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HEMORRHAGIC STROKE OCCURRING ON THE BACKGROUND OF DIABETES INFLUENCE ON THEIR EARLY REHABILITATION PROCESS

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Abstract: During the acute period of hemorrhagic stroke, 80 patients with diabetes and 70 patients without diabetes were examined and early rehabilitation measures were carried out, and 40 patients with hemorrhagic stroke and diabetes without early rehabilitation measures were examined. All patients were subjected to subjective, objective, clinical-instrumental examinations, the indicators of complications of diabetes in patients with diabetes were studied, and the effect of early rehabilitation on the effectiveness of the diabetic groups was studied.

Key words: hemorrhagic stroke, diabetes mellitus, early rehabilitation.

The urgency of the problem.

Diabetes has become an epidemic among the world's population in the following decades: according to the World Health Organization, it is expected to increase to about 380 million people in 2025, and more than 90% of them will have type 2 diabetes, which will be the main cause of heart attacks and strokes. [1]. During the diagnosis of the disease, more than 90% of patients have had symptoms of diabetes for 8-10 years, and it is determined that pathological changes have formed, which are the basis for the appearance of clinical symptoms. [2]. Systemic changes related to diabetes and its complications are detected in the majority of patients diagnosed with hemorrhagic stroke . Also, hemorrhagic stroke is observed 4-7 times more often among patients with type 2 diabetes than in the general population. [3].

The purpose of the study. Study of the effectiveness of early rehabilitation measures in hemorrhagic stroke with diabetes.

Research materials and methods. Results of examination and analysis of 190 patients who were admitted and treated with the diagnosis of acute cerebral blood circulation disorder, hemorrhagic type in 2023-2024 in the Bukhara branch of the Republican Emergency Medical Scientific Center, emergency neurology and neuroreanimation departments, in order to solve the scientific goals and tasks envisaged by our research work. provided. Patients with hemorrhagic stroke on the background of diabetes, group I (main)(AG) consisted of 80 patients, the ratio of women to men was 1:1.1, and the average age was 62.3±6.2, group II (comparative, control)(CG)) 70 people whose history and examinations did not reveal diabetes, the gender ratio was 1:2.5, with a predominance of women and men, and the average age was 61.2±6.9 years, group III (diabetic control group) 40 people, the gender ratio was 1: The average age of 65.1 ± 10.3 patients with a majority of men is 1.7, and hemorrhagic stroke occurred on the background of diabetes.

Analysis and results. Subjective, objective, laboratory and instrumental examinations of patients revealed changes that occurred in different levels of organs and organ systems due to diabetes. Special attention was paid to pathologies occurring in the cardiovascular system. All three groups of patients were given first aid and standard treatment procedures. Early rehabilitation measures, including psychological rehabilitation, physiotherapeutic procedures and therapeutic exercises, were recommended in both the main group and control group patients. The condition of the patients was evaluated using NIHSS, Barthel scale and Rivermead mobility index on days 1-2, 7-10, 21-24 and 57-60 days of the study.

In the study groups, the onset of the disease with loss of consciousness was observed in VG 2.5±1.75%, CG was not observed, and DCG was observed in 5±3.4% (p<0.001). Cancer is observed in AG 18.75±4.36%, NG 15.71±4.35% and DCG 12.5±5.2% (p<0.001). Inability to describe complaints MG 26.25±4.92%, CG 11.43±3.8% and DCG 20±6.3% (p<0.001), headache MG 20±6.3%, 90± 3.35%, CG 87.14±4.0% and DCG 87.5±6.3% (p<0.001), dizziness AG 87.5±3.7%, NG 90±3.59% and DCG p<0.001, nausea MG 23.75±4.76, CG 22.86±5.02% and DCG 30±7.25% (p<0.001), vomiting MG 11.25±3.53%, CG 7.14±3.08% and DCG 17.5±6.01% (p<0.001), and fatigue MG 88.75±3.53%, CG 88.57±3.8% and DCG 85± observed in 5.65% (p<0.01) cases. It can be observed that the general cerebral symptoms were expressed more deeply in the main group and the diabetes control group compared to the control group.

