

## Prognosis of Survival in Repeated Ischemic Strokes

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### ***Abstract***

*Repeated ischemic stroke occupies one of the first places among the diseases that lead to disability of patients and death. If the life expectancy after the first stroke is on average from eight to nine years, then the second acute violation of cerebral circulation can reduce it to two to three years. Therefore, in modern neurology clinics, a large role is given to secondary prevention of stroke.*

***Keywords:*** Stroke, rehabilitation, prognosis, prevention.

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It is proper prevention and treatment that can prevent the recurrence of a vascular catastrophe, because, according to statistics, the probability of a second stroke within a year after the first one is about 15%, and a few years later – up to 30-40%. In the risk group after a primary stroke, the mechanisms that provoke the following development of events are preserved in the body: intravascular thrombosis, vascular atherosclerosis. The patient, as a rule, also has a number of concomitant diseases, often in advanced forms: hypertension, diabetes mellitus, arrhythmia, heart failure and others. Preventing a repeat ischemic stroke in such cases is quite a difficult task, but thanks to the efforts of qualified specialists, it is feasible.

Repeated ischemic stroke sometimes threatens even patients who do not suspect that they have already suffered a vascular catastrophe: patients with short-term cardiac or cerebral circulatory disorders, so-called transient ischemic attacks, manifested by the sudden onset of headache, dizziness, numbness of the arm or leg - symptoms that are often ignored, despite the fact that they are the first alarm bells preceding a stroke. The threat of vascular attack increases even more with transient loss of vision, speech, and weakness in the upper or lower extremity, sudden amnesia and other symptoms.

In this case, the patient should not delay, it is recommended to seek medical help at the neurology clinic as soon as possible to get a doctor's consultation. You will have the necessary examinations: ultrasound examination of large vessels (first of all, it is necessary to examine the carotid arteries), electrocardiogram, ECHO-KG, detailed blood tests for lipid profile and tendency to blood clots, the level of homocysteine – an amino acid that causes early atherosclerosis and thrombosis, as well as several times increasing the risk of stroke and heart attack. Conducting such an examination is also recommended for patients with a hypertensive crisis, angina attacks (pain in the heart), arrhythmia. These conditions often precede a stroke and are manifestations of transient ischemic attacks. There are several reasons for the development of a recurrent stroke, including factors independent of a person that provoke the development of a recurrent stroke:

Patient's age, hypertension, alcohol, drug addiction, tobacco smoking, irrational nutrition, non-compliance with doctor's recommendations, stress, obesity, sedentary lifestyle, high cholesterol, increased irritability,

Diseases of the cardiovascular system, improper work and rest, night shifts, disturbed sleep, diabetes mellitus.

The most common variant of vascular disorders is ischemic stroke, which accounts for up to 85% of cases. This type of stroke is caused by blockage of the vessels feeding the brain or their critical narrowing. The development of ischemic stroke is primarily due to the destructive lifestyle of a person, which implies: alcohol abuse, heavy smoking, improper diet, physical inactivity (lack of motor activity). Such habits lead to a shortage of oxygen in the brain, associated with the defective work of the heart, the loss of the vessels of their elasticity and ability to expand, due to which the blood flow increases, which is necessary for the normal functioning of the central nervous system. Repeated ischemic stroke occurs due to a number of main reasons: psychological and emotional stress; excessive loads, heavy physical labor (most often relapses occur during the summer period, if the patient stays in an uncomfortable position for a long time, upside down, moreover, under the scorching sun, resulting in dehydration of the body, increasing the risk of vascular catastrophe); deterioration of the quality of life; deterioration of the environmental situation; indifference to their own health (neglect of

prevention, improper lifestyle).

The symptoms and consequences of a repeated stroke are not always the same as with the first stroke, it is sometimes quite difficult to determine them. Therefore, at the first manifestations of discomfort, it is advisable to turn to professionals, where the patient will undergo a comprehensive examination in a short time and prescribe immediate treatment, thereby minimizing the risk of severe complications. Specialists will arrange transportation of the patient to the hospital.

