



Expression of Diabetes Complications in Patients with Ischemic Stroke on the Background of Diabetes and Their Influence on the Early Rehabilitation Process

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Abstract: During the acute period of ischemic stroke, 80 patients with diabetes and 70 patients without diabetes were examined and early rehabilitation measures were carried out, and 40 patients with ischemic 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.

Keywords: ischemic stroke, diabetes mellitus, early rehabilitation.

Introduction. Diabetes has become an epidemic among the world's population in decades after: according to the World Health Organization as a whole, it is expected to increase to about 380 million people in 2025, more than 90% of them accounted for 2 types of diabetes, and the heart remains the main cause of stroke and stroke. [1]. At the time of diagnosis of the disease, more than 90% of patients are diagnosed with the presence of symptoms of diabetes mellitus for 8-10 years with the formation of pathological changes that are the basis for the appearance of clinical signs. [2]. In the bulk of patients diagnosed with ischemic stroke, systemic changes associated with diabetes mellitus and its complications are detected. Also among patients with diabetes mellitus type 2, ischemic stroke is observed 4-7 times more often than in other population populations. [3].

The purpose of the study. To study the effectiveness of early rehabilitation measures in the course of ischemic stroke with diabetes mellitus.

Research material and methods. To solve the scientific goals and objectives envisaged by our research work, in 2020-2021, the Bukhara branch of the Republican Scientific Center for emergency medicine, the Departments of emergency neurology and neuroreanimation presented the results of the examination and analysis of 190 patients who were treated with diagnosis of acute circulatory disorders in the brain, ischemic type. Patients with ischemic stroke diabetes background Group I (Main)(AG) consists of 80 patients with a ratio of women and men of 1:1.1 and an average age of 62.3 ± 6.2 , Group II (comparative, control)(ng) in Anamnesis and examinations of 70 people without diabetes mellitus, sex ratio 1:2.5 with a predominance of women and men, and the average age in 65.1 ± 10.3 patients, too, ischemic stroke is formed by patients who have arisen against the background of diabetes mellitus.

Analysis and results. Patients in subjective, objective, laboratory and instrumental examinations identified changes that occurred at different levels in the member and member systems caused by diabetes mellitus. Particular attention was paid to pathologies that occur in the blood system of the heart. First aid was provided to all three groups of patients and standard treatment procedures were performed. Early rehabilitation measures, including psychological rehabilitation, physiotherapeutic procedures and curative exercises, were recommended in the patients of the main group and control

group. The condition of the patients was assessed in NIHSS, Bartel scale and Rivermid Mobility Index yoradmi on 1-2 days, 7-10 days, 21-24 days and 57-60 days of the study.

In research groups, the onset of the disease with loss of consciousness was observed in cases of AG 2.5±1.75%, ng is not observed, and dng 5±3.4% (p<0.001). Deafness was observed in AG 18.75±4.36%, ng 15.71±4.35% and dng 12.5±5.2% (p<0.001) cases. Inability to state complaints AG 26.25±4.92%, ng at 11.43±3.8% and dng 20±6.3% (p<0.001), headache AG 20±6,3%, 90±3,35%, ng 87.14±4.0% and dng 87.5±6.3% (p<0.001), dizziness AG 87.5±3.7%, ng 90±3.59% and dng p<0.001, nausea AG 23.75±4.76, ng 22.86±5.02% and dng 30±7.25% (p<0.001), vomiting AG 11.25±3.53%, ng 7.14±3.08% and DNG 17.5±6.01% (p<0.001), and weakness AG 88.75±3.53%, ng 88.57±3.8% and DNG 85±5.65% (p<0.01) were observed in cases. It can be observed that common brain symptoms are more deeply expressed in relation to the control group in the main group and in the diabetes control group.

In the study, central damage to the cranial nerves in groups was demonstrated to varying degrees in patients' complaints. Acute visual impairment was observed in cases of AG 7.5±2.94%, ng 1.43±5.13% and dng 7.5±4.1% (p<0.001). Swallowing disorders were observed in all three groups, AG n=10, 12.5±3.7%, ng n=3, 4.3±2.42% and dng n=2, 5±3.45% (p<0.001), speech disorder AG N=49, 61.25±5.45% , ng N=40, 57.14±5.91% dng n=19, 62.5±7.65% (p<0.01), speech loss is AG n=3, 3.75±2.12%, ng, n=1, 1.43±1.42% and dng n=1, 2.5±2.47% S(P<0.001). In the results of the study presented above, in subjective examinations, it is possible to observe a relatively multiple occurrence and deep manifestation of Ng relatively focal signs in AG and dng.

