in 462 (90.05%) patients, diabetes mellitus in 26 (5.6%) patients, 8 (1.5%) patients had previously undergone surgical interventions for oncological pathology followed by chemotherapy and radiation therapy, 16(3.1%) patients suffered from various liver diseases, 1 (0.1%) — with a blood disease. Almost all patients had a combination of background diseases.

The presence of atherosclerotic lesions of the main and cerebral vessels was noted in 304 (59.2%) cases, without signs of stenosis. Upon subsequent MRI examination with an angiographic program, cerebral vascular aneurysm was detected in only 6 (1.16%) patients. In all patients, an increase in blood pressure to 180-240/100-120 mmHg was noted upon admission. The severity of meningeal symptoms on the first day of the disease was most often minimal, represented by an indistinct Kernig symptom. Only by 3-4 days there was a clear clinical manifestation of symptoms of irritation of the meninges.

Decrease in the level of wakefulness at admission: deafness — 42% of patients, constipation — 38%, coma 1st - 20%. Psychomotor agitation of varying degrees of severity occurred in all cases. About 60% of patients complained of intense headache upon admission. The rest began to complain of pain as their condition improved and it was possible to adequately assess it, mainly on the 2nd — 5th day of the disease. Intensive care was aimed at solving such tasks as stopping the progression of bleeding, preventing ischemic brain damage, neuronal protection, anesthesia, maintaining adequate perfusion, optimizing rheological condition, and fighting brain edema.

Conservative therapy included:

• Nimodipine — relief of reflex vasoconstriction of cerebral vessels in order to reduce and prevent the increase of ischemic damage.

• Ethamzylate is a hemostatic agent aimed at inhibiting bleeding.

• Standard infusion therapy and drugs aimed at the treatment and prevention of respiratory and cardiovascular

disorders.

Special attention was paid to analgesic therapy. Non-narcotic analgesics of peripheral and central action. Narcotic drugs were prescribed in 80% of cases. The administration of the drugs was supposed to provide constant, prolonged anesthesia during the first and subsequent 3-4 days of the disease, up to the patient's ability to stop them independently at the physiological level.

The frequency of administration and dosage of painkillers was determined by the general condition of the patient, the severity of headache, secondary autonomic reactivity, the marker of which was drug-resistant hypertension and tachycardia. Painkillers were also prescribed to patients who did not complain of headache, due to the severity and inadequacy of the condition. A sequential combination of painkillers during the day included — Metamizole sodium 50%-2.0 ml (IV) every 6 hours 3-4 times a day, Tramadol hydrochloride 2.0 i / m 2 times in the morning and evening, in some cases Omnopone 2%-1.0. This program was mandatory for 5-6 days, and in the future, the approach to the need for anesthesia was individual. An important component in assessing the need for the use of painkillers (in cases of absence of complaints) was the assessment of the severity of secondary autonomic reactions — blood pressure rises to 180 and above mmHg, psychomotor agitation, tachycardia. A fairly rapid normalization of the subjective state causes the patient to have a positive emotional dominant, creates a positive psychological attitude in the acute period of the disease not only for recovery, but also for returning to work. The rapid regression of cerebral, focal symptoms, the absence of undesirable effects of therapeutic drugs indicates the positivity of the chosen treatment regimen, confirmed empirically. Mortality in the group of patients with hemorrhagic stroke in a specialized department decreased to 18% in total.

Carrying out complex conservative therapy led to a rapid improvement in the condition of patients, rehabilitation of the cerebrospinal fluid on the 9th-10th day of the disease, as well as the early start of rehabilitation measures allowed to reduce mortality, reduce the length of stay of the patient in the hospital, on average up to 8-10 days, discharge patients with significant functional improvement. During the following year, no deaths were recorded in discharged patients. The majority of patients (30%) did not need outside care by the end of the first year after a stroke (Fig.1).

