

## MAGNETOTHERAPY IN THE TREATMENT OF PATIENTS WITH A CONSEQUENCE OF CRANIOCEREBRAL INJURY

*Djurabekova Aziza Taxirovna<sup>1</sup>, Djurakulova Ramziya<sup>2</sup>  
Tuxtaeva Dilnoza<sup>3</sup>, Isrofilova Sultana<sup>4</sup>*

*<sup>1</sup>Professor Head of the Department of Neurology Samarkand Medical institute*

*<sup>2,3</sup>Master of the Department of Neurology Samarkand Medical institute*

*<sup>4</sup>Clinical Resident of the Department of Neurology Samarkand Medical institute*

Everyone knows that neurotrauma causes great socioeconomic damage to society. Of all types of injuries, it is the damage to the brain and spinal cord that is the most severe and occupies almost 40%, and ranks first in terms of disability (1, 3). Neurotrauma is marked by a greater variety, both by the factors of injury and by clinical and neurological symptoms, in the acute period or in the period of long-term consequences. With the growth of automation and mechanization of large cities, the number of injuries is growing (2, 4). Literary sources describe a variety of adaptive path mechanisms of craniocerebral injuries, periods of decompensation. The spectrum of learning the problem by various specialists is extensive - a traumatologist, neurosurgeon, psychiatrist, etc. Interesting, in the available literature, is the definition of TBI - a set of pathological processes, or, as some authors define, trauma disease (3, 5). The basis for the development of the consequences of brain trauma is associated with dysfunction of nonspecific brain structures - the limbic-reticular formation (1, 4), and as a consequence, vegetative dystonia syndrome, epilepsy, psych organic syndrome join. Relevant and requiring clarification is the peculiarity of the dynamics of neurological deficit syndromes as a result of morpho structural changes against the background of trauma, the degree and severity of trauma. Patients need improved diagnostics and individual rehabilitation programs.

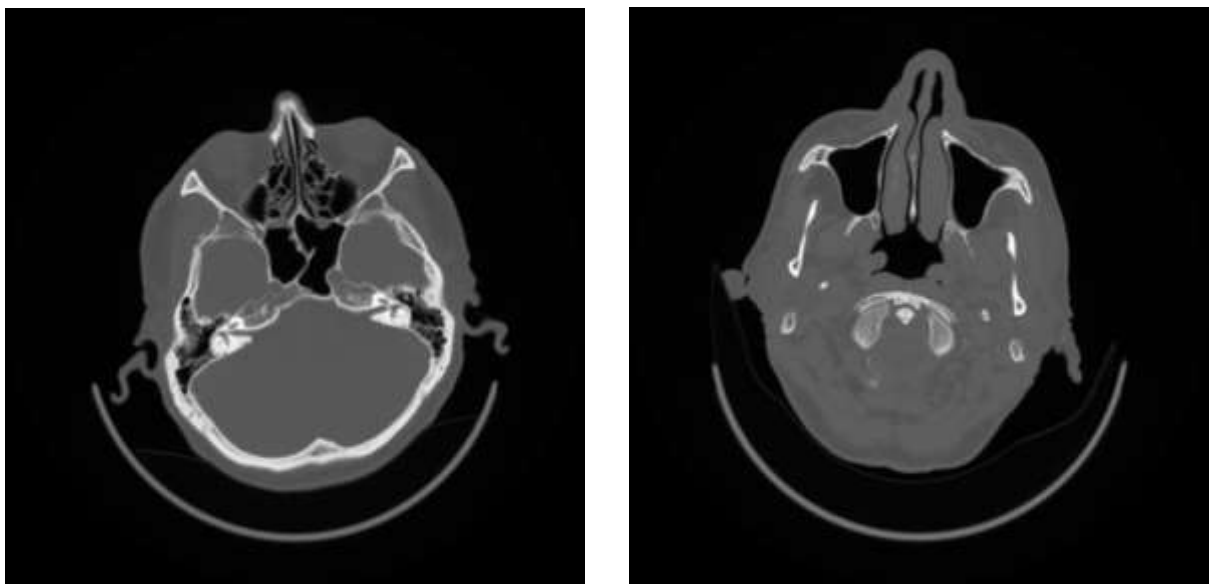
**Target.** To study the clinical and neurological characteristics of patients with a consequence of mild and moderate TBI, and optimization of the treatment of cognitive dysfunctions in patients of this category.

