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"Evaluation and Prediction of Cognitive Changes Accompanying Panic Attacks in Stroke Patients"

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Abstract: One of the most urgent problems of modern medicine is the rapid growth of acute cerebrovascular disorders (ACCI), their "aging", and high rates of death and disability in surviving patients. As a result of the disability of the working-age population, long-term treatment and rehabilitation costs, stroke causes a great economic loss to society, and therefore the problem is of social importance.

The relationship between stroke and depression is significant. Panic attacks in stroke patients were studied and evaluated based on questionnaires and scales. Ways to eliminate cognitive disorders associated with post-stroke panic attacks, and the effectiveness of treatment have been studied**.**

Keywords: *depression, cognitive impairment, stroke, disability, dementia.*

1. Introduction

According to the literature, depression in stroke patients often complicates the rehabilitation process of patients, and in this regard, the issue of the combination of stroke and depression is of particular importance. [2,17]

The relationship between these diseases is very unclear. On the one hand, high levels of depression and anxiety have been proven to be independent risk factors for stroke, but on the other hand, depression is not only the most frequent but also the least diagnosed complication of stroke. [5,8]

Treatment of post-stroke depression, which is not diagnosed in time, significantly reduces the quality of life of patients, affects the patient's participation in movement rehabilitation, makes it difficult to correct arterial hypertension. [9,10]

It is known that stroke in the next 4 years, oncological diseases, diabetes and heart diseases. [16] The combination of focal neurological deficit and depression causes the patient to become more and more isolated from the world, decrease in the range of interests, physical and social activity, negative reaction to treatment and in some cases suicide attempts. [15,16]

Currently, there is insufficient information on the effect of post-stroke depression on mortality rates and time after stroke, but the risk of death increases 4-5 times during the first six months after myocardial infarction in patients with depression. In the studied literature, there is insufficient reliable information about the clinical manifestations of post-stroke depression and the effect of antidepressant use in the treatment of post-stroke

patients and their impact on quality of life. In this regard, we studied the problems of post-stroke depression, its timely diagnosis and medication adjustment. [21]

The aim of the research.

Clinical characteristics of organic depression and panic attacks developed during 6 months in patients undergoing ACCI and their elimination methods.

2. Research materials and methods.

In order to solve the set scientific goals and tasks, 110 patients who had a stroke were examined in the neurology department of the multidisciplinary clinic of the Tashkent Medical Academy. Among them, group I (main) - 80 patients with ischemic stroke and group II (comparison) - 34 patients with hemorrhagic stroke. It should be noted that all patients of groups I and II were in the early or late recovery or residual period of stroke.

When differentiated by gender, we found a male predominance, the ratio is 1.5:1. Research methods included clinical-neurological examination, general clinical methods: general blood and urine analysis. Biochemical studies included blood coagulogram, lipid spectrum, blood Vit D, VitV 12, and folic acid.

In accordance with the objectives of the research, a clinical study of the effect of PD and Portal (fluoxetine), a drug-serotonin reuptake inhibitor from the new generation group of antidepressants, on the prognosis of rehabilitation in post-stroke patients with organic depression syndrome was conducted.

63 women aged 10 to 45 years (average age 54.5 years (9 years)) and men aged 10 to 50 to 65 years (average age 57.5 years) were examined, the lateralization of the stroke center were as follows: in 10 patients, ACCI in the right carotid basin and 10 patients had left carotid basin ACCI.

All patients underwent a clinical and neurological examination, depressive symptoms were assessed at 2 weeks, and at 2, 3, 4, and 6 months after stroke using the Hamilton Depression Scale. The diagnosis of depression was made according to the criteria of the guidelines for the diagnosis of mental disorders and statistical research.

Hamilton depression scale, consists of 21 criteria. The sum of points on the Hamilton scale consists of scores on the 21 points listed above, where the minimum score is 0, the maximum score is 52, the total score from 0-6 points is the absence of a depressive episode, from 7-15 points is a minor depressive episode, from 16 points and above - major depressive means an episode.

