



## WAYS TO OPTIMIZE REHABILITATION ACTIVITIES IN HEMORRHAGIC AND ISCHEMIC STROKE

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### Abstract

The development of acute cerebral ischemia triggers pathobiochemical cascade reactions, the outcome of which is cerebral infarction (MI), which is formed by two mechanisms: necrotic cell death and apoptosis - programmed cell death. These modern pathogenetic concepts have made it possible to propose a sequence of stages »Based on their causal relationships. Each stage of the cascade is a target for the therapeutic effect of drugs, primarily with neuroprotective effects.

**Keywords:** cerebrovascular pathology, hyperlipidemia, physical inactivity, smoking, atherosclerosis.

The prevalence of various forms of cerebrovascular lesions is 13.3% among all diseases; among them, the initial manifestations of cerebral circulation insufficiency - 45.3% of all detected pathology, discirculatory encephalopathy (DE) - 27.7%, transient cerebral circulation disorders - 5.4%, cerebral stroke and its consequences - 21.6% (1-3). The incidence in all age groups among men is higher than among women and with each subsequent decade of life increases by about 1.5 times (10). Among vascular diseases of the brain, a special place in its importance is occupied by progressive chronic cerebrovascular pathology in the form of discirculatory encephalopathy, or chronic cerebral ischemia (CCI), which develops as a result of slowly progressing insufficient blood supply to the brain against the background of atherosclerosis, arterial hypertension, or their combination, which leads to insultam (4). A number of studies carried out in the CIS countries and Western Europe (show a pronounced relationship between the quality of organization and provision of medical care to patients with stroke and mortality and disability rates. According to researchers, more than 450 thousand strokes occur annually in the Russian Federation, mortality in which in the acute period is 35% (11).

Diseases of the circulatory system make the main contribution to mortality from non-communicable diseases, which leads to significant socio-economic losses in many countries of the world, including Russia (1). Diseases of the circulatory





system become a significant cause of loss of years of healthy life from the age of 30, and by the age of 70, their share is more than 50% of the total losses (2). Vascular diseases of the brain make a large contribution to the structure of mortality from diseases of the circulatory system (5). In the next 25 years in developed countries, the importance of stroke as a medical and social problem will increase due to the “aging” of the population and an increase in the proportion of people with risk factors (4).

By 2030, mortality from stroke is projected to increase worldwide to 7.8 million people per year, unless active global measures are taken to combat this epidemic (7). According to the statistical compilations of the Ministry of Health of the Republic of Uzbekistan, about 450 thousand cases of acute disorders of cerebral circulation are registered annually, of which 200 thousand cases end in death. The growth in the number of strokes among the working-age population of our country is one of the most important issues in domestic health care (5). The primary exit to disability after a previous acute stroke is at the level of 3.2 per 10 thousand of the population, taking the 1st place among all causes of primary disability (4).

Taking into account the differences in the socio-demographic and economic characteristics of the regions of Uzbekistan in modern conditions, it is necessary to take into account the regional specifics and reflect it in the development of programs to reduce the mortality rate of the population, both in general and in relation to the most important causes (9).

Despite the fact that primary prevention plays a decisive role in reducing mortality and disability due to stroke, a significant effect in this regard is provided by the optimization of the system of care for patients with acute cerebrovascular accidents. Domestic and foreign researchers believe that the creation of a modern system of care for patients with stroke will reduce mortality during the first month of the disease by up to 20% and ensure independence in everyday life 3 months after the onset of the disease at least 70% of surviving patients (8).

In the context of the development of a network of vascular centers and departments on the territory of the Republic of Uzbekistan, the relevance of the issues of organizing medical care for patients with acute cerebrovascular accidents, taking into account the characteristics of a particular territory, increases. This is very significant for regions with a high proportion of rural residents. In addition, it is extremely important to create an effective system for managing the quality of medical care for patients with acute cerebrovascular accidents in the newly opened regional vascular centers (RSC) and primary vascular departments (PSO). Despite the study of individual problems of cerebrovascular pathology (2), a comprehensive





medical and social study of the problems of organizing medical care for patients with acute cerebrovascular accidents has not been carried out.

The need to find ways to improve the level of organization, improve the efficiency and quality of medical care, as well as develop uniform principles for maintaining medical records of patients with acute cerebrovascular accidents, served as the basis for choosing the topic of this study.

Acute disorders of cerebral circulation cause enormous damage to the economy (costs of treatment, medical rehabilitation of patients, losses in production). In the United States in the late 1990s. direct and indirect costs for each stroke survivor ranged from \$ 55 million to \$ 73 million per year (8). In our country, material losses are much higher, since the number of patients is 4 times higher than in the United States and Western Europe (5). Hemorrhagic stroke is the most common pathology among adults and the elderly. On average, the incidence in patients over 40-45 years old ranges from 15%, in people over 55, the risk is 20% and becomes higher with age. Mortality during the first month after hemorrhage is 35 to 61%. Up to 70% are disabled as a result of stroke.

Research works on the study of the prevalence of acute cerebrovascular accidents, risk factors for their development, the development of effective methods of diagnosis and treatment were carried out in large medical centers, such as the Scientific Center of Neurology (Russia). In the USA, UK, France, Germany, Japan and Eastern Europe.

Currently, more than 100 risk factors are known that contribute to the development of cerebrovascular accidents: age, gender, ethnicity, arterial hypertension, atrial fibrillation, other cardiac pathology, hyperlipidemia, physical inactivity, smoking, atherosclerosis of the carotid arteries, etc. (11).

According to M.B. Budanova (2008) planning specific treatment and prophylactic measures in individual regions involves studying the frequency of CVD and the contribution of various risk factors to their development. E.I. Gusev et al. (7) proposed a four-stage system of care for patients with acute cerebrovascular accidents: prehospital care is provided by a local therapist, a family medicine doctor, an ambulance or emergency doctor, and specialized neurological ambulance teams; intensive care - carried out in intensive care units, intensive care units or neurosurgical departments; rehabilitation treatment - carried out in departments for the treatment of patients with acute disorders of cerebral circulation (neurovascular departments) or neurological departments of general profile, and then in rehabilitation departments and centers; dispensary provides for supervision by a neuropathologist and therapist of a district clinic.





Despite advances in the diagnosis and treatment of acute cerebrovascular accidents in Uzbekistan, due to their fragmented nature, many questions remained outside the scope of research, which does not allow us to present a complete picture. The issues of complex rehabilitation of patients in various stages of stroke have been studied especially little, methods and methods of rehabilitation measures in PHC conditions, hospitals, intensive care units and intensive care units, in sanatoriums, measures for the recovery of patients at various stages of providing them with medical care to patients have not been studied and developed. Currently, prehospital care and hospitalization rates remain unsatisfactory everywhere, even in large cities.

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