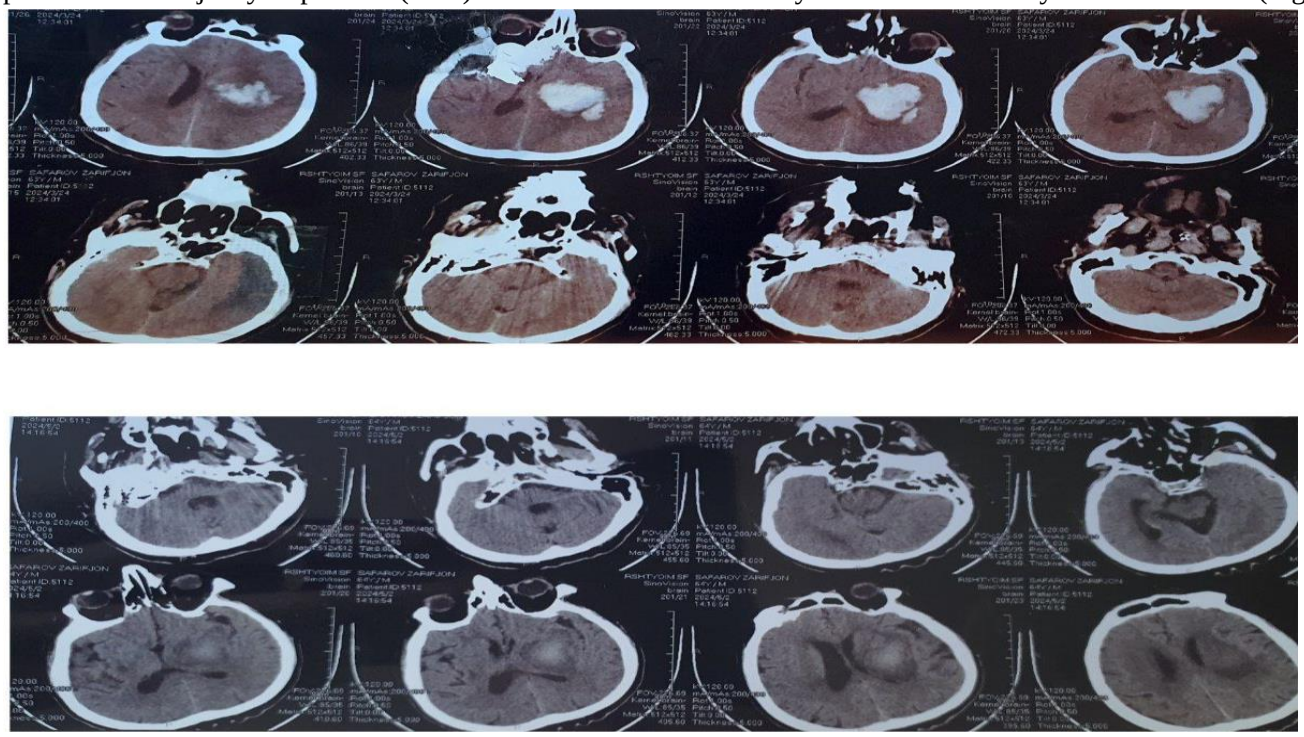

Fig. 1. MSCT picture of the patient before and after treatment in dynamics.

Conclusion: The analysis of the outcomes of hemorrhagic stroke, including with a breakthrough of blood into the ventricular system of the brain, showed the expediency of early hospitalization in a specialized hospital, and the effectiveness of the developed combined scheme of conservative treatment, the main directions of which are prolonged anesthesia, relief of vasoconstrictor cerebral reaction, neuroprotective therapy.

The results of conservative treatment of hemorrhagic stroke suggest that the possibilities of therapy for patients with this pathology have not been exhausted. They require further study. In many cases, conservative techniques can be an alternative to surgical treatment.

References:

1. Дашьян, Владимир Григорьевич. *Хирургическое лечение геморрагического инсульта*. Diss. Автореф. дис.… докт. мед. наук, 2009.
2. Крушинский, А. Л., et al. "Влияние ингибиторов нейрональной и индуцибельной NO-синтаз на развитие геморрагического инсульта в эксперименте." *Журнал неврологии и психиатрии им. СС Корсакова* 114.8-2 (2014): 21-27.
3. Матвиец, Валентина Сергеевна, and Вячеслав Анатольевич Куташов. "Современный взгляд на диагностику и дифференциальную диагностику геморрагического инсульта." *Молодой ученый* 19 (2015): 291-294.
4. Мачинский, Петр Александрович, et al. "Сравнительная характеристика показателей заболеваемости ишемическим и геморрагическим инсультом в России." *Известия высших учебных заведений. Поволжский регион. Медицинские науки* 2 (50) (2019): 112-132.
5. Мачинский, Петр Александрович, et al. "Сравнительная характеристика показателей смертности и летальности от ишемического и геморрагического инсультов в России." *Известия высших учебных заведений. Поволжский регион. Медицинские науки* 3 (51) (2019): 101-118.
6. Мустафин, Марсель Салаватович, et al. "Нейрохирургические аспекты геморрагического инсульта." *Анналы клинической и экспериментальной неврологии* 12.1 (2018): 19-23.
7. Пирадов, Михаил Александрович. "Геморрагический инсульт: новые подходы к диагностике и лечению." *Нервные болезни* 1 (2005): 17-19.
8. Силина, Екатерина Владимировна, et al. "Закономерности течения свободнорадикальных процессов и прогноз ишемического и геморрагического инсульта." *Журнал неврологии и психиатрии им. СС Корсакова* 111.12-2 (2011): 36-42.
9. Хожиева, Д. Т., С. С. Пулатов, and Д. К. Хайдарова. "Все о геморрагическом инсульте лиц пожилого и старческого возраста (собственные наблюдения)." *Наука молодых–Eruditio Juvenium* 3 (2015): 87-96.
10. Яриков, Антон Викторович, Александр Владимирович Балябин, and Антон Владимирович Морев. "Современные хирургические методы лечения геморрагического инсульта." *Журнал МедиАль* 1 (18) (2016): 91-96.