Stroke severity was evaluated according to the Scandinavian scale, and the effect of fluoxetine on the prognosis of rehabilitation in patients with PD was studied.

3. The results of our research

Distribution of patients according to etiological factors, among IS causes, 41% of patients had GB 2-3 degree., 41% BI atherosclerosis, 10% YuIK and 8% patients with type 2 diabetes. In patients with chronic PD background, diabetes is type 2, IUD. In 35% of patients (5 men and 2 women), the depressive episode lasted up to 6 months, but with a decrease in the assessment score on the depression scale (Fig. 1).

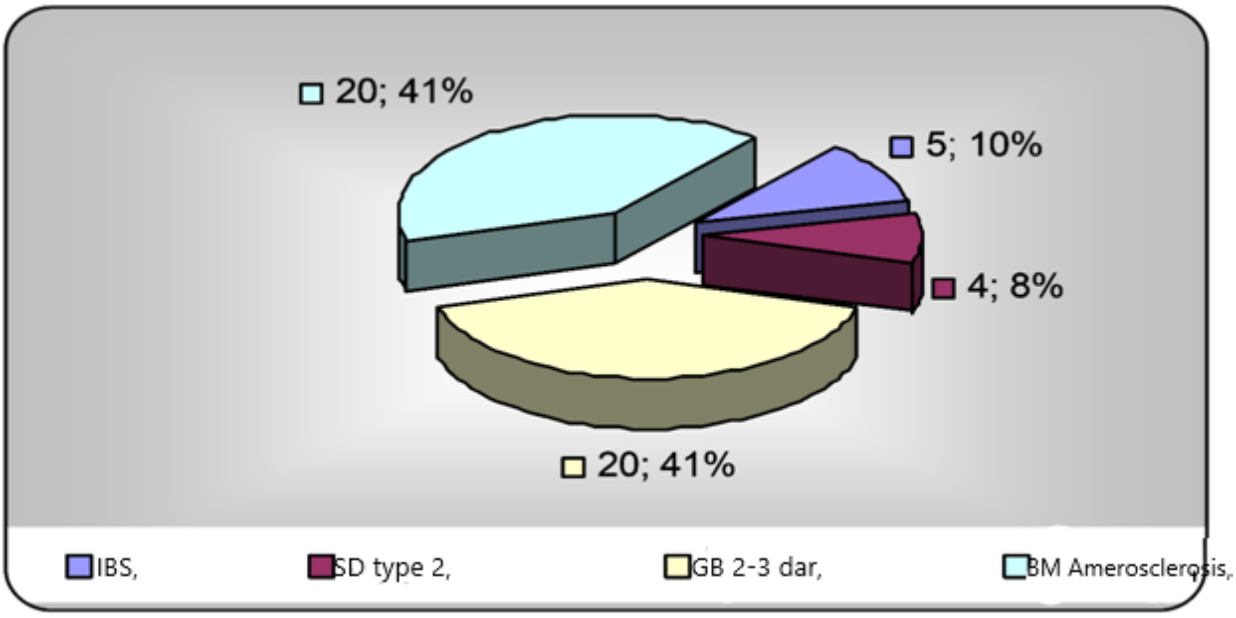
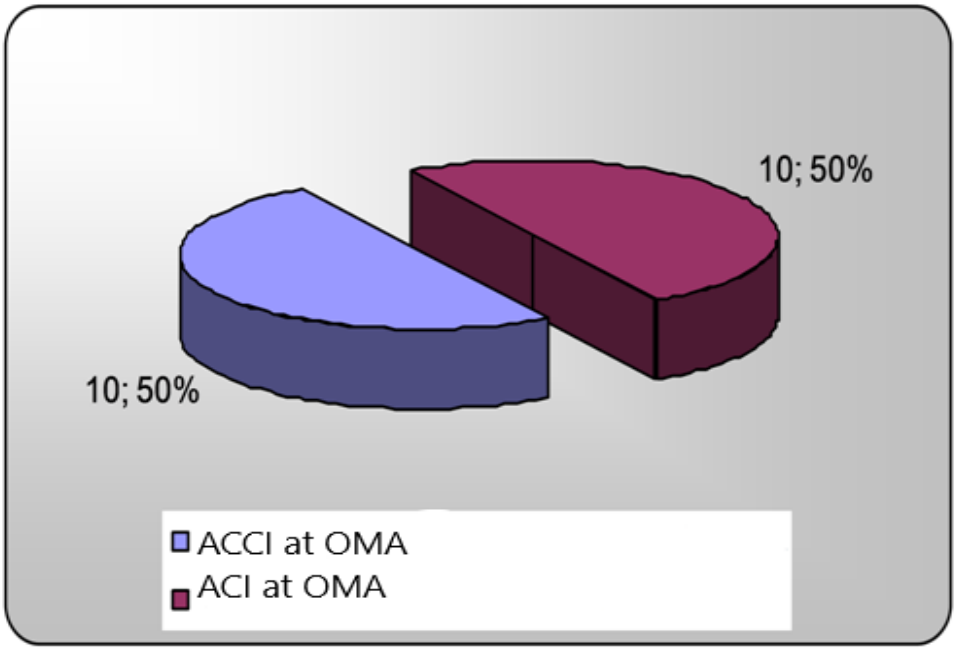


