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Dynamics Of Personal-Emotional Disorders In The Post-Middle Brain Injuries Period

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Abstract: Personal-emotional disorders after mild traumatic brain injury, which is one of the medical and social problems, were considered. The level of personal-emotional disorders was assessed using modern neuropsychological scales. It has been shown that the degree of cognitive impairment in patients with mild traumatic brain injury varies depending on personality-emotional disorders. The obtained results are correlated with the results of neuroimaging research methods.

Keywords: mild traumatic brain injury, cognitive impairment, personal emotional.

Brain injuries (BMI) are one of the most pressing problems of modern medicine. Cerebral injuries (CCI) are a group of pathologies of medical and social significance that have a serious impact on the functioning of the central nervous system. Currently, brain injuries occupy a leading place in the structure of trauma worldwide and are one of the important causes of disability and premature death. In particular, the increasing number of mild and moderate brain injuries necessitates in-depth study of their long-term cognitive, personal, and emotional consequences [2,8,12,18].

In the post-traumatic period, patients may experience impairments in cognitive functions such as attention, memory, and thinking, as well as personal-emotional instability, depression, and adaptation problems. These conditions negatively affect not only medical, but also social rehabilitation processes. Therefore, the study of brain injuries from neurophysiological and neuropsychological perspectives and the development of scientifically based methods aimed at eliminating their consequences are of current importance [10,11,15].

This disease is also common in Uzbekistan. In our republic, one of the main causes of traumatic injuries is also injuries caused by road accidents. In recent years, there has been no accurate data on the prevalence of traumatic brain injury in our republic. It should be especially emphasized that not all patients who have undergone SLE seek medical attention in a timely manner, but only after some changes in the clinical, neurological, and psycho-emotional spheres. Moreover, the incidence of this disease in Uzbekistan is getting younger year by year, and it is our able-bodied youth who become disabled [1,3,9,17]. We encounter a lot of contradictions regarding the issue of issuing a sick leave certificate to patients who have undergone traumatic brain injury, especially in patients who have undergone traumatic brain injury. In this regard, the study of the clinical, neurological, and neuropsychological characteristics of patients who have undergone LCM, taking into account the prevalence, age, sex, and duration of the disease, and the development of measures for their early rehabilitation based on this data is a very relevant issue [4,5,6,13,16].

One of the most important issues is the correct assessment of clinical, neurological, and neuropsychological disorders in patients with mild traumatic brain injury. Because the sooner measures are taken to identify and eliminate disorders during this period, the more complete recovery is achieved and the fewer cases of disability, and to some extent, the fewer socio-economic problems. Cognitive disorders are among the most pronounced manifestations of neuropsychological disorders.

Cognitive disorders, depression, and anxiety form the basis of neuropsychological disorders [7,11,14].

According to some scientists (Smichek V.B., Ponomaryova E.N., 2014), the involvement of the anterior part of both parts of the cerebral cortex in the pathological process leads to inertness and a decrease in the inclusion in its position. The manifestation of neuropsychological disorders is also closely related to damage to the limbic system.

Foreign scientists (Hoffman S. W., Harrison C., 2009) put forward the fact that stressful states after LCM are manifested by disorders of the limbic-hypothalamic-

reticular system, the pituitary-hypothalamic system, and the neurotransmitter system. In such patients, the peculiarity of sleep disorders was revealed. It has also been proven that the intensification of stressful situations in patients with EBJ is associated with an increase in the synthesis of cortisol and noradrenaline.

According to Chukhlovina M.L. (2011), the exacerbation of stressful situations in patients with AMD leads to the exacerbation of cognitive impairments, as well as personality-emotional disorders.

Tadqiqotning maqsadi: Dynamic assessment of personality-emotional disorders in patients with mild traumatic brain injury and their comparative analysis with the degree of cognitive impairment using neuropsychological scales .

Research material and its methods

83 patients with mild brain injuries were registered in the departments of the Khorezm Regional Multidisciplinary Medical Center and the Khorezm branch of the Republican Scientific Center for Emergency Medical Care. The control group consisted of 20 age-appropriate practically healthy patients without traumatic brain injury. A total of 103 patients were examined. The age of patients in the main group ranged from 18 to 60 years, averaging 38.7±6. Patients of working age were registered. Aof the examined patients in the main group, 62 (74.7%) were men and 21 (25.3%) were women. Patients with moderate and severe TBI were not included in the list, taking into account 3 types of TBI severity: mild (13-15 points), moderate (9-12 points), and severe (3-9 points). Only patients with mild TBI were examined. Patients of the main group were divided into groups according to the types of TBI. The examination was repeated in the acute period (up to 2 weeks), in the early recovery period (up to 3 months), and in the late recovery period (after up to 6 months).

