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FEATURES OF COGNITIVE FUNCTIONS IN AFFECTIVE DISORDERS IN PATIENTS WITH CHRONIC CEREBROVASCULAR INSUFFICIENCY

Djurabekova Aziza Tahirovna
Doctor of medical sciences, Professor, Head of the Department of Neurology, Samarkand State Medical University

Mamurova Mavlyuda Mirhamzaevna
Candidate of medical sciences, associate professor of neurology department of Samarkand State Medical University

Sulaimonova Mehriniso Muzafarovna
Resident of the master's program of the Department of Neurology of Samarkand State Medical University

Abstract: In modern neurology, the problem of cognitive impairment in chronic cerebral ischemia is becoming increasingly relevant. Of particular interest is the study of the effect of anxiety-depressive disorders on the formation and progression of cognitive deficits in this category of patients. According to the World Health Organization, the prevalence of cognitive impairment in patients with chronic cerebrovascular pathology reaches 40-60%, and in 30-35% of cases they are combined with various affective disorders.

Key words: cognitive impairment, anxiety-depressive disorders, chronic cerebral ischemia, cerebrovascular pathology, neuropsychological testing, affective disorders, cognitive deficit, emotional-volitional disorders, cerebral hemodynamics.

Introduction. There are a lot of disputes and disagreements around the fundamental problem of neurology: disorders of the brain of vascular origin, primarily regarding terminology reflecting the increase in focal and cognitive processes, where the term "dyscirculatory encephalopathy" is traditionally used, which does not reflect the specific causes of disorders. In this regard, many authors emphasize the clinical forms of vascular diseases and the interaction with chronic cerebral ischemia (or chronic cerebrovascular accident) associated with perfusion insufficiency, against the background of dysfunction of the microcirculatory system (E.A.Katunina, 2018, Boriskina L.M., 2019). In addition, literary sources identify the main basis of vascular disorders of the brain, cognitive impairment syndrome, as the leading sign of the disease (Sidorovich E.K., Pavlovskaya T.S., Liventseva M.M., 2022). A large amount of information has been provided over the past decades for a deep understanding of the mechanism of cognitive impairment of various origins, and most often these are mixed clinical variants or comorbid diseases that eventually transform into a phenotype of cognitive defect with decortication and, as a result, the development of secondary memory disorders. Practitioners often face the problem of a discrepancy between clinical signs and additional diagnostic indicators in understanding the mechanism of cognitive dysfunction, for example, in the white matter, hyperintensivity of the neuroimaging pattern is marked as "small vessel disease", at the same time, these indicators indicate a link with Alzheimer's pathology or amyloid deposition. (Likhachev S.A., Sidorovich E.K., Pavlovskaya T.S., 2023), and an increased level of cholesterol in the brain is a significant vascular risk factor that is interrelated with the process of amyloid formation. (Stacha F.I., Reumers et al., 2024). Accordingly, the prevention of cognitive impairment is compliance with the rules of prevention of cardiovascular diseases, however, despite the fact that the possibilities of prevention and treatment of cardiovascular diseases have improved significantly, the preventive

potential of dementia has not changed significantly over the past two decades. In this regard, further study of the pathophysiological mechanisms of vascular cognitive impairment remains relevant.

The aim of the study was to study the nature of the clinical and neurological course of cognitive dysfunctions in chronic cerebral ischemia.

Research materials and methods, on the basis of the Multidisciplinary Clinic of Samarkand State Medical University, in the departments of neurology, therapy, rehabilitation, polyclinic for the period 2023-2024, a study was conducted on patients with chronic cerebrovascular accident (dyscirculatory encephalopathy) of varying severity, aged 45 to 70 years. In addition, the main criterion for inclusion was the presence of cognitive impairment syndrome (according to the criteria of the DSM-V and NIA-AA); There were 110 participants in total, 67 men and 43 women, and a group of relatively healthy people with no apparent cognitive disorders, of identical age and gender was selected (32). The main research methods are: analysis of the result of a clinical neurological examination (standard method); neuropsychological analysis using scales: MMSE, FAB, MoCA; scales for assessing the psycho-emotional state: Hamilton, HADS, questionnaire of functional activity FAQ. Instrumental research methods: brain neuroimaging (MRI of the brain was performed with a voltage of 1 T and 1.5 Ts using the standard imaging mode: T1, T2, (FLAIR). Extracranial and transcranial duplex scanning of head vessels on ultrasound devices. Depending on the severity of cognitive impairment, patients were divided into three groups: group 1 patients with moderate cognitive impairment (48), group 2 patients with moderate cognitive impairment (41), group 3 patients with severe abnormalities marked as the initial signs of dementia (21). The diagnosis of chronic cerebrovascular accident was based on several reasons in accordance with the ICD classification (10), however, in this study, they were based on the blood pressure index and the duration of hypertension in patients. So in groups 1 and 2, arterial hypertension corresponded to the first degree, only in group 2 the duration of the disease exceeded three years, at the same time in group 3 the duration of the disease exceeded 10 years, and the degree of arterial hypertension corresponded to the second / third degree.