Figure 1. Distribution of patients by etiological factor

The analysis of the localization of blood vessels showed that in 50% of patients, ACCI occurred in the right hemisphere and in 50% of patients in the left hemisphere of the brain. The analysis showed that the occurrence of depression is not related to the localization of the stroke (Fig. 2).



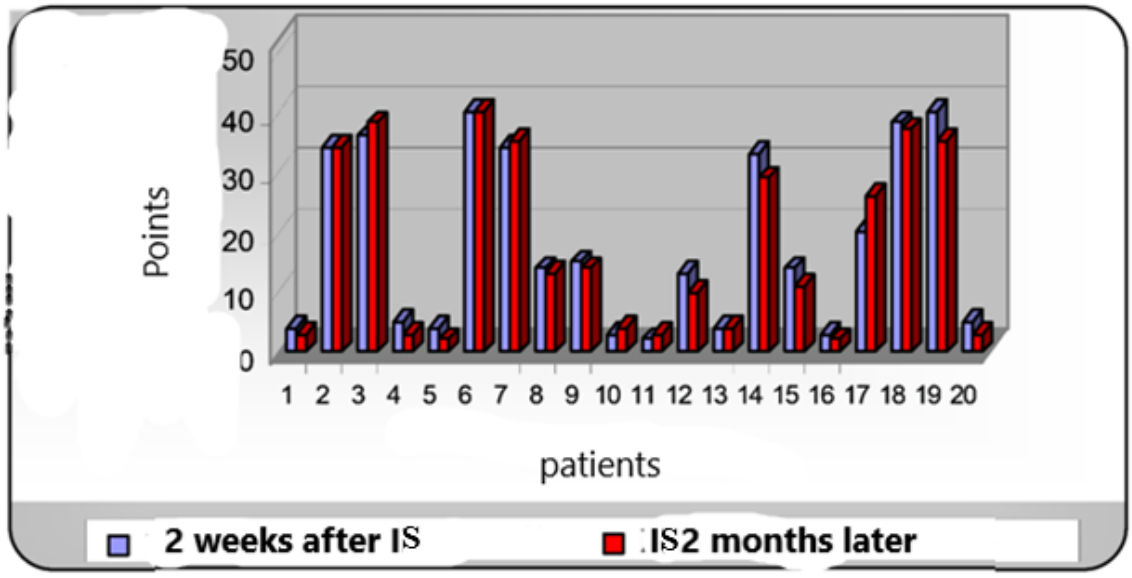


Figure 2. Analysis of stroke localization

An analysis of the post-stroke depression (PD) study found that 60% of patients examined after 2 weeks of II developed depression. Depression component structures 20% of patients had a minor depressive episode, and 40% of patients experienced a major depressive episode. (Figure 3).