Clinical-neurological, neuropsychological, and neuroimaging examination methods were used in the patients. In the study of cognitive functions, the Short Mental State Assessment Scale (MMSE), the Montreal Cognitive Function Assessment Scale (MoCA), the Spielberg-Khanin scale for anxiety assessment, and the Sung scale for

depression assessment were used. In all patients, neurological deficit was assessed according to the Barthel scale.

For the correct assessment of cognitive impairments and personal emotional disorders in patients who underwent AMD, additional neuroimaging methods were used, namely MRI or MSCT of the brain, CT examination.

Using the method of variational parametric and nonparametric statistics, the arithmetic mean (M), standard deviation (), standard error of the mean (m), relative value (frequency of occurrence %), comparative analysis of the results obtained according to the Student's t-test (t), the excess criterion, the probability of errors in checking the correctness of grouping (R), the equality of the main variance (F-Fisher criterion) were studied. For a statistically significant change, the indicator $P<0.05$ was taken as a level of significance.

Obtained results: we examined the levels of anxiety and depression to assess the personal emotional state of patients. Anxiety was observed in 73 (87.9%) patients who underwent general LCM, averaging 44±9.7 points on the Spielberg-Khanin scale. This situation corresponds to a moderate level of anxiety (31-45 points). In all patients, personal anxiety prevailed over reactive anxiety, 65.4% and 34.6%, respectively. In patients who underwent BMD, mild and moderate levels of anxiety were predominantly transmitted, while in patients with BMLE and TE, relatively all types of anxiety levels were manifested. When comparing the levels of anxiety by the duration of the disease in patients who underwent AMD, a sharp difference was observed in the period of early and late recovery ($p<0.05$). When comparing depressive disorders, 56 patients (67.4%) who underwent AMDJ had depressive states of varying degrees, averaging 58.7±9.7 points on the Sung scale. The severe type of depression was not observed at all. (70 and above), mainly mild (50-59) and moderate (60-69) depression. Depression was most pronounced in patients with BMLE. When comparing the duration of the disease in these patients, there was no significant difference in the correlation between patients in both groups in the early and late recovery periods ($p>0.05$).

We conducted a comparative analysis of the level of cognitive impairments in dynamics with the level of personality-emotional disorders using neuropsychological scales. The obtained results show that the levels of anxiety and depression can lead to a deepening of cognitive impairment, but in patients who have undergone LCMD, cognitive deficit has a direct correlation with the levels of depression, while the levels of anxiety do not have a correlation with the levels of cognitive impairment. In patients with a high level of depression in dynamics, the deficit of cognitive impairments is also high.

At the next stage of the study, we made it our main goal to assess cognitive impairments in dynamics. For this purpose, patients underwent repeated neuropsychological examinations in the acute period, early recovery period, and late recovery period.

Thus, it is important to dynamically assess the degree of neuropsychological disorders, including cognitive and personality-emotional disorders, in patients who have undergone LCM. In patients with mild traumatic brain injury, the degree of cognitive impairment varies depending on the period of the disease, and cognitive deficit is higher in the early and late recovery periods than in the acute periods of the disease. Changes in the dynamics of the degree of cognitive impairment in patients with mild traumatic brain injury depend not only on the period of the disease, but can also manifest differently in each period depending on the type of traumatic brain injury. In patients with mild traumatic brain injury, the degree of cognitive impairment varies depending on personality-emotional disorders, the cognitive deficit has a direct correlation with the degree of depression, the degree of anxiety does not lead to a deepening of cognitive impairment. The degree of neuropsychological disorders in dynamics in patients with mild traumatic brain injury does not always coincide with the results of neuroimaging examination, which, of course, is inextricably linked with the clinical picture of traumatic brain injury, as well as with each examined period.

Conclusions:

1. The course of neuropsychological cognitive and personal-emotional disorders in patients with mild traumatic brain injury has a peculiarity in dynamics, manifested by increased anxiety and mild cognitive impairment in the acute period, while depression increases in the early and late recovery periods, and severe cognitive deficit is observed.

2. In patients with mild traumatic brain injury, anxiety and depressive disorders change depending on cognitive impairments, the levels of depression have a direct correlation with the cognitive deficit, the levels of anxiety do not lead to a deepening of cognitive impairments.

3. In patients with mild traumatic brain injury, the level of anxiety and depressive disorders in dynamics does not always coincide with the results of neuroimaging examination, which, of course, is inextricably linked with the clinical picture of traumatic brain injury, as well as with each examined period.

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