Statistical processing of the obtained data was carried out using a software package, where, in order to assess the statistical significance of differences in quantitative characteristics with a normal distribution, a comparative analysis between the groups was carried out using Student criteria, the indicators were considered reliable at $p<0.05$.

The result of the study, in accordance with the set goal, patients revealed the following features during a standard survey when collecting anamnesis: That initially, multifunctional variants of cognitive impairment (CI) prevailed among them, compared with monofunctional ones, almost 80%. An assessment of the neurological status revealed the nature of certain symptoms that are more often detected, such as: extrapyramidal syndrome, a complex of neurological deficits that includes pseudobulbar syndrome and impaired walking function (gait, decreased walking speed) and balance disorders, with the so-called apraxia of the lower half of the body, or vascular Parkinsonism, which most likely indicates involvement in pathogenesis of the disease of deep frontal-subcortical structures. Complaints during the initial examination of patients depended on the level of cognitive disorders, so in the 1st group of patients, complaints of headache, dizziness, unsteadiness when walking, sleep disorders, decreased attention and performance prevailed; in the second group, complaints were similar to the first group, however, decreased memory, attention, and disorders prevailed in frequency. In addition, this group was joined by complaints of depression (often unfounded), anxiety, loss of interest in active life, and emotional lability. In the third group, complaints were voiced by both the patients themselves and relatives (on the patient's part), so if the patients complained of sleep disorders, lack of appetite, then on the part of relatives, the complaints differed, more often it was difficulty remembering previous events, aggressiveness, slurred speech, unsteadiness when walking, decreased activity. slowness in movement.

An important component of the diagnosis of cognitive dysfunction is the nature of the level of psychoemotional perception, anxiety and depression. At the time of the examination, the difference in the groups in the initial period can be determined by the presence of complaints. At the same time, the

level of severity of depression using scales showed that the severity of the entire range of patients selected for the study ranged from mild to moderate, so on the MARAIS scale, depression averaged 27.9 points, on the HADS scale, anxiety was in the average range of 14.1, while on the Hamilton scale, the level of The average score was 21.7 points, in addition, these indicators were mostly more important for the third group of patients. At the screening stage, the presence of depression was not a selection criterion. A control analysis of the dependence of cognitive disorders on the nature and degree of anxiety/depression revealed a relationship. Despite the relatively mild and moderately severe symptoms of anxiety / depression, all patients showed a decrease in the speed of thinking, the process of memorizing and memorizing information (they did not remember the content of the plot of the watched film, found it difficult to take daily medications (for example, antihypertensive drugs), showed signs of decreased attention and memory on the MMSE scale, decreased executive functions on the FAB scale. The result of the screening using the FAQ questionnaire (which examined the limitations of daily activity), patients with depression and cognitive impairment revealed problems in performing current (household) financial transactions (income / expense, grocery shopping), while the average score on the FAQ questionnaire was 12.5, the decrease in daily activity was in the range of 16.8 points. Thus, there is a connection between cognitive impairments and a psycho-emotional state, in particular anxiety and depression, which suggests a mixed nature of disorders, in addition, in patients with mild depression syndrome (according to the level of complaints and diagnostic scales), cognitive dysfunction was 51%, with moderate depression - 69%, and in patients without in the anamnesis of signs of anxiety / depression, only the percentage was 13.5, which in comparison statistically has an indicator of $p<0.01$, which means that a depressive state accelerates the development of severe cognitive disorders.

In addition to the above-mentioned features, cognitive impairments depend on structural changes in the brain in terms of the level of localization and volume of damage to the brain substance against the background of vascular insufficiency, detected using the neuroimaging method (MRI/ MSCT) of the brain. At the time of examination (in some cases over time), all patients underwent neuroimaging studies of the brain, reflecting the state of structural damage to the brain substance. At the same time, the feature of which revealed lesions of the brain structure on the Fazekas scale averaged from 3 to 6 points, on the ARWMC scale - from 6 to 15 points. A correlation analysis of the relationship between the structural components of brain disorders and cognitive deficits and the level of anxiety/depression (psychoemotional change) found that in patients with only cognitive disorders without signs of anxiety/depression, the level of focal changes was based mainly in the basal ganglia and trunk, while in mixed cases, a combination of cognitive abnormalities and anxiety/depression, foci of ischemia were localized mainly in the parieto-occipital, temporal, and frontal regions. The coefficient of statistical deviations was revealed, at the same time, in patients with a more pronounced volume of ischemic damage, where on the Fazekas scale it was >5 points, and on the ARWMC scale it was >10 points. The result of the analysis of patients in terms of the relationship between the duration of hypertension revealed an increase in the ischemic process, the score on the Fazekas scale was 6 points in patients with a disease duration of more than 10 years, and on the ARWMC scale was 20 points, respectively. At the same time, the Fazekas scale with a score of 3-5 points corresponds to patients with mild to moderate cognitive impairment and low levels of anxiety/depression (66%); the ARWMC scale was in the range of an average of 12 points (38.5%); while in patients with dementia and high levels of anxiety /depression, the Fazekas, respectively, had 5-6 points - up to 79% ($p<0.05$), the ARWMC scale in this category of patients, respectively, averaged 24 points (70%), ($p<0.05$).