Assessment of PD after two months showed that 25% of patients had a worsening of their depressive state in the form of an increase in the sum of points on the Hamilton Depression Scale with an average of 2.25 ± 6.75 points. However, 15% of patients had the same level of total DE assessment scores, and the remaining patients diagnosed with DE had a decrease in total depression scores. average 2.25±15.75 (Fig. 3), (Table 1).

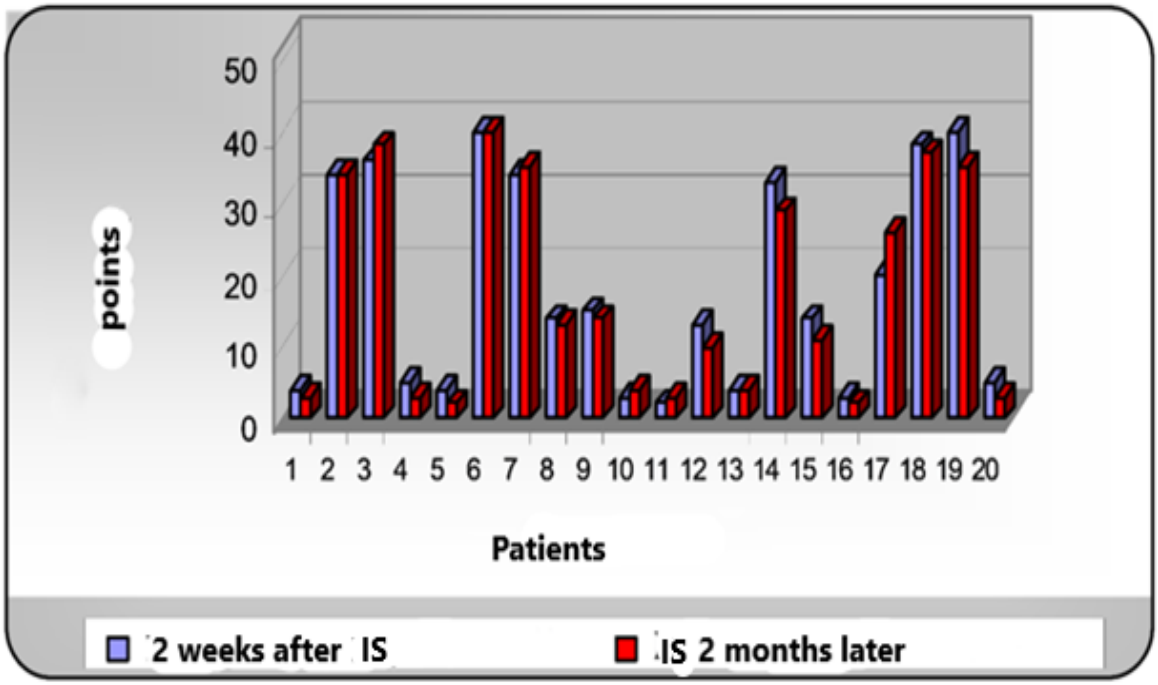


Figure 3. Assessment of PD according to the Hamilton scale after 2 weeks from IS

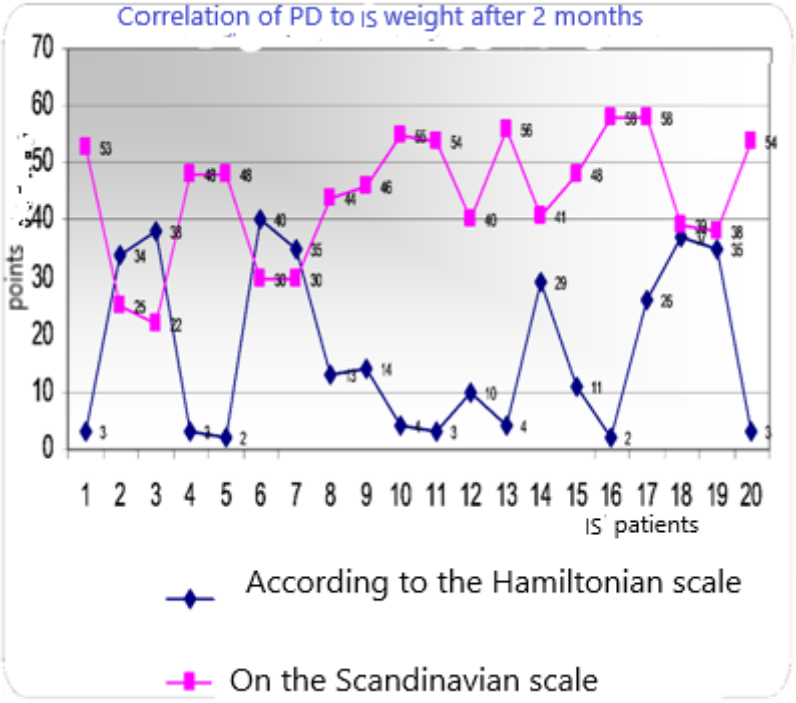
Table #1. PD assessment according to the Hamilton scale