Table 1. Complications of diabetes mellitus in patients of the main and diabetes control group

Complication	Main group (n=80)		Diabetes control group (N=40)	
	n	(%)±m	n	(%)±m
Diabetic angiopathy	80	100±0	40	100±0
Diabetic retinopathy	32	40±5,5	17	42,5±7,8
Diabetic neuropathy	36	45±5,6	19	47,5±7,9
Diabetic polyneuropathy 2	68	85±4,0	35	87,5±5,5
Diabetic polyneuropathy 3	12	15±4,0	5	12,5±5,2
Autonomous polyneuropathy	19	23,7±4,8	11	27,5±7,1

All of the main group patients accompanied by diabetes mellitus N=80 were complicated by diabetic anigopathies to varying degrees. Diabetic microangiopathies diabetic retinopathy AG N=32, 40±5.5%, dng N=17, 42.5±7.8% (p<0.001), diabetic nephropathy AG N=36, 45±5.6% and dng N=19, 47.5±7.9% (p<0.001) were detected. Diabetic polyneuropathy 2 degrees AG n=68, 85±4.0% and dng N=35, 87.5±5.5% (p<0.001) diabetic polyneuropathy 3 degrees AG N=12, 15±4.0% and dng n=5, 12.5±5.2 (p<0.01) and autonomous polyneuropathy AG N=19, 23.75±4.8% and dng n=11, identified in cases 27.5±7.1 (p<0.01).

Table 2. Indications of extracranial brachiocephalic arteries identified in the Ultrasound style

Indicator	Main group	Control group	Диабет назорати гуруҳи
	M±m	M±m	M±m
Common Uku Art (osa) right D	4,1±0,2	4,9±0,13	4,2±0,19
Who max	1,25 ±0,05	1,15±0,04	1,3±0,05
V max	102,9±5,4	92,3±3,4	101,9±5,47
General sleep Art (osa) left D	4,1±0,19	4,8 ±0,1	4,4±0,17
Who max	1,2±0,05	1,07±0,03	1,2±0,04
V max	96,9 ±5,1	84,7±3,4	90,6 ±4,45
External sleep Art (NSA) ung D	3,5±0,15	3,8±0,09	3,7±0,13
External sleep Art (NSA) left D	3,5±0,16	3,8±0,07	3,7±0,14
Internal sleep Art (VSA) ung D	3,6±0,16	4,17±0,1	3,9±0,16

Internal sleep Art (VSA) left D	3,9±0,1	3,9±0,1	3,9±1,13
Spine 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
Spine art left D	2,7±0,06	2,94±0,07	2,8±0,07
V max	41,8±1,0	34,7±0,9	39,3±1,31

Note: D – diameter, who-and V max results in common sleep arteries.

As can be seen from Table 2, table 13 shows UUA (osa) right D AG 4.08±0.2, ng 4.9±0.1 and dng 4.2±0.19 (p<0.001) who AG 1.25 ±0.1, ng 1.15±0.04 and dng 1.3±0.05 (p<0.001) Vmax AG, 102.9±5.4 and ng 92.3±3,4 and DNG 101,9±5,47 (P<0,001); uua (OSA) left - sided AG d 4,1±0,2, who 1,2±0,1, VMAX 96,8 ±5,1, ng d-4,8 ±0,1, who 1,07±0,03, VMAX 84,7±3,4 and DNG d 4,4±0,17, who 1,2±0,04, VMAX indicators of 90.6 ±4.45 (p<0.001) were determined. It can be observed that the bulk of stenoses coincide in UUA (osa), that D is narrowed by 1.2 times compared to agda ng, who has thickened, and that the level of stenoses has increased, accelerating to V max. Also, external, internal sleep and spinal atherias D, V max were detected, with a high level of stenosis at AG and a significant increase in blood flow rate.

Table 3. Indicators detected in MRI and MSKT examinations

Indicators	Main group (n=80)		Group control (n=70)		Diabetes control Group (N=40)	
	n	M±m	n	M±m	n	
MSgt	73	91,25%	62	88,60%	40	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%
Atrophia	12	15±3,99%	8	11,4±3,8%	2	5±3,45%
Stroke	76	95±2,44%	63	90±3,8%	35	87,5±5,23%
encephalopathy	45	56,25±5,5%	32	45,7±5,9%	19	47,5±7,9%

Brain subatrophy AG(58\80) 72,5±4,99%, ng (41\70) 58.6±5.9% and dng 25±6.85% (p<0.001), atrophy AG(12\80),15±3,99%, ng (8\70) and dng 5±3,45% (2\32) 11,4±3,8%, 5±3,45% (p<0,001), vascular encephalopathy AG(76\80), 95±2,44%, ng(63\70), 90±3,8% and dng (35\40), 87,5±5,23% (p<0,001), determined in cases. Diagnosis of ischemic stroke AG(45\80) 56,25±5,5%, ng(32\70), 45,7±5,9% and dng (19\40), 45,7±5,9% (P<0,001) it was observed that the foci of ischemia formed in the cases were detected, and at the expense of the fact that the formation of penumbra in the remaining patients lasts 8-24 hours, the examination is explained by the timing of the formation of penumbra in time.