**Material and research methods.** Patients who received treatment and rehabilitation at 1-Clinic Samarkand Medical institute for the period 2019-2021, in the departments of neurology and neurosurgery, in the amount of 90 patients, with different periods of disease duration from the acute period (from 1 to 2.5 years), average age were subject to examination. patients averaged  $37.6 \pm 3.5$  years, men accounted for 2 times more than women. All patients underwent clinical and neurological examination, laboratory examinations, neuroimaging (CT / MRI) and neurophysiological studies (EEG, TC, DG), neuropsychological testing (MMSE, frontal dysfunction battery (FAB)). Exclusion criteria in the study: severe TBI; patients with the consequences of surgery, post-traumatic epilepsy, patients with dementia. Based on the analysis performed, the patients were divided into groups. In additional treatment, patients were recommended to take Polmatin. (Polmatin - has a nootropic, cerebrovasodilating, anti-ischemic and psych stimulating effect, improves neurological cognitive deficit caused by diseases and brain damage) and magnetic therapy of the brain. In the mechanism of the therapeutic action, magnetic therapy of the brain significantly affects the improvement of cerebral circulation, the tissues use oxygen rationally, reduces the asymmetry of the linear velocity and decreases the peripheral resistance index of the great vessels, while improving the function of the activity of the remaining neurons BTL-5000 Germany (2014). Statistical processing was carried out using standard methods on an individual computer.

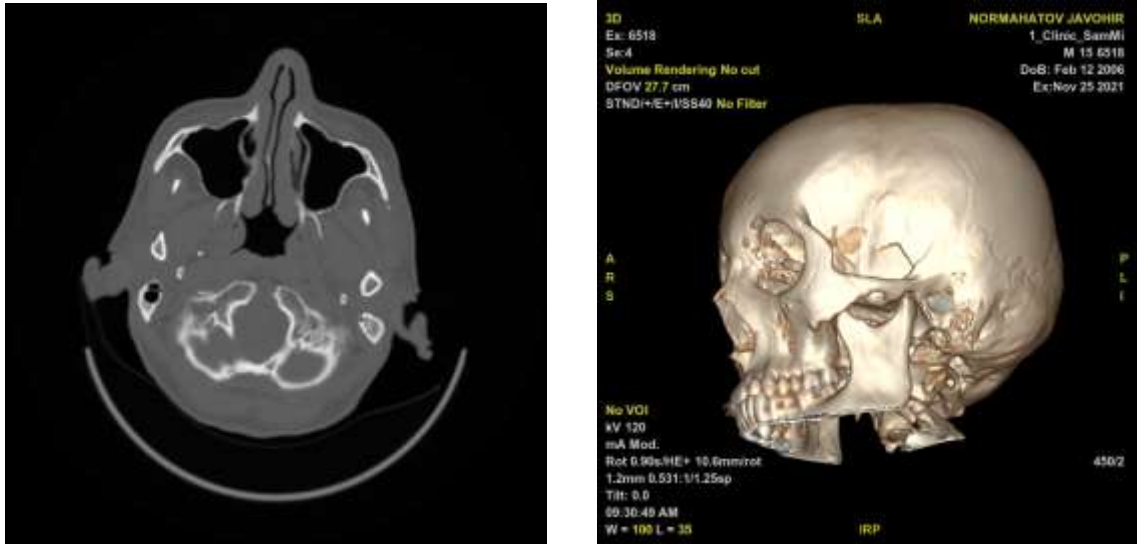
**Research result.** During the examination, the main complaints presented by the patients were headache, periodic dizziness, memory loss, mood swings. From the side of the neurological status, symptoms from the side of the cranial nerve were revealed, impaired convergence, flattening of the nasolabial fold, in several cases deviation of the tongue, with the same frequency in all examined patients. In 100% of cases, there is a violation of the coordination tests, anisoreflexia in 70% of cases. So, complaints about increased fatigue accounted for 62%, mood swings (aggressiveness and irritability), there were 37% of cases, feelings of anxiety and anxiety in 41%. A common complaint was problems with sleep, mainly difficult falling asleep, interrupted sleep (patients wake up 2-3 times a night) in 55% of cases. indicators on points, reactive anxiety 33 points, while personal anxiety 36 points (according to the questionnaire of Spielberg Khanin). According to HADS testing, the average anxiety was 4 points. Cognitive deficit played a significant role in the neurological status. More than 80% of patients complained of a decrease in memory, and more than 70% of a decrease in attention. The nature of the most intellectual dysfunction is "slowness of thought" in 42% of cases. indicators on the MMSE scale averaged 22

points. Using the research method "Frontal Dysfunction Battery" (FAB) was found at 16 points, which also confirms a decrease in cognitive function.