The main symptoms that should cause alarm in a patient who has previously suffered a first stroke: the muscles of the face, body or limbs become paralyzed or numb; vision deteriorates sharply, vision decreases, blindness occurs; speech abilities are impaired; consciousness is disturbed: slight drowsiness is felt, fainting occurs, coordination of movements is disrupted; nausea, vomiting occurs. The severity of the attack depends on the volume of the affected part of the brain and the localization of the affected area. Among the likely consequences of recurrent ischemic stroke in the absence of adequate medical care, the following can be distinguished:

- loss of control over the senses;
- loss of the ability to think;
- violation or loss of motor function;
- Fatal outcome (in patients who have suffered a repeated ischemic stroke, survival is significantly reduced).

Repeated ischemic stroke patients suffer much harder than the first, what consequences it will be accompanied by is sometimes impossible to predict. In some cases, the nature of the pathologies obtained becomes irreversible. Therefore, the main role belongs primarily to stroke prevention.  
First aid

When the first symptoms of a stroke appear: Put the patient on the bed, call an ambulance. Put the patient on his back or side if vomiting has started or he has lost consciousness. Unbutton clothes, belt. Open the window to access the fresh air room. Put a cold wet towel or ice in a bag wrapped in a cotton cloth on your head.

Measure the patient's blood pressure, pulse, monitor the pressure and breathing before the arrival of doctors. If necessary, give medications that were previously prescribed by the attending physician. Constantly talk to the patient, try to get answers to questions from him, do not lose contact. Prognosis as is already known, the five-year survival forecast is disappointing. The loss of intellectual and motor abilities after a second stroke can be lifelong. Most patients after relapse suffer from irreversible changes, pathologies in the cerebral cortex.

After lesions in patients, as a rule, disability occurs. More than half of the patients have a comatose state after a repeated stroke, which does not allow the doctor to give a positive prognosis about getting out of it.

Rehabilitation of patients after recurrent ischemic stroke is based on traditional, new and original methods of recovery of patients who have suffered a stroke. Thanks to the extensive practice and rich knowledge of the clinic's specialists in the field of rehabilitation medicine, comprehensive recovery of patients is carried out at the highest level, corresponding to international standards.

For optimal rehabilitation, comfortable conditions of stay have been created for patients: cozy

wards, full nutrition and attentive attitude of the staff.

Life after an ischemic stroke if a patient experiences an acute period of stroke, then residual disorders in the form of:

- paralysis on one side of the trunk;
- partial limb paralysis;
- paresthesia (numbness with loss of skin sensitivity);
- complete immobilization;
- speech and swallowing disorders;
- vestibular disorders;
- hearing loss;
- pelvic organ paralysis with inability to control bowel and bladder emptying;
- reduced intelligence;
- mental and character changes;
- Impossibility of self-service.

Recovery of various impaired functions in patients with ischemic stroke occurs at different rates. Thanks to innovative techniques, motor disorders pass faster, and it may take more time to restore speech. After discharge from the hospital, patients need the support of loved ones and continued rehabilitation under the supervision of specialists.

Prognosis in elderly people with ischemic stroke, age is one of the most important factors that affect the prognosis and quality of life after an acute period of the disease. In elderly people, ischemic stroke is much more severe than in young patients. They are individually suited to the treatment of elderly patients, when prescribing medications, doses recommended for a certain age are used. When using innovative methods of kinesotherapy, the age characteristics of the body are taken into account. The prognosis after an ischemic stroke suffered by an elderly person is influenced by the following factors:

- localization of the ischemic focus;
- prevalence of brain infarction zone;
- the disease that caused the stroke;
- Severity of neurological symptoms.
- The state of coma caused by cerebral edema is the most severe neurological manifestation of stroke, which sharply worsens the prognosis.

Factors that positively affect the results of rehabilitation of elderly patients and improve the prognosis are: a small lesion confirmed by computed tomography, the preservation of full consciousness in the patient, a minimal number of neurological injuries, the absence of pronounced atherosclerotic vascular changes according to the results of dopplerography of the arteries of the head and neck, the patient's profession requiring constant mental stress, normal blood pressure, lack of arrhythmias and other heart diseases. Treatment of a patient with a recurrent stroke most often ends up in the intensive care unit and doctors begin early

rehabilitation immediately after diagnosis. The prognosis is most favorable when patients are admitted to the neurology clinic within the first 4 hours from the appearance of the first signs of acute cerebral circulation. Neurology Prescribes adequate treatment, thanks to which the nerve cells around the ischemic focus fully restore functional activity.