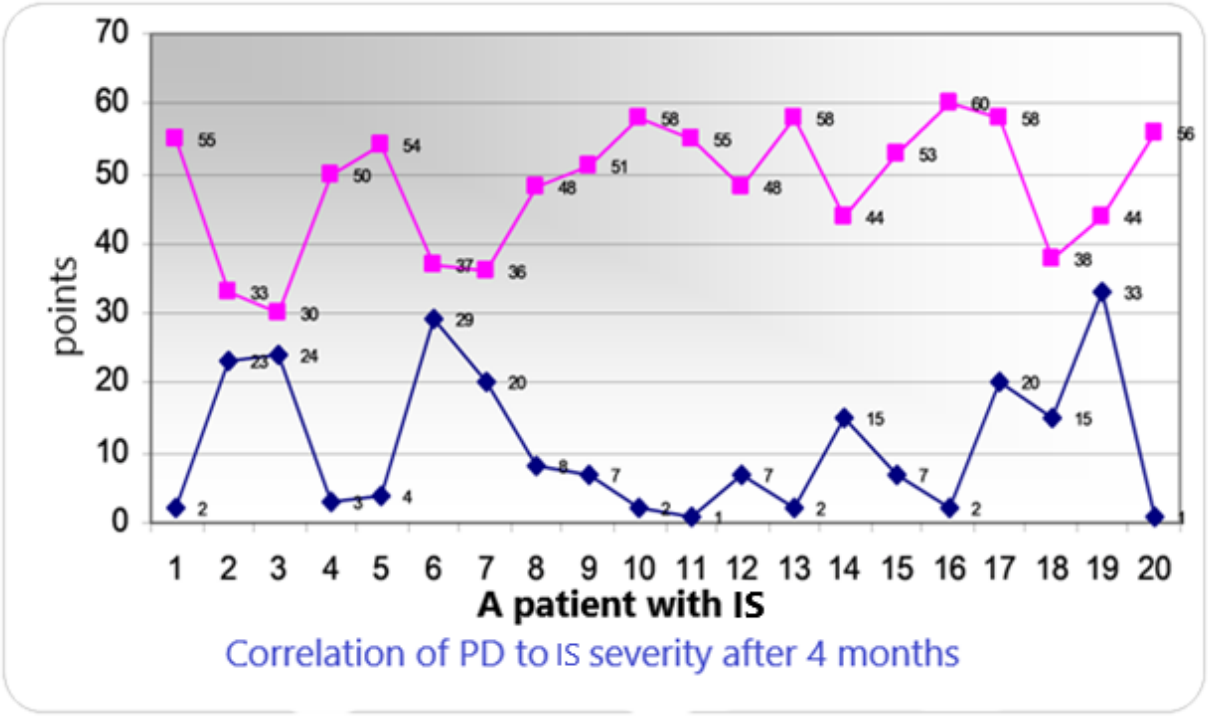
Number of patients	PD before treatment		PD during treatment and after treatment		
	2 weeks	2 months	3 months	4 months	6 months
1	4	3	3	2	2
2	34	34	33	23	20
3	36	38	36	24	21
4	5	3	3	3	3
5	4	2	2	4	3
6	40	40	39	29	15
7	34	35	33	20	14
8	14	13	12	8	6
9	15	14	12	7	5
10	3	4	3	2	3
11	2	3	2	1	1
12	13	10	9	7	5
13	4	4	3	2	1
14	33	29	26	15	8
15	14	11	9	7	5
16	3	2	2	2	1
17	20	26	25	20	15
18	38	37	29	15	13
19	40	35	34	33	25
20	5 ODE - 8 MDE - 4 BDE - 8	3 ODE -8 MDE -4 BDE -8	2 ODE -8 MDE -4 BDE -8	1 ODE -8 MDE -6 BDE - 6	2 ODE -12 MDE -5 BDE -3

