



CRITERIA FOR THE DIAGNOSIS AND TREATMENT OF CEREBROVASCULAR DISEASES

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DOI:10.48047/ecb/2023.12.si4.771

Relevance. Acute cerebrovascular accident (ACV) is a major medical and social problem. The incidence of stroke is 2.5 - 3 cases per 1000 population per year, mortality - 1 case per 1000 population per year. Mortality in the acute period of stroke in Russia reaches 35%, increasing by 12-15% by the end of the first year after a stroke. Post-stroke disability ranks first among all causes of disability and is 3.2 per 10,000 population. 20% of stroke survivors return to work, while one third of those with stroke are people of working age. Thus, in Russia, stroke develops annually in 400-450 thousand people, approximately 200 thousand of them die. More than 1 million stroke survivors live in the country, and 80% of them are disabled. The rest 20% of strokes are hemorrhagic in nature. Ischemic etiologies can further be divided into embolic, thrombotic, and lacunar. In general, the common risk factors for stroke include hypertension, diabetes, smoking, obesity, atrial fibrillation, and drug use. Hemorrhagic etiologies can be from hypertension, aneurysm rupture, arteriovenous malformations, venous angiomas, bleeding due to illicit drugs like cocaine, hemorrhagic metastasis, amyloid angiopathy, and other obscure etiologies. Lacunar strokes contribute up about 20% of all ischemic strokes and result from occlusion of the small penetrating branches of the middle cerebral artery, vertebral or basilar artery or the lenticulostriate vessels. Typical causes of lacunar strokes include microemboli, fibrinoid necrosis

secondary to vasculitis or hypertension, amyloid angiopathy, and hyaline arteriosclerosis [5,6,7].

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 the optimization of the system of care for patients with stroke, the introduction of therapeutic and diagnostic standards for these patients, including rehabilitation measures and prevention of recurrent strokes.

The European Regional Office of the World Health Organization (WHO) believes that the creation of a modern system of care for patients with stroke will reduce mortality during the first month of the disease to the level of 20% and ensure independence in everyday life 3 months after the onset of the disease for at least 70% of surviving patients [1,2,3,4].

The development and implementation of common principles for the management of patients with acute cerebrovascular accident should help optimize the diagnostic approach and the choice of therapeutic measures to ensure the best outcome of the disease.

The purpose of the study is to determine the frequency of neurological disorders in patients with ischemic stroke, to assess their prevalence and to optimize the diagnostic approach.

Materials and research methods. The study is based on data from a survey of 147 patients with stroke treated in medical hospitals in Bukhara. To achieve the goal of the study and solve the tasks set, general clinical, laboratory and instrumental research methods were used.

Under our supervision there were 147 patients with stroke of ischemic (81 people) and hemorrhagic type (66 people). The age of the patients ranged from 40 to 80 years.

Research results. In our studies, the proportion of ischemic strokes was 55.1% diagnosed in 81 patients. By the nature of IS, it prevailed in men (23.5%) and in women (19.8%) over the age of 60 years. In the age group of 41-60 years, IS more than doubled in sick men (16.0%), and at the age of less than 40 years, IS was distributed equally between men and women (1.2% each).

The patients were divided into three groups according to the severity of ischemic stroke.

The first group consisted of 52 patients with mild IS (total clinical score according to the Scandinavian scale - 44.2 ± 2.3), whose clinical picture was dominated by focal neurological symptoms without disorders of consciousness and signs of cerebral edema.

The second group included 15 patients with moderate IS (total clinical score according to the Scandinavian scale - 24.3 ± 0.7). All patients of this group had severe neurological symptoms against the background of cerebral disorders, the severity of which varied from a slight change in consciousness to stunning.

The third group consisted of 14 patients with severe IS (total clinical score according to the Scandinavian scale - 9.9 ± 0.6). Against the background of gross clinical defects, they had a violation of consciousness from deep deafness to coma.

Arterial hypertension (AH) in the general group had a different character. Most often, systolic-diastolic hypertension was detected in 46 patients (56.8%), less often isolated systolic hypertension in 20 patients (24.7%). Isolated diastolic hypertension was noted only in 15 cases (18.5%).

All three groups of patients were compared by age, by category of CT signs with distribution by side and size of brain lesions, by the nature of the violation of the geography of the blood supply, and by the localization of stroke foci (Table 1).