Table 1. Indicators of extracranial brachiocephalic arteries determined by the UTDS method.

Indicator	Main group	Control group	Diabetes Control Group
	M±m	M±m	M±m
General uyku art (OSA) ung D	4, 1 ±0.2	4.9±0.1 3	4.2 ± 0.19
KIM max	1.25 ± 0.05	1.15±0.04	1, 3 ±0.05
V max	102.9±5.4	92.3±3.4	10 1,9 ± 5 , 47
Common house q u art (OSA) left D	4.1± 0.19	4.8 ±0.1	4, 4 ±0, 17
KIM max	1.2±0.05	1.07±0.03	1.2±0.0 4
V max	96, 9 ±5.1	84.7±3.4	9 0 .6 ± 4 .45
Foreign Ministry (NSA) D	3.5 ± 0.15	3.8± 0.09	3.7 ± 0.13
Outside (NSA) left D	3.5± 0.16	3.8± 0.07	3.7 ± 0.14
Domestic house q u art (VSA) ung D	3.6± 0.16	4.17±0.1	3.9 ± 0.16
Interior house q u art (VSA) left D	3.9±0.1	3.9±0.1	3.9 ± 1 , 13
Umurt q a art right D	2.8 ± 0.06	3.02± 0.07	2.9 ± 0.07
V max	38.8±1.4	36.6± 0.87	38.8±1.4
Umurt q a art left D	2.7± 0.06	2.9 4 ± 0.07	2.8 ± 0.07
V max	41.8±1.0	34.7±0.9	3 9 , 3 ±1, 31

Note: D- diameter, KIM - in common carotid arteries and V max results.

Table 1 shows that UUA (OSA) right D MG 4.08±0.2, CG 4.9±0.1 and DCG 4.2±0.19 (p<0.001) KIM MG 1 ,25 ±0.1, CG 1.15±0.04 and DCG 1.3±0.05 (p<0.001) Vmax MG, 102.9±5.4 and CG 92.3±3.4 and DCG 101.9±5.47 (p<0.001); UUA (OSA) left-sided MG D 4.1±0.2, KIM 1.2±0.1, Vmax 96.8 ±5.1, CG D- 4.8 ±0.1, KIM 1.07± 0.03, Vmax 84.7±3.4 and DCG D 4.4±0.17, KIM 1.2±0.04, Vmax 90.6±4.45 (p<0.001) indicators were determined. It can be observed that the main part of stenoses occurs in UUA (OSA), D– is narrowed by 1.2 times in AG compared to CG, Kim is thickened, the level of stenoses increases, and V max accelerates. It was also observed that external, internal carotid and vertebral arteries D, V max showed a high degree of stenosis and a significant increase in blood flow rate in AG.

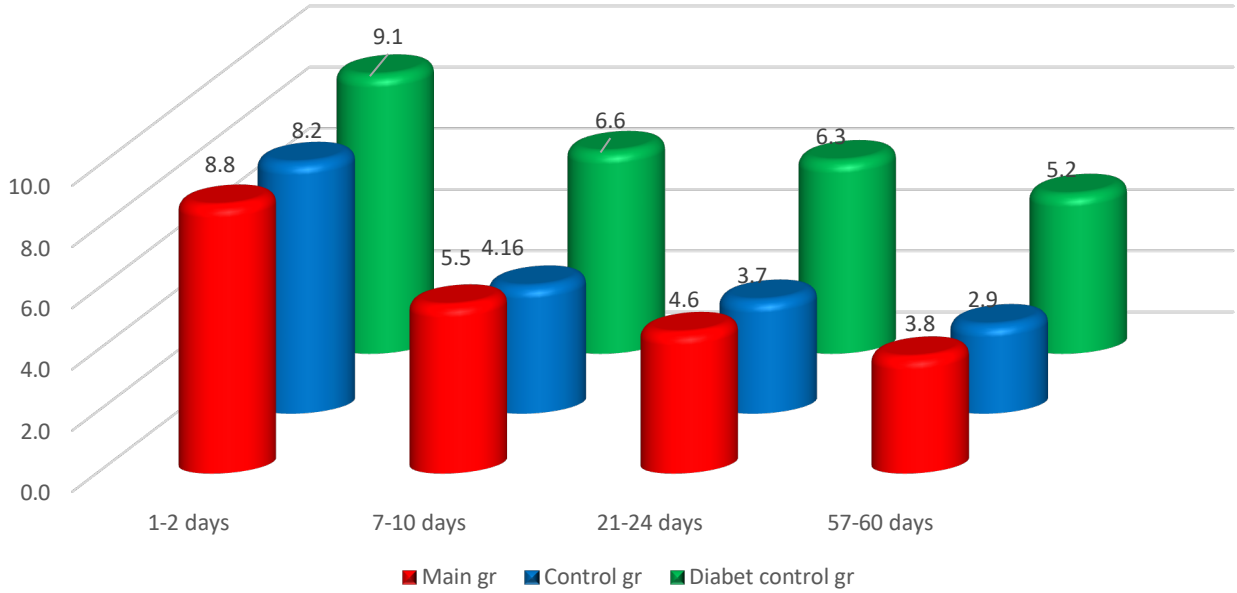
2. Indicators revealed in MRI and MSCT examinations.