At the modern level, computed tomography is considered the "gold standard" for diagnosing TBI. In this regard, in all cases of examining patients, this method was used in dynamics, and since in our work we analyzed the clinical symptoms after trauma, the CT / MRI data were presented for a period remote from an acute one. Naturally, in 100% of cases post-traumatic cerebral atrophy was determined, in 30% of cases signs of post-traumatic internal hydrocephalus were revealed. Ischemic areas were identified in 17%, cystic formation in 13% of cases. Porencephaly in only 3 patients. As a rule, the areas of ischemization of atrophy coincided with the areas of injury during trauma. Very interesting was the fact of detection of ischemia and atrophy on the opposite side of the primary impact (most likely this is due to the law of physics - shock resistance). Attention is drawn to the picture of the asymmetry of the brain, in the central region it is the size of the ventricles, in the periphery the parenchyma of the brain itself. Most often, the expansion of the lateral ventricle was found more on the side of the brain lesion.



**Rice. 1. Patient A.**



**Rice. 2. Patient B.**

Thus, neuroimaging of morphological data makes it possible to clarify the nature, localization and extent of damage, while clinical symptoms do not always coincide with the data of magnetic resonance imaging (MRI) or CT scans. Taking into account the data of the study, patients with a sequel to TBI were divided into 3 groups.

Group 1 (31) - patients who received only traditional therapeutic treatment (nootropics, vasoactive drugs, antioxidants, B vitamins, etc.)

Group 2 (30) - patients, the drug Polmatin was used as an additional treatment (in an increasing mode, one tablet 2 times a day for 3 months)

Group 3 (20) - patients, as an additional method of rehabilitation, magnetotherapy on the head and plus the drug Polmatin.

The recovery of cognitive functions was assessed taking into account the difference before and after treatment by reusing diagnostic methods. So, according to the results of testing the MMSE scale, the indicators approached satisfactory, improved in all 3 groups, but the best were in the third group, where a complex of additional treatment (medication and physiotherapy) was used, in the second group, on average, the result was close to 26 points, and in the third group 29 points. When retesting the "battery of frontal dysfunction", the result improved to 15.4 in the second group, which brings the result closer to the border of mild cognitive dysfunction, in the third group, 7.3, which corresponds to the normative indicators (lower border).

Thus, the analysis of the data obtained showed that the positive results with the combined effect of drugs and magnetic exposure amounted to 80.8%, and in the case of a drug, 68%.

## CONCLUSION

1. Patients with a consequence of TBI have a variety of signs of neurological symptoms, depending on the injury, the timing and severity of the injury, but an important point in the long-term period is complaints of headache and decreased memory, attention, mental lability
2. All patients who have undergone TBI, even in mild or moderate form, require dynamic examination of both neuroimaging and neuropsychological testing, which is most often overlooked, but slowly, progressively affects cognitive deficit
3. The use of magnetotherapy in combination with drug treatment has a beneficial effect on the quality of rehabilitation of patients with a sequel to TBI, improves cognitive function, and is convenient to use as one of the non-invasive methods of treatment.

## Literature:

1. Kiselev N.I., Lim V.G., Novikov A.V., Bordina O.V., Ternovoy K.S. Comprehensive rehabilitation of a patient after a severe closed craniocerebral injury with severe motor and cognitive impairments. Journal of Neurology and Psychiatry. S.S. Korsakov. 2020; 120 (5): 88-92.
2. S.A. Nemkova Modern approaches in complex neurorehabilitation of the consequences of traumatic brain injury // Attending physician, Medical Scientific and Practical Portal, 2016, <https://www.lvrach.ru/author/11576966>
3. Borisenko O.A., Stoyanov A.N. Variability of autonomic disorders in participants in anti-terrorist operations in the intermediate, distant and residual periods of traumatic brain injury // UKRAINSKIY VISNIK PSIHONEUROLOGIS. 2018.Vol. 26, issue 1 (94), p. 24-27
4. Likhтерman L.B., Potapov A.A., Klevno V.A., Kravchuk A.D., Okhlopkov V.A. Consequences of traumatic brain injury // JOURNAL FOREIGN MEDICINE SCIENCE | PRACTICE | EDUCATION www. forensic medicine.rf • Volume 2 No. 4, December 2016, p. 4-20
5. Vyshlova I.A., Karpov S.M., Apaguni A.E., Starodubtsev A.I. Consequences of mild traumatic brain injury (review article) // International Journal of Experimental Education. - 2014. - No. 5-1. - S. 27-31;