Table 1**Characteristics of the studied groups of patients with ischemic stroke**

Characteristics of patients	Clinical-beam comparison of signs		
	Ischemic stroke		
	Mild degree	Medium degree	Severe degree
Clinical course of a stroke	52	15	14
Age			
Up to 40 years old	6	1	1
40-60 years old	19	5	3
over 60 years	27	9	10
CT - signs			
indirect	29 (55,8%)	4 (26,7%)	3 (21,4%)
straight	23 (44,2%)	11 (73,3%)	11 (78,6%)
Basin of cerebral hemodynamics			
Left middle cerebral artery	17 (32,7%)	5 (33,3%)	7 (50,0%)
Right middle cerebral artery	19 (36,5%)	6 (40,0%)	5 (35,7%)
precerebral artery	0	4 (26,7%)	2 (14,3%)
vertebrobasilar artery	16 (30,8%)	0	0
Localization of the focus of the stroke			
Cortical-subcrustal foci	18 (34,6%)	7 (46,7%)	10 (71,4%)
Subcortical lesions	9 (17,3%)	0	2 (14,3%)
Cortical lesions	9 (17,3%)	4 (26,7%)	2 (14,3%)
Foci in VBB	16 (30,8%)	0	0
Multiple foci	-	4 (26,7%)	-
Foci sizes			
Lacunar (up to 10 mm)	5 (9,6%)	-	-
Small (up to 15 mm)	28 (53,8%)	-	-
Medium (20-50 mm)	19 (36,5%)	4 (26,7%)	4 (28,6%)
Large (more than 50 mm)	0%	11 (73,3%)	10 (71,4%)

In the first group of patients with mild severity diagnosed with stroke zones, according to the results of CT, lacunar (9.6%) and small foci (53.8%) of infarctions

localized in cortical and subcortical structures in the blood supply systems of the left and right middle cerebral arteries prevailed. in equal proportion. Medium foci of infarcts accounted for 36.7% of the total volume and were localized in the cortical-subcortical regions of both hemispheres and in the projection of the posterior cranial structures (34.6%). Large foci with mild severity of infarction were not detected by CT.

In the second group of patients with a clinic of moderate severity of infarction, CT signs of IS were detected in 11 patients (73.3%) out of 15. In the subgroup of patients with a detected infarction focus, according to the results of CT, medium (26.7%) and large (73.3%) sizes. According to the localization of the foci, cortical-subcortical (46.7%) and cortical (26.7%) foci prevailed. Infarction zones were localized in the systems of the right MCA (40.0%) and the left MCA (33.3%).

In 26.7% of patients with moderate infarction, the focus of IS was organized in the ACA system. In 4 patients (26.7%) with a clinic of moderate infarction, multifocal ischemic brain damage was noted. The categories of CT signs of this subgroup were as follows: a symptom of arterial enlargement occurred in 73.3% of cases, loss of differentiation between the gray and white matter of the brain in 26.7% of cases, cerebral edema and smoothness of the cortical sulci in the infarction zone were observed in 20, 0% of cases.

In the third group (14 patients) with severe infarction, CT signs of IS were detected in 11 (78.6%) patients. In this subgroup, foci of large (71.4%) and medium (28.6%) sizes prevailed. Of these, the vast majority of foci (71.4%) were localized in the cortical-subcortical areas. In 50.0% of cases, infarction developed in the left MCA system, in 35.7% of cases in the right MCA system, and in 14.3% of cases in the ACA system. The categories of occurrence of CT signs were distributed as follows: a symptom of arterial enlargement and loss of differentiation between the gray and white matter in the infarction zone was noted in 85.7% of cases, edema of the brain substance and smoothness of the cortical furrows in the IS zone were detected in 78.6% of cases.

Clinical and neurological characteristics of hemorrhagic stroke. Hemorrhagic stroke developed most often in men aged 41-60 years (49.5%) and in women over the age of 61 years (39.5%). In sick men under 40 years of age, GI developed significantly more often (2.5%) than in women of the same age (0%).

According to the results of the studies, in 27 patients (56.3%) men, HI developed in the system of the right carotid pool, in 16 (33.3%) - the focus of HI was visualized in the pool of the left carotid artery and in 5 (10.4%) - in basin of the main artery (Table 2).

Table 2
Development of GI depending on the arterial basin

Gender	Men		Women		Total	
In the left hemisphere	16	33,3	10	55,6	26	39,4
In the right hemisphere	27	56,3	6	33,3	33	50,0
posterior cranial fossa	5	10,4	2	11,1	7	10,6
Total	48	72,7	18	27,3	66	100,0

The volume of hemorrhage ranged from 4 cm³ to 98 cm³ depending on localization - the largest volume was observed with lobar hemorrhages from 45 cm³ to 72 cm³, with lateral hemorrhages from 12 cm³ to 46 cm³, with mixed hemorrhages from 8 cm³ to 28 cm³, with medial hemorrhages from 4 cm³ up to 8 cm³.

