RESEARCH JOURNAL OF TRAUMA AND DISABILITY STUDIES

Volume: 01 Issue: 11 | Nov – 2022 **ISSN: 2720-6866**
http://journals.academiczone.net/index.php/rjtds

Diseases of the Cardiovascular System in Diabetes Based on Ischemic Stroke

Pulatov Sadriddin Sayfullaevich, Ruziev Feruz Giyosovich

Bukhara branch of the republican research center of emergency medical care Bukhara State Medical Institute

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 underwent subjective, objective, clinical-instrumental examinations, and the effectiveness of the early rehabilitation process was studied in patients with diabetes and in groups without diabetes.

Keywords: ischemic stroke, diabetes mellitus, early rehabilitation.

Introduction. Type II diabetes increases the risk of ischemia and ischemic stroke several times. Combined observation of diabetes and ischemic stroke results in a relatively high incidence of disability in cases where ischemic stroke is observed separately [1]. Currently, 3-4% of the world's population suffers from diabetes, with complications such as kidney failure, stroke, heart attack and impaired vision in patients with diabetes being 25 times more likely to have an average life expectancy of 15 years less than in other segments of the population [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 than in the population of another population. [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 2020-2022, 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

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62.3±6.2, Group II (comparative,control) (ng) in Anamnesis and examinations of 70 people without diabetes mellitus detected, 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 patients was assessed in the NIHSS, Bartel scale, MRS and Rivermid Mobility Index cycle for 1-2 days, 7-10 days, 21-24 days and 57-60 days of research. 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.

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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).

Recommended early rehabilitation measures,verticalization practices, psychological rehabilitation, physiotherapeutic procedures and curative exercises were recommended in the patients of the main group and control group.

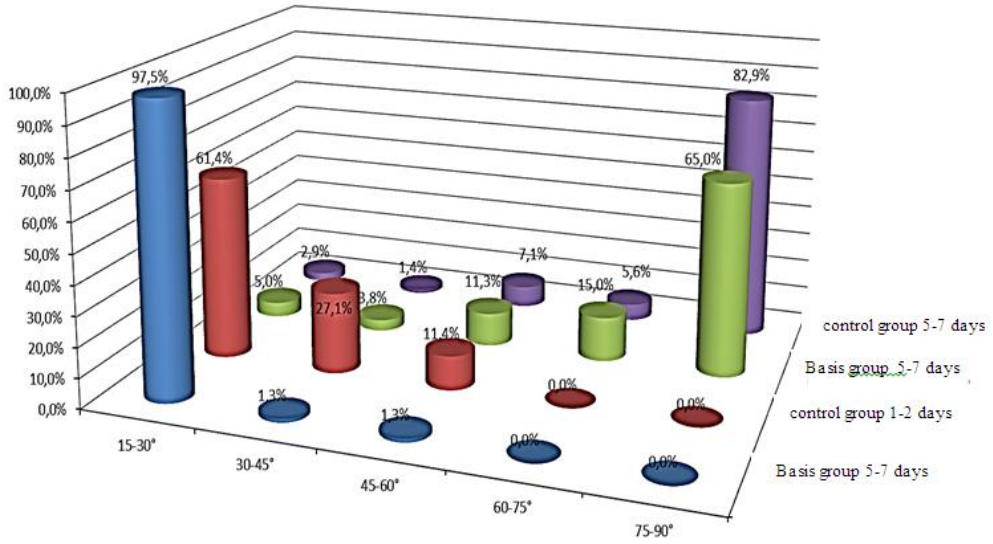

Figure 1. Dynamics of indicators of verticalization in 1-2 and 5-7 days of hospitalization in research groups

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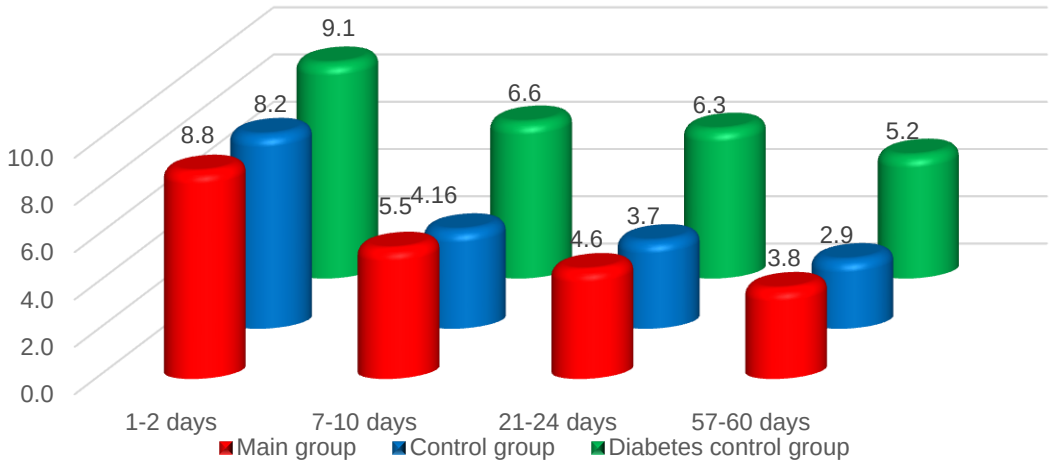
In the results, the passive verticalization measures were 97.5±0.2 in patients with ischemic stroke, which occurred against the background of diabetes mellitus on days 1-2 in the process of passive verticalization, 61.4±1.12% in the control group, ($r<0.001$) in patients with a vertical position of 90° on days 5-7 of the study, the main group was 65.0±0.92 in relation to the control group of patients, there is a slow formation of stagnation in the standing position.

