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First AID for Stroke

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A B S T R A C T
Determination of neurological status. This is an assessment of movements, orientation in space, consciousness and other functions. It helps to diagnose ONMC and assess the severity of the condition. Primary diagnosis is limited to the use of one or more methods, since it is necessary to determine the type of disease and carry out therapeutic measures as soon as possible. Later, doctors conduct additional research.

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Stroke is a life—threatening pathological condition in which the brain is damaged due to oxygen starvation. Irreversible changes in the organ are developing rapidly, so treatment should be carried out as soon as possible. The prognosis largely depends on the quality of pre-medical care and the timeliness of hospitalization. Following the recommendations will help save a person's life and protect him from the negative consequences of the disease. At the Clinical Institute of the Brain, doctors specialize in the rehabilitation of post-stroke patients. You can contact us for an examination and recovery.

Acute cerebrovascular accident (ONMC) or stroke is a disease in which neurons receive insufficient oxygen due to obstruction or violation of the integrity of blood vessels. In ischemic stroke, a partial or complete blockage of the artery occurs against the background of thrombosis, spasm or other negative factor, which causes hypoxia with subsequent cell death. In hemorrhagic stroke, the vascular wall is damaged with the formation of a hematoma. Brain tissues suffer from compression and subsequent oxygen starvation. Complications develop due to damage to certain organ structures.

There may be different causes of this disease. Thrombosis is the main risk factor for developing a cerebral infarction. The formed blood clots move through the vessels and clog the cerebral artery. Many patients are diagnosed with atherosclerosis, in which fatty plaques grow on the inner walls of blood vessels. This factor also leads to a decrease in blood supply to neurons and an increased risk of thrombosis or thromboembolism. Hemorrhagic stroke in most cases is caused by an aneurysm. Additional risk factors include impaired blood lipid profile, obesity, diabetes mellitus, tobacco smoking, high blood pressure and heart disease.

Emergency care for stroke should be provided in the first minutes, as life-threatening complications develop rapidly. For this reason, anyone should be trained in pre-medical manipulations. It is also important not to overestimate your skills and not harm the patient. Only qualified specialists are engaged in treatment in a hospital setting.

Early signs of stroke this difficulty in cerebral blood supply develops suddenly and rapidly, so you will not be able to prepare yourself specifically for such a situation. The main task is to know which specific signs appear first. Common provoking factors of ONMC include physical exertion, severe psychoemotional stress. A stroke can occur after talking in raised tones or even while sleeping. Self-diagnosis can be difficult due to impaired consciousness and inhibition of cognitive activity, so it remains

to rely on the skills and knowledge of others.

The main early signs of stroke are facial disorders. You should carefully consider the person's face. Often, during an attack, an unusual and even frightening grimace appears, due to a violation of the coordination of the contraction of facial muscles. It is recommended to ask the patient to smile — at this point, you may notice an asymmetrical distorted smile.

Speech disorder. The man cannot explain what happened to him. His speech becomes unintelligible and slurred. In some cases, there is a complete lack of voice function, the inability to understand the words of the interlocutor. You should ask the patient to say something. You can ask him a question.

Asymmetry of movements. Stroke often affects the motor parts of the brain, which disrupts the coordination of skeletal muscles. Unilateral and bilateral paresis and paralysis are revealed. It is recommended to ask the patient to raise his hands up or perform another movement. It can be noticed that one limb is lagging behind and weakened as a whole.

Visual and auditory impairments. These are also common complications of ONMC caused by oxygen starvation of the sensory parts of the brain. Visual or hearing impairment may be partial or complete. Chaotic movements of the eyeball are observed. The patient does not hear the interlocutor.

The symptoms of the disease include severe headache, dizziness, disorientation in space and time, weakness, impaired consciousness, gait changes and seizures. The signs of intracerebral hemorrhage and cerebral infarction are different, but an ordinary person without special knowledge will not be able to make a differential diagnosis.

Sometimes atypical symptoms appear that do not fully resemble the manifestations of a stroke. It is important to remember that even in doubtful cases it is better to be safe and call an ambulance. The cost of a mistake may be too high.

First aid: what to do in case of stroke: The continuous functioning of the central nervous system is associated with the constancy of metabolic processes that occur rapidly. The irreparable negative consequences on the background of oxygen starvation are primarily due to metabolic disorders. The cerebral zone damaged by stroke is outlined by a penumbra formed by neurons. With adequate primary care, these cells can be saved. The quality and duration of the patient's further life directly depends on the adequacy and timeliness of the measures taken.

The main rule is to provide professional assistance within 4 hours from the moment the first symptoms of pathology appear. This means that you need to call an ambulance as soon as possible. At this point, everything depends on the skills and knowledge of the people around the victim, whether they are his relatives or bystanders. After calling an ambulance, it is recommended to assess the condition of a person, to prevent self-harm against the background of convulsive reactions. If the patient is conscious, you need to try to talk to him, find out about the circumstances of the pathology, exclude specific symptoms of stroke.

First aid for stroke at home may include carefully determining the heart rate by probing the carotid or radial artery. To do this, you need to find the correct anatomical points and count the number of strokes within a minute. You can also independently calculate the number of respiratory movements per minute, since this indicator also indicates the severity of the patient's condition. It is possible to ease breathing by eliminating embarrassing clothes and accessories. Cardiopulmonary resuscitation can only be performed if there is a confirmed absence of heartbeat and breathing. In another situation, such actions can worsen a person's condition.