In the predominant group of sick women (55.6%), HI developed in the system of the left carotid basin, in 33.3% - in the right carotid basin, and in 2 (11.1%) - in the system of the basilar artery.

In 20 patients (30.3%), hemorrhages were accompanied by a breakthrough in the CSF system and prevailed in 26 men (54.2%).

Thus, a wide range of neuroimaging research methods in the diagnosis of hemorrhagic stroke allows timely recognition of the nature, localization and size of intracranial hemorrhage, as well as timely recognition of developing complications associated with cerebral catastrophe.

Focal neurological symptoms were detected in ischemic stroke: hemiparesis - 56%, diplopia and paresis in the hand - 20%, aphasia - 36%, pathological Babinski's reflex - 68%. And with hemorrhagic: hemiparalysis - 20%, aphasia - 39%, pathological Babinski reflex - 100%.

Taking into account the value of the NIHSS scale, according to the neurological deficit, among admitted patients with IS, 30% had a mild stroke, while with GI - in 2%, in 31% of patients with IS and in 20% with GI - moderate stroke and in 39% with IS and 59% with GI have severe stroke. As established with GI in more than half of the cases, there was a severe neurological deficit (Fig. 1).

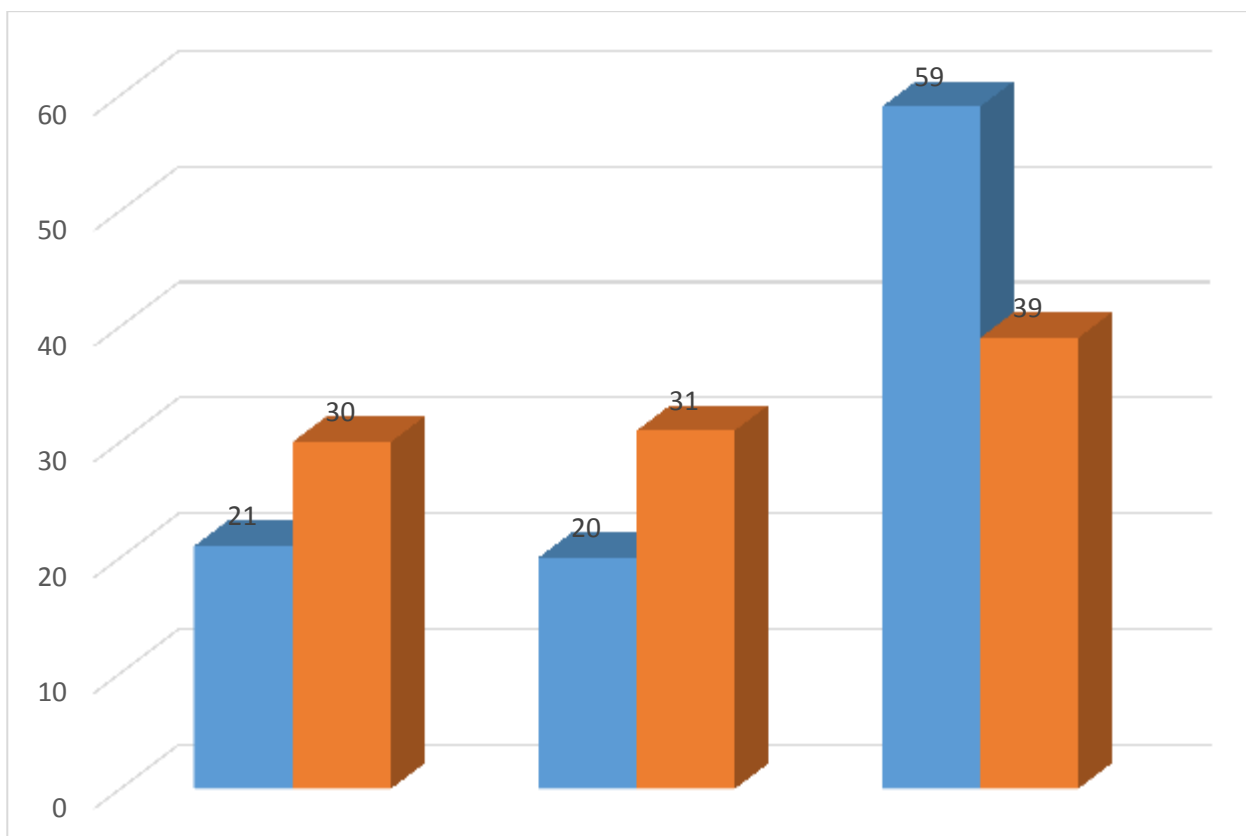


Figure. 1. Distribution of patients with GI and IS according to the severity of neurological deficit according to the NIHSS scale

The severity of impaired consciousness in hemorrhagic stroke is higher (60.6%), and in ischemic stroke it is 44.4%.