Then, we performed a correlation between IS and PD severity at 6 months after stroke, which revealed certain results. The analysis showed that IS and the severity of PD have a direct relationship. Figure 4 shows that the more severe the stroke and the more accurately recorded PD. And vice versa, the milder the stroke and the milder the PD. (Figure 4)

All patients were prescribed an antidepressant drug (ADD) Portal in a dose of 20 mg. 1 tablet each 1 time a day for 2 months. Analysis of treatment dynamics was carried out for 2, 4, 6 months. As can be seen from the

figure, the treatment of all patients started 2 months after the stroke. 4, the results of the study showed that after 4 months, the depressive episode disappeared with a decrease or regression of the neurological deficit in PD patients, or changed from BDE to MDE with a decrease in the Hamilton depression score (Fig. 4 figure, table 2).





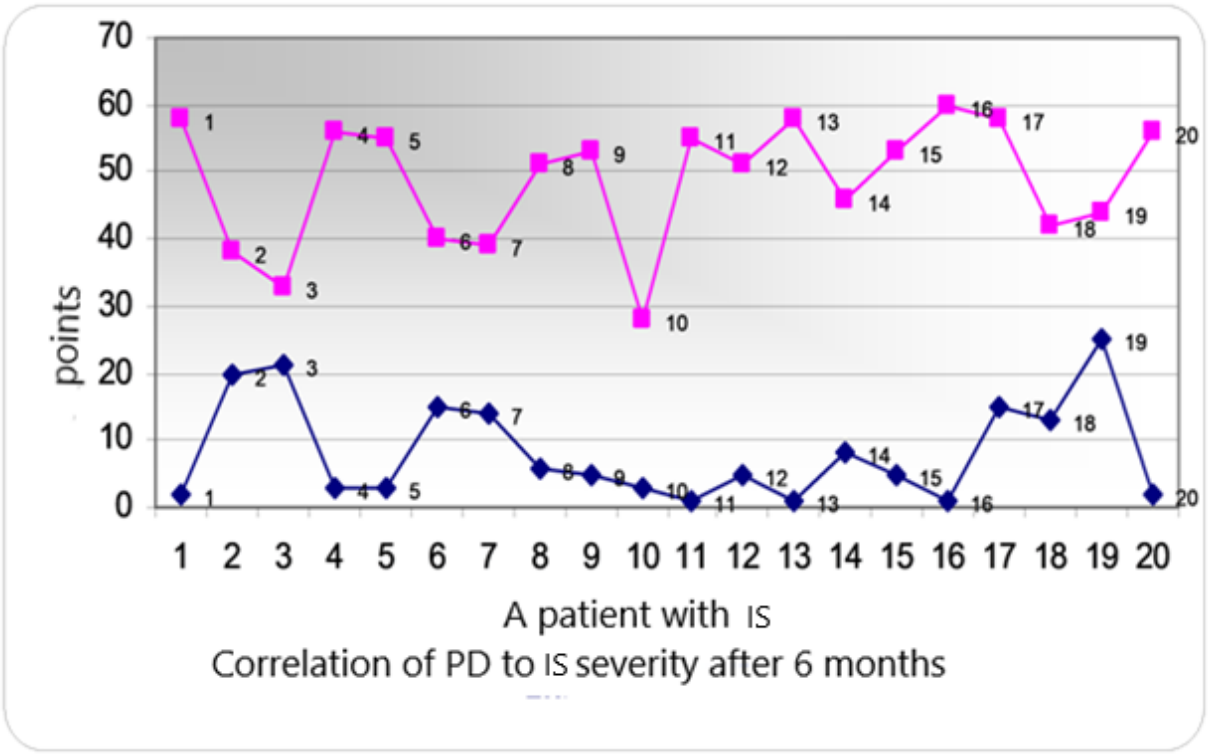


Figure 4. Correlation of IS severity and PD resolution after 4 months

Table No. 2. Correlation of IS severity and PD progression after 6 months

Number of patients	Evaluation by PD Hamilton scale	Assessment of PD severity according to the Scandinavian scale	Assessment of PD according to the Hamilton scale	Assessment of stroke severity according to the Scandinavian scale	Assessment of PD according to the Hamilton scale	Assessment of stroke severity according to the Scandinavian scale
	2 months after IS		4 months after IS		6 months after IS	
1	3	53	2	55	2	58
2	34	25	23	33	20	38
3	38	22	24	30	21	33
4	3	48	3	50	3	56
5	2	48	4	54	3	55
6	40	30	29	37	15	40
7	35	30	20	36	14	39
8	13	44	8	48	6	51

9	14	46	7	51	5	53
10	4	55	2	58	3	58
11	3	54	1	55	1	55
12	10	40	7	48	5	51
13	4	56	2	58	1	58
14	29	41	15	44	8	46
15	11	48	7	53	5	53
16	2	58	2	60	1	60
17	26	58	20	58	15	58
18	37	39	15	38	13	42
19	35	38	33	44	25	44
20	3	54	1	56	2	56

For 6 months of IS patients with standard treatment, 7 (40%) patients had significant improvement, 6 (30%) patients had moderate improvement, and 7 (40%) patients had mild improvement. The Scandinavian scale, in which PD was evaluated after 6 months, DE continued, but was observed with a transition from MDE to Small DE and a decrease in the estimated score of MDE according to the Hamilton scale (Figure 5).