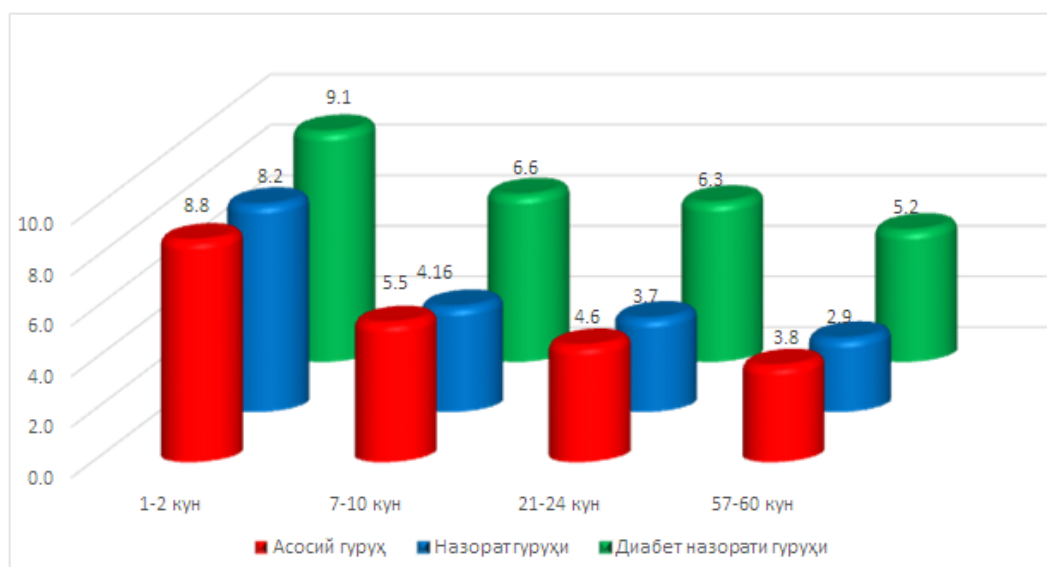


Figure 1. Dynamics of indicators of the NIHSS scale

On the NIHSS scale on days 1-2 of the study, the average rate was AG 8.8 ± 0.36 , ($p < 0.001$) on days 7-10 of the study was 5.5 ± 0.29 , on days 21-24 4.6 ± 0.23 and on days 57-60 3.8 ± 0.22 , and on days 1-2 8.2 ± 0.37 treatment and rehabilitation it was 3.7 ± 0.22 on days 21-24 and 2.9 ± 0.19 on days 57-60. It was found that the Dng was 9.1 ± 0.49 on 1-2 days, 6.6 ± 0.52 on 7-10 days, 6.3 ± 0.49 on 21-24 days, and 5.2 ± 0.55 points on 57-60 days. Based on the NIHSS scale indicators, AG and dng showed a deeper level of neurological deficiency symptoms in the initial indicators, and positive changes were observed in the population of patients in all three groups after treatment and early rehabilitation measures.

The Bartel scale is considered to be a scale widely used by neurologists and rehabilitologists to assess the activity of life activity on the day, with high accuracy, reliability assessed in a large number of studies. At 24-48 hours of hospitalisation using the Bartel scale and in the emergency neurology department, treatment and early rehabilitasyai measures were evaluated on 7-10 days, 21-24 and 57-60 days after completion. It was assessed on the basis of changes in the dynamics of the average indicator in AG, ng and dng in the form of a slight degree of paralysis on the Bartel scale, moderate degree of paralysis and severe degree of paralysis.