In patients with ischemic stroke against the background of diabetes mellitus, the process of verticalization is slow and lasts relatively long. Es hush disorders in ischemic strokes, which occur against the background of diabetes mellitus, are more common and persistent in relation to the control group, cause a delay in the processes of active passive and active verticalization by 3-4 days. In the direction of psychological rehabilitation, patients were carried out in methods of rational psychotherapy, emotional psychotherapy or psychological conversation, taking into account their individual characteristics, and the level of anxiety in patients was assessed using the Taylor scale. The level of anxiety was initially relatively high in AG and dng patients, and after psychological rehabilitation treatments, there was a decrease in the level of sensitivity in both AG and ng groups, while a relatively high anxiety ratio of ng was maintained despite a decrease in overall anxiety in AG. At Dng, there was an increase in the level of memorization in 7-10 days of the onset of the disease compared to 1-2 days, and on 21-24 and 57-60 days this indicator was found to decrease relatively, this condition is justified by the patient's adaptability to the disease. In order to restore movement activity, physiotepeutic procedures benefited from electrostimulation and magnetotherapy techniques. From the group of healing exercises, inactive Gymnastics and breathing exercises were used. Also carried out appropriate approaches, taking into account the different situations of the body of the paralyzed and healthy side positions.



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

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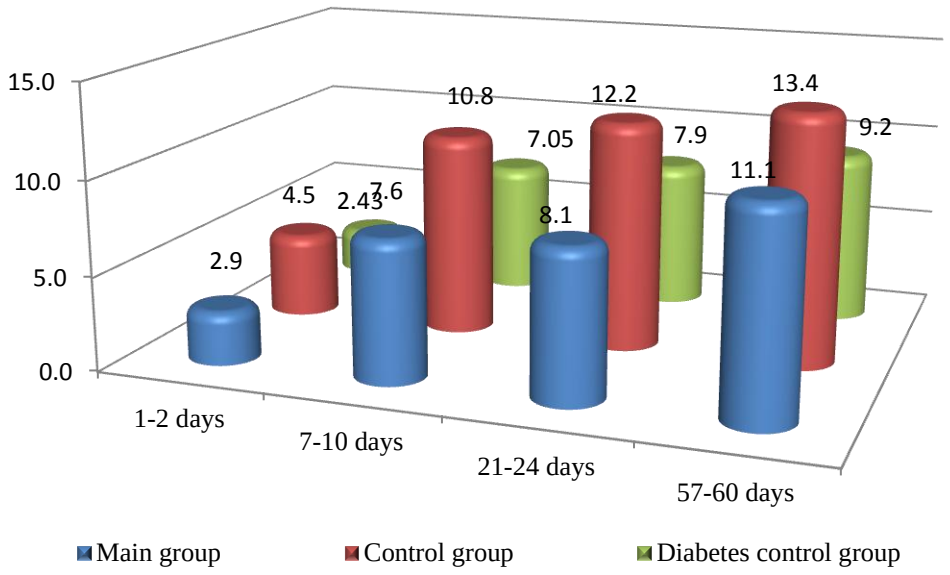
8.2±0.37 treatment and rehabilitation it was 3.7±0.22 on days 21-24 and 2.9±0.19 on days 57-60. It was found that the Dng was 9.1±0.49 on 1-2 days, 6.6±0.52 on 7-10 days, 6.3±0.49 on 21-24 days, and 5.2 ±0.55 points on 57-60 days.



In preliminary investigations into the Rivermid Mobility Index, AG was 2.86±0.42 ng 4.51±0.53 and dng 2.43±0.49 points, with the results of the study 7-10 scoring AG 7.59±0.38, ng 10.77±0.5 and dng 7.05±0.56. On the 21-24 days of the study, AG accounted for 8.1±0.33, ng 12.2±0.39 and dng 7.87±0.53 points , AG 11.1±0.27 on the 57-60 days, ng 13.4±0.27 and dng 9.21±0.44 ($p>0.001$).

With the help of the Bartel scale, it was estimated at 1-2, 7-10 days, 21-24 and 57-60 days. 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.

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

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determined that significantly higher rates of AG and ng ratio were maintained in the 57-60 days of the study.

Conclusions

1. In the examinations, neurological deficits in the main diabetes background and diabetes control group were expressed at a deeper level than in the control group.
2. In the groups in which early rehabilitation measures were carried out, there was a significant recovery of neurological deficits, and in the dng, where early rehabilitation measures were not carried out, there was a low recovery of neurological deficits compared to both groups.
3. In ischemic strokes based on diabetes, according to Bartel, NIHSS scales and Rivermid Mobility Index, the recovery process is low and slow compared to the control group, which is explained by diabetes mellitus and its complications as one of the main causes.

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