The skin in ischemic stroke is pale or normal in color, while in hemorrhagic stroke it is hyperemic. Floating movements of the eyeballs in GI were observed in 21.2% of patients, epileptic seizures in 6.2%, meningeal signs were recorded in 6.1% of patients.

The diagnosis is based on a thorough history, identification of risk factors and analysis of clinical data, namely neurological symptoms. The clinical picture of strokes is diverse and is largely determined by the vascular pool in which the cerebral catastrophe occurred and its nature (ischemia or hemorrhage).

A stroke is diagnosed with the sudden appearance of focal and / or cerebral and meningeal neurological symptoms in a patient with a general vascular disease and in the absence of other causes, namely: craniocerebral or spinal injury; intoxication (alcohol, drugs, medicines); hypoglycemia; infection; kidney failure; liver failure.

Focal neurological symptoms are manifested by the occurrence of the following disorders:

- motor: mono-, hemi-, paraparesis, etc., paresis of the cranial nerves, hyperkinesis, etc.;
- speech: sensory, motor aphasia, dysarthria, etc.;

- sensitive: hypalgesia, thermoanesthesia, violation of deep, complex types of sensitivity, etc.;
- coordinating: vestibular, cerebellar ataxia, astasia, abasia, etc.;
- visual: scotomas, quadrant and hemianopsia, amaurosis, photopsia, etc.;
- cortical functions: astereognosis, apraxia, etc.;
- memory: fixative amnesia, disorientation in time, etc.

General cerebral symptoms: a decrease in the level of wakefulness from subjective sensations of "unclearness", "fogginess" in the head and slight stupor to deep coma; headache and pain along the spinal roots, nausea, vomiting.

Meningeal symptoms (may appear simultaneously with cerebral and / or focal neurological symptoms, but more often appears somewhat delayed after the clinical debut of a stroke, with subarachnoid hemorrhages it can be the only clinical syndrome): tension in the posterior muscles, positive symptoms of Kernig, Brudzinsky (upper, middle, lower), Bekhterev. In this regard, the sudden onset of any focal neurological symptoms in combination with cerebral / meningeal symptoms or without the latter, as well as the sudden appearance of cerebral / meningeal symptoms isolated from focal symptoms in a patient with risk factors for stroke, indicate the occurrence of acute cerebrovascular accident. There are no pathognomonic clinical signs for hemorrhagic and ischemic strokes.

For the diagnosis of hemorrhagic stroke, the following combination of signs matters: history data indicating high blood pressure and hypertensive cerebral crises; the most acute onset of the disease, more often in the morning, or in the afternoon, during vigorous activity; rapid, progressive deterioration of the patient's condition; the predominance of cerebral symptoms over focal symptoms in the clinical picture, early (first minutes, hours) development of coma; pronounced vegetative disorders: hyperemia or, in especially severe cases, pallor of the face, sweating, greasiness of the skin, fever and other symptoms resulting from dysfunction of the hypothalamus; early onset of symptoms due to displacement and compression of the brain stem; at the same time, in addition to impaired consciousness, respiration and cardiac activity, oculomotor disorders are noted (narrowing of the palpebral fissure, changes in the size of the pupils - in 80% of cases, mydriasis on the side of the lesion, strabismus, diplopia, vertical separation of the eyeballs, etc.), disorders muscle tone according to the type of decerebrate rigidity and hormetonia; age of patients - 40-55 years; the appearance of meningeal syndrome (tension of the posterior cervical muscles, symptoms of Kernig, Brudzinsky, ankylosing spondylitis, etc.) and bradycardia; in the debut of the disease, a generalized convulsive seizure, single or repeated vomiting is possible.

Conclusion. Diagnostic signs characteristic of ischemic stroke: a history of coronary artery disease, myocardial infarction, atrial fibrillation, valvular heart disease, diabetes mellitus and transient ischemic attacks; less rapid than with hemorrhagic stroke, development, often during sleep or immediately after sleep;

the predominance of focal symptoms over the general cerebral ones, the relative stability of vital functions, primarily breathing, the preservation of consciousness or some “delay” of its oppression; the age of patients is over 60 years; the onset of the disease against the background of normal or low blood pressure figures.

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