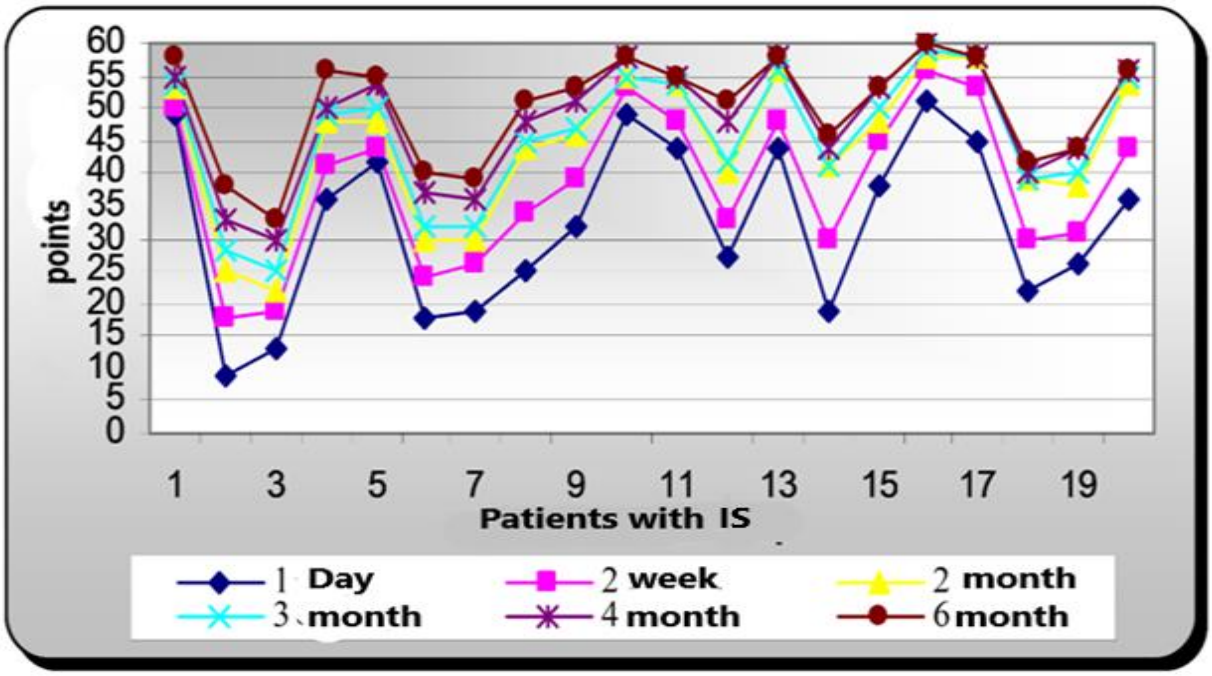


Figure 5. Assessment of stroke severity during 6 months of standard treatment according to the Scandinavian scale

Table No. 3. Assessment of stroke severity during 6 months of standard treatment according to the sScandinavian scale

Number of patients	Day 1	time			
		2 weeks	2 months	4 months	6 months
1	49	50	53	55	58
2	9	18	25	33	38
3	13	19	22	30	33
4	36	41	48	50	56
5	42	44	48	54	55
6	18	24	30	37	40
7	19	26	30	36	39
8	25	34	44	48	51
9	32	39	46	51	53
10	49	53	55	58	58
11	44	48	54	55	55
12	27	33	40	48	51
13	44	48	56	58	58
14	19	30	41	44	46
15	38	45	48	53	53
16	51	56	58	60	60
17	45	53	58	58	58
18	22	30	39	38	42
19	26	31	38	44	44
20	36	44	54	56	56

In patients with II, minor DE was observed in 4 (20%) patients and MDE in 8 (40%) patients before treatment with an antidepressant drug (ADP) in the second month. After 30 months of ADP Portal appointment in 4 (6%) patients, MDE was converted to Small DE, and in 2 (10%), MDE remained, but a percentage reduction was observed with 37.1%.