Indicator	Main group (n=80)		Control group (n=70)		Diabetes control group (n=40)	
	n	M±m	n	M±m	n	
MSKT	73	91.25%	62	88.60%	4 0	100%
MRT	7	8.75%	8	11.40%	0	0

Subatrophy	58	72.5±4.99%	41	58.6±5.9%	10	25 ± 6.85 %
Atrophy	12	15±3.99%	8	11.4±3.8%	2	5 ± 3.45 %
Stroke and encephalopathy	76	95±2.44%	63	90±3.8%	35	87.5 ± 5.23 %
Hemorrhagic stroke	45	56.25±5.5%	32	45.7±5.9%	19	47.5 ± 7.9 %

Brain subatrophy MG(58\80) 72.5±4.99%, CG(41\70)58.6±5.9% and DCG 25±6.85% (p<0.001), atrophy MG(12 \80),15±3.99%, CG(8\70) and DCG 5±3.45% (2\32) 11.4±3.8%, 5±3.45% (p<0.001) , vascular encephalopathy MG(76\80), 95±2.44%, CG(63\70), 90±3.8% and DCG (35\40), 87.5±5.23% (p< 0.001), determined in cases. The diagnosis of hemorrhagic stroke was MG(45\80) 56.25±5.5%, CG(32\70), 45.7±5.9% and DCG (19\40), 45.7±5.9% (p<0.001) it was observed that the formed ischemia center was detected, and the penumbra formation lasts 8-24 hours in the remaining patients, which is explained by the timing of the penumbra formation at the time of examination.

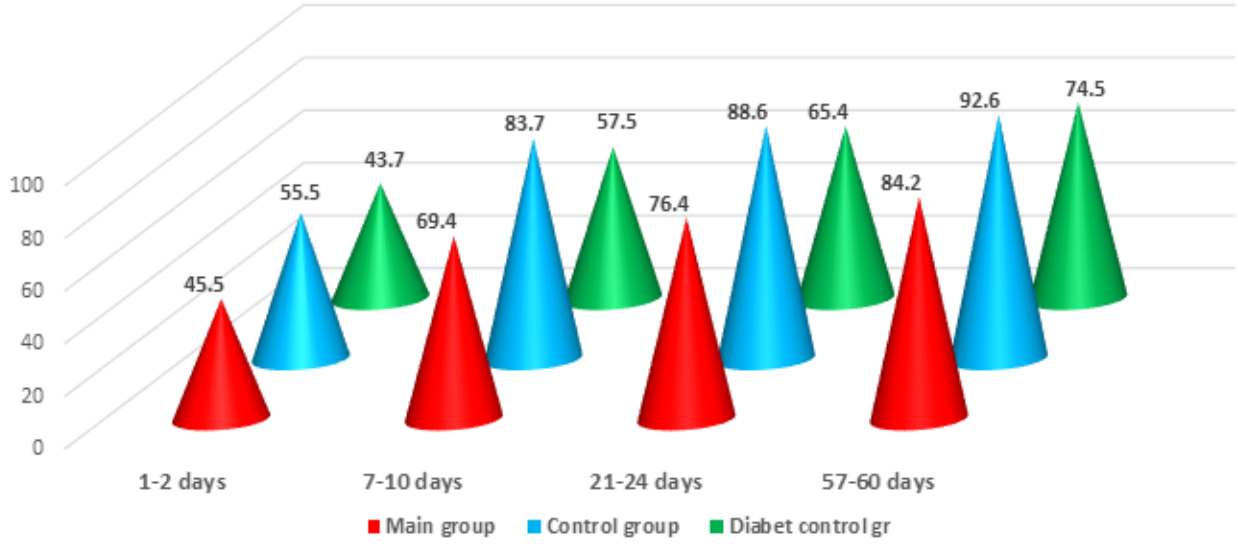
Picture 1. Dynamics of NIHSS scale indicators.