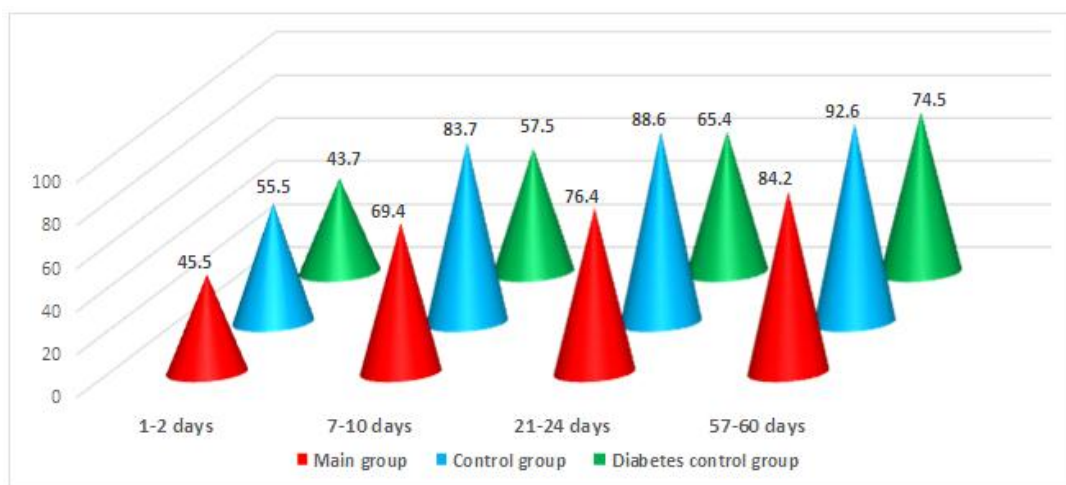


Figure 2. Dynamics of average indicators of the Bartel scale.

At the beginning of the study on the Bartel scale, it can be observed that on 1-2 days the AG was 45.5 ± 1.81 points, and on 7-10 days 69.4 ± 1.61 ($p < 0.001$) points improved to 76.4 ± 1.3 points on 21-24 days and 84.2 ± 1.12 points on 57-60 days. Ng this figure 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 ± 1.18 points ($p < 0.001$) on the last 57-60 days of the study. The Dng was 43.8 ± 2.47 in 1-2 days, 57.5 ± 2.7 in 7-10 days, 65.4 ± 2.49 in 21-24 days, and 74.5 ± 2.81 points in 57-60 days. Nevlogic failure rate ratio AG and ng 1.22 ratio at the beginning of the study 1.20 at the end of the study, it can be observed that AG patients recover as a result of treatment and early rehabilitation measures with ng relative slowness, to a lesser extent. Given that treatments of the same order were carried out in all three groups, it can be observed that in AG patients, the return to an active lifestyle caused by QD and its founders is slow. In Dng patients, the ratio of patients with moderate to severe levels of neurological failure in 1-2 days of the study is determined that significantly higher rates of AG and ng ratio were maintained in the 57-60 days of the study.

Conclusion.

1. In neurovisual examinations, the formation of neurological \deficits in the main group against the background of diabetes and in the diabetes control group at a deeper level compared to the control group was observed.
2. As a result of early rehabilitation measures, neurological deficits recovery at AG ng were observed to be relatively low, while early rehabilitation measures were not carried out at dng with a low recovery of neurological deficits relative to both groups were observed.

3. On the Bartel and NIHSS scales, the recovery process in ischemic strokes based on diabetes is relatively low and slow in proportion to the control group, and diabetes and its complications can be recognized as one of the main causes of this.

Literature:

1. Azimov M. I., Shomurodov K.E. A technique for Cleft Palate Repair. Journal of research in health science. Vol. 1, No. 2, 2018, pp. 56-59.
2. Khamdamov B.Z. Indicators of immunocytocine status in purulent-necrotic lesions of the lower extremities in patients with diabetes mellitus. //American Journal of Medicine and Medical Sciences, 2020 10(7) 473-478 DOI: 10.5923/j.ajmm.2020.- 1007.08 10.
3. M. I. Kamalova, N.K.Khaidarov, Sh.E.Islamov, Pathomorphological Features of hemorrhagic brain strokes, Journal of Biomedicine and Practice 2020, Special issue, pp. 101-105
4. Kamalova Malika Ilkhomovna, Islamov Shavkat Eriyigitovich, Khaidarov Nodir Kadyrovich. Morphological Features Of Microvascular Tissue Of The Brain At Hemorrhagic Stroke. The American Journal of Medical Sciences and Pharmaceutical Research, 2020. 2(10), 53-59
5. Khodjjeva D. T., Khaydarova D. K., Khaydarov N. K. Complex evaluation of clinical and instrumental data for justification of optive treatment activities in patients with resistant forms of epilepsy. American Journal of Research. USA. № 11-12, 2018. C.186-193.
6. Khodjjeva D. T., Khaydarova D. K. Clinical and neurophysiological characteristics of post-insular cognitive disorders and issues of therapy optimization. Central Asian Journal of Pediatrics. Dec.2019. P 82-86
7. Sadridin Sayfullaevich Pulatov. (2022). Efficacy of ipidacrine in the recovery period of ischaemic stroke. World Bulletin of Public Health, 7, 28-32.
8. Sadridin Sayfullaevich Pulatov. A Randomised Pilot Study Of Cardiovascular Patients With Hemispheric Ischaemic Stroke Against A Background Of Early Verticalisation- Web Of Scientist: International Scientific Research ..., 2022
9. Sadridin Sayfullaevich Pulatov. (2022). Verticalization of Patients with Severe Acquired Brain Injury: A Randomized Pilot Study. *Eurasian Medical Research Periodical*, 9, 46-48.