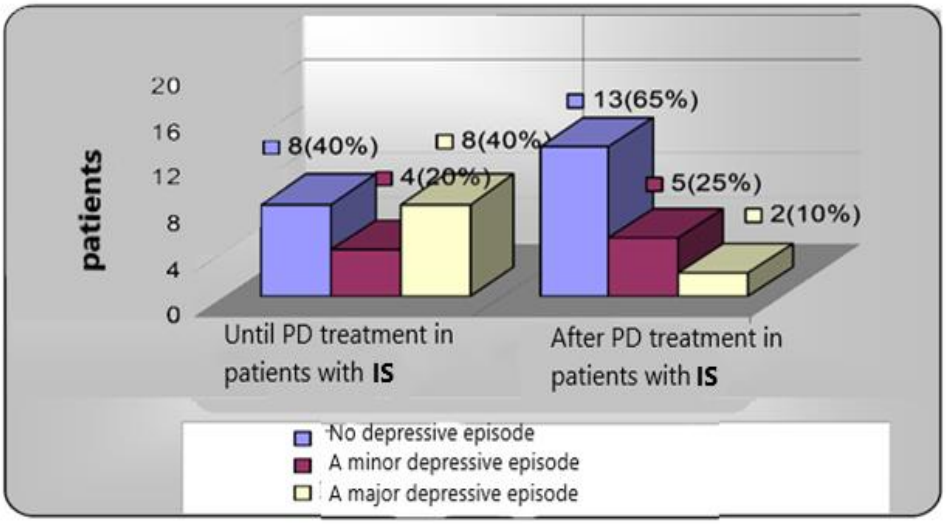


Figure 6. Semiotics and dynamics of pre-treatment and post-treatment depression and panic attacks over 6 months according to the Hamilton scale.

4. Conclusion

Based on the results of our research, it can be concluded that: Poststroke depression and panic attacks are frequent and chronic in nature. The development of depression and panic attacks in the early recovery period of a stroke depends on the severity of the stroke, functional deficits, and somatic diseases. Comprehensive post-stroke rehabilitation measures should include effective antidepressants and nootropic drugs that eliminate post-stroke depression and panic attacks, increase the quality of life of patients and shorten the rehabilitation period.

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