The average NIHSS score on days 1-2 of the study was 8.8±0.36 (p <0.001) , 5.5±0.29 on days 7-10 of the study, 4.6±0.23 on days 21-24, and 57 -60 days was 3.8±0.22, CG 1-2 days 8.2±0.37 treatment and rehabilitation measures 7-10 days 4.16±0.29 (p <0.001), 21-24 it was 3.7±0.22 in days and 2.9±0.19 in 57-60 days. DCG is 9.1 ± 0.49 on days 1-2, 6.6 ± 0.52 on days 7-10, 6.3 ± 0.49 on days 21-24 and 5.2 ± 0.55 on days 57-60 it was found that Based on the NIHSS scale indicators, MG and DCG showed signs of neurological deficits at a deeper level in the initial indicators, and after treatment and early rehabilitation measures, positive changes were observed in the patient population in all three groups. MG patients recovered less than CG, and DCG recovered less to the extent that neurological deficits were felt.

Barthel's scale is a scale widely used by neurologists and rehabilitators to assess activities of daily living, with high accuracy and reliability evaluated in a large number of studies. The Barthel scale was used to evaluate 24-48 hours of hospitalization and 7-10 days, 21-24, and 57-60 days after completion of treatment and early rehabilitation measures in the emergency department of neurology. According to the Bartel scale, mild paralysis, moderate paralysis, and severe paralysis were evaluated based on the change of the average indicator dynamics in MG, CG, and DCG.

Picture 2. Bartel scale dynamics of average indicators.



According to the Barthel scale, at the beginning of the study, on days 1-2, MG was 45.5±1.81 points, on days 7-10 it was 69.4±1.61 ($p<0.001$) points, on days 21-24 it was 76.4±1.3 and 57 It can be observed that it improved by 84.2±1.12 points in 60 days. CG, this indicator was initially 55.5±2.38 on 1-2 days, 83.7±2.01 on 7-10 days, 88.6±1.52 on 21-24 days, and 92.6 on 57-60 days after the study. It was ±1.18 points ($p<0.001$). DCG is 43.8±2.47 on 1-2 days, 57.5±2.7 on 7-10 days, 65.4±2.49 on 21-24 days and 74.5±2.81 on 57-60 days did It can be observed that the ratio of the level of neurologic deficit between MG and CG was 1.22 at the beginning of the study and 1.20 at the end of the study. It can be observed that the recovery of MG patients as a result of treatment and early rehabilitation measures is slower than that of CG. Taking into account that all three groups were treated in the same order, it can be observed that the return to an active lifestyle is slow in MG patients due to DM and its reasons. In DCG patients, the proportion of patients with moderate and severe neurological insufficiency on day 1-2 of the study was found to be significantly higher than that of A MG and CG on day 57-60 of the study.

Conclusions.

1. In the neurovisual examinations, it was observed that the main group with diabetes background and the diabetic control group had neurological deficits at a deeper level than the control group.
2. As a result of early rehabilitation measures, it was observed that the recovery of neurological deficits was lower in MG than in CG, and in DCG, where early rehabilitation measures were not carried out, neurological deficits recovered to a lesser extent than both groups.
3. According to the Barthel and NIHSS scales, the recovery process in hemorrhagic strokes caused by diabetes is less and slower than in the control group, and diabetes and its complications can be recognized as one of the main reasons for this.

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