Conclusions: Thus, there is a relationship between clinical and neurological indicators, signs of cognitive disorders, psychoemotional state (anxiety / depression), level (degree) and duration of the disease with neuroimaging signs of changes in the structure of the brain, which seems logical and logical, since the MRI/ MSCT pattern reflects cerebral vascular insufficiency, which is associated with impaired cerebral perfusion reserve in patients with arterial hypertension. Consequently, the severity of cognitive disorders in chronic cerebral circulatory disorders is directly influenced by the duration and degree of hypertension, as the main risk factor for the vascular process, the level of anxiety and

depression, which closes a vicious circle of interrelated elements that affect the progressive process in the brain.

Literature

1. Vakhnina, N.V. Cognitive impairments in arterial hypertension // Medical advice. 2015.No. 5.pp.34-39.
2. Emelin, A.Y. Cognitive impairments in cerebrovascular disease (pathogenesis, clinic, differential diagnosis): abstract of the dissertation of the Doctor of Medical Sciences: 14.01.11 / Emelin Andrey Yuryevich.- St. Petersburg, 2010.-37 p.
3. Kotov, A.S. Vascular dementia / A.S. Kotov, Y.V. Eliseev, E.V. Mukhina // Medical Council.-2016.-No. 5.-pp.39-41.
4. Rudnitskaya E.A., Kolosova N.G., Stefanova N.A. Analysis of the contribution of changes in neurotrophic support to the development of signs of Alzheimer's disease in OXYS rats // Biochemistry.-2017.-Vol. 82, issue. 3.pp.460-469.
5. Shchukin, I.A. Chronic cerebrovascular diseases (pathogenetic correction) / I.A. Shchukin, A.V. Lebedeva, M.S. Fidler // Medical Council.-2016.-No. 8.-pp.68-75.
6. Acute single channel EEG predictors of cognitive function after stroke / A. Aminov, J.M. Rogers, S.J. Johnstone [et al.] [Electronic resource]. // PLoS One.- 2017.-Vol. 12, No. 10.-Pe0185841.-Access mode: https://www.ncbi.nlm.nih.gov/oubmed/28968458
7. Adverse influence of pre-stroke Dementia on short-term functional outcomes in patients with acute ischemic stroke: the Fukuoka stroke registry / Y. Wakisaka, R. Matsuo, J. Hata [et al.] // Cerebrovasc. Dis.-2017.-Vol. 43.-P82-89.
8. Candesartan ameliorates brain inflammation associated with Alzheimer's disease / N. Torika, K. Asraf, R.N. Apte [et al.] // CNS Neurosci. Ther.-2018.-Vol. 24, № 3.- P231-242
9. Differential associations of metabolic risk factors on cortical thickness in metabolic syndrome / N.F. Schwarz, L.K. Nordstrom, L.H.G. Pagen [et al.] // Neuroimage. Clinical. -2018.-Vol. 17.-P98-108.
10. Salokhiddinova Sh.Sh., Yusupova N.N., & Dzhurabekova A.T. (2015). A modern approach to the diagnosis of cognitive impairment in patients with dyscirculatory encephalopathy. Innovative Science, (6-2), 240-243.
11. Starchina Yu.A. (2017). Cognitive impairment after a stroke. Medical Council, (0), 27-32.
12. Aziza Jurabekova, Shohsanam Eshimova, Janna Nazarova, Nargiza Abdullayeva Clinical and Diagnostic Indices of Cerebral Blood Flow in Patients with Cervical Spine Diseases // International Journal of Medical Toxicology and Legal Medicine, Vol. 27 No. 2 (2024), p. 0972-0448
13. Kenjaeva D.K., Abdullayeva N.N., Kurbanova Z.X. THE NEUROPSYCHIATRIC STATE OF HEALTH OF MODERN TEENAGE GIRLS. // International Journal of Cognitive Neuroscience and Psychology, vol. 2, No. 10, Oct. 2024, pp. 75-78,

    https://medicaljournals.eu/index.php/IJCNP/article/view/1085 14. Dzhurabekova A.T., Abdullayeva N.N., Abdullayeva A.F. The influence of psychosocial stress on cerebrovascular diseases: ways to chronization and progression // Research Focus International Scientific Journal, Uzbekistan, 2024, No. 3 (11), https://refocus.uz/