The use of thrombolysis therapy in elderly patients significantly improves the prognosis. As a thromolytic agent, doctors of the neurology clinic use the most effective drug – a tissue plasminogen activator. After the thrombus dissolves, blood flow through the affected vessels is restored; the supply of oxygen and nutrients to the ischemic area and the area around the brain infarction improves. The outcome of an ischemic stroke is improved by the use of ankrode (an enzyme from snake venom) in the first 3 hours after the development of acute cerebrovascular accident and for the next five days. To prevent further formation of blood clots and repeated embolism, elderly people are injected with: direct anticoagulants (sodium heparin or low molecular weight heparin); antiplatelet agents; a drug from the group of thienopyridines Ticlopidine. If there are contraindications or a high risk of complications from taking these drugs, patients are prescribed Clopidogrel. Neuroprotective and neurometabolic drugs improve the plasticity of nerve cells. The tone of the cerebral arteries in the elderly increases under the influence of vasoactive drugs. In elderly people, ischemic stroke often occurs against the background of severe arterial hypertension. During the 7-10 days of the acute period of stroke with systolic blood pressure in a patient less than 200 mmHg, antihypertensive therapy is not carried out, since hypotension worsens the oxygen saturation of the brain areas subject to ischemia. In patients with systolic blood pressure above 200 mmHg, it is reduced very slowly to figures 10 mmHg higher than the pressure to which the patient is adapted. After the acute period, cardiologists select individual antihypertensive therapy.

Early rehabilitation significantly improves the prognosis after a stroke. They begin to carry out rehabilitation measures from the first day of admission of the patient. The intensity of the rehabilitation program depends on the patient's condition and the degree of his disability. It is equipped with special multifunctional beds for severe patients. With the help of multifunctional bed devices, medical personnel can periodically change the patient's posture, carry out hygiene procedures, and take care of the patient. Changing the posture helps to avoid the formation of bedsores, stagnant phenomena. To reduce the risk of contractures, joint pain, pneumonia, deep vein thrombosis, passive rehabilitation is carried out from the first days of treatment. To improve the prognosis in elderly people, rehabilitation specialists after a stroke use the following innovative methods for restoring impaired functions:

PNF; Voita therapy; small manual therapy; Castillo-Morales method; kinesiotaping; Mulligan concept; Bobat therapy. Prognosis with repeated stroke, even more irreversible brain damage occurs, recovery is slow and very often the patient remains disabled, does not speak, is partially or completely paralyzed, swallowing function is impaired, problems with urination and defecation appear, mental disorders develop. Often, the consequence of a repeated stroke is dementia - acquired dementia. The older the patient, the more severe the consequences of repeated stroke. Nevertheless, the prognosis for the restoration of neurological functions impaired as a result of the disease in the elderly is improved due to the use by rehabilitologists of a variety of concomitant techniques (magnetotherapy, transcranial stimulation, laser therapy, acupuncture). Robotic and mechanical simulators, Exart devices, and verticizers are used to restore movements and walking skills.

Recommendations after a repeated stroke, those who have suffered a stroke fall into the risk

group of relapse of the disease. Patients on nutrition, prevention of recurrent stroke: Diet, refusal of spicy, smoked, fatty and sweet foods, alcohol, caviar, eggs, liver. There are more vegetables, fruits, cereals on the menu, rejection of bad habits, heavy physical labor, night shifts, and work with a high psycho-emotional load. Sleep at least 8 hours a day, avoid stressful situations.

During the rehabilitation period, measure blood pressure every day, after the end of rehabilitation at least 3 times a week. Take medications prescribed by a doctor in a timely manner and strictly by the hour. Regularly undergo a preventive examination. Daily practice the recommended exercises of therapeutic gymnastics. Prevention of recurrent stroke is to change the lifestyle:

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