How to call an ambulance for a stroke

The dispatcher needs to send a team as soon as possible, but before that, important information should be clarified to provide pre-medical care and hospitalization of the patient to the desired hospital. For this reason, it is necessary to know how to communicate with the dispatcher in order to save time as much as possible. The occurrence of an attack of illness in a loved one is a serious stressful factor, therefore, before calling the brigade, you need to take a deep breath, exhale and try to calm down. We will be a "plus" if a loved one has time to assess the patient's breathing, pulse and consciousness a couple of

minutes before going to the emergency room. This is an optional but useful first aid step.

The main task of the dispatcher is to clarify the address, the name of the victim, the symptoms that have arisen, the circumstances of the acute condition and an approximate history. It is clear that a random passerby will not be able to answer all the questions, but relatives are usually able to tell more about the patient's condition. If the patient has previously been diagnosed with various pathologies, such as hypertension or heart failure, you need to tell the dispatcher about it. The symptoms should be described in detail and clearly. While clarifying the address, it is important to explain how to get home as quickly and conveniently as possible. The brigade needs to be met. It is advisable to prepare a passport and things for hospitalization.

Emergency care for stroke at the prehospital stage

Doctors trained in therapeutic and diagnostic measures come to the call. The team may include nurses, paramedics and paramedics. In some cases, it is possible for a specialized team to leave with additional equipment to carry out early treatment procedures that allow saving the patient. Doctors on the spot interview the victim and close people to clarify clinical information, the circumstances of the attack. Specialists pay attention to the symptoms and signs of stroke.

Determination of pulse and oxygen level in the blood. Special devices can be used for this, but the heart rate should be checked manually. Thermometry. Body temperature can vary with various pathological conditions. Blood pressure measurement. Doctors use a manual blood pressure monitor, which allows them to accurately determine the blood pressure indicator.

Determination of the frequency of respiratory movements. Specialists perform this study based on visual and other signs.

Assessment of the condition of the skin, visible mucous membranes, nails and cervical veins. Different changes may indicate a specific pathology and severity of the condition. Electrocardiography. With the help of portable equipment, the functional activity of the heart is determined by setting up sensors and registering the electrical activity of the organ.

Determination of blood glucose levels. It is an important source of energy that is included in solutions for infusion therapy. Special analyzers are used.

Determination of neurological status. This is an assessment of movements, orientation in space, consciousness and other functions. It helps to diagnose ONMC and assess the severity of the condition.

Doctors perform these manipulations quickly and then transport the victim to a car for hospitalization in the nearest specialized department of the hospital.

The patient is taken to the intensive care unit, neurology or intensive care unit. At this stage, the first medical care for stroke is performed, aimed at a more detailed assessment of the severity of the patient's condition, differential diagnosis. The doctor needs to understand what primary therapeutic measures need to be taken to eliminate a life-threatening condition and prevent complications. Neurologists usually prefer CT because such a study can be performed faster. The results in the form of detailed layered images of the brain help to make a diagnosis, determine the severity of organ damage.

Positron emission tomography. Visualization of brain tissues is performed after administration of radionuclide drugs. The doctor receives detailed information about metabolic and functional changes in the central nervous system on the background of a stroke. The biological fluid extracted from the spinal canal is studied for diagnosis. With hemorrhage, blood is often found in the fluid. Due to the lack of accuracy, the procedure is rarely prescribed to patients during emergency diagnosis. It can be used if there is no access to CT and MRI.

Angiography. This is a visual examination of blood vessels, which allows you to detect the area of arterial patency and immediately carry out therapeutic measures to restore cerebral circulation. Neurologists often perform CT angiography for stroke.

Primary diagnosis is limited to the use of one or more methods, since it is necessary to determine the type of disease and carry out therapeutic measures as soon as possible. Later, doctors conduct additional

research.

First aid for stroke, a neurologist periodically checks the neurological status to detect changes and monitor the dynamics of the condition. The patient is connected to special devices for continuous determination of heart rate, respiration, blood oxygen level, temperature and other indicators. If the oxygen saturation of the blood does not reach 95%, oxygen support is required. If it is impossible to breathe independently, the patient is connected to a ventilator.

Additional types of first aid for stroke: Infusion therapy. The patient is injected intravenously with special solutions containing glucose, electrolytes, vitamins and other components. This method helps to restore the constancy of the internal environment of the body.

Normalization of blood pressure and heartbeat. According to the indications, the neurologist injects special drugs to lower blood pressure and restore heart rhythm. Blood pressure and heart rate are constantly monitored.

Restoration of cerebral circulation. Depending on the results of the diagnosis, the doctor uses anticoagulants and antiplatelet agents, thrombolytics or other medications. It is possible to remove a blood clot using a catheter. In case of hemorrhagic stroke, surgical intervention is performed.

The scheme of primary treatment depends on what complications were identified by the results of the examination. It requires maintaining the functioning of vital organs, eliminating the cause of stroke and conducting early recovery procedures.

First rehabilitation care recovery should be started from the first days after the stabilization of the patient's condition, since the quality of further life depends on it. Doctors use the following rehabilitation methods at an early stage:

It is impossible to skip the early stage of recovery, because it is during this period that the nervous system adapts to the adverse changes that have occurred. A person needs the help of specialists of various profiles to return to normal life.

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