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Combined craniofacial trauma and neuropsychiatric symptoms

Abstract: The results gave the opportunity to note a large number of patients with depressive symptoms in both groups relative to the control group. Along with the resulting combined trauma of the facial skeleton and brain injury manifestations of fatigue are similar in nature, it should be regarded as a single mechanism is not dependent on the location of the injury. The research has noted that craniofacial trauma launches mechanisms leading to psychopathological manifestations of varying severity, pointing to the failure mechanisms of adaptation after the injury in the form of increased levels of anxiety and fatigue in patients with craniofacial trauma.

Keywords: craniofacial trauma, fatigue, depression.

According to the publications of several authors [2; 4; 5; 6; 9] it is noted that during few decades in Russia and in the world there was a sharp jump in injuries among the population, where the number of damaged structures of the facial skull increased 2.4 times [5; 7; 11]. Trauma maxillofacial (TCHLO) is among the most frequent injuries. In this regard, TCHLO diagnosis with the presence of cerebral dysfunction remains an actual problem of emergency medicine [8–11]. Clinical examination of the victims, while damage to the facial skeleton and brain structures allows to make only a rough idea about the nature of brain disorders that often lead to asthenia patients to the lability of mood, and in some cases to the manifestations of depression [11].

The purpose of the study. Examine neuropsychiatric condition in the acute period in patients with craniofacial trauma for possible therapeutic correction of neuropsychiatric disorders.

Materials and Methods. In the acute phase 82 patients with TCHLO were examined, which was combined with mild traumatic brain injury (concussion, brain contusion mild), and subsequently interpreted by us as a cranio-facial trauma (CHLT). Among the 37 patients were examined with traumatic facial bones upper face area (group 1) and 45 with damage to the midface (group 2). All patients underwent clinical and neurological examination by a standard technique. Additionally, we evaluated the complaint and the clinical manifestations of the autonomic nervous system. In all cases, x-ray examination was carried out of the skull bones, used for verification of CT and MRI. The average age of the surveyed was 27.1 ± 2.8 years old. The results were compared with the control group, which consisted of 20 healthy subjects matched for age and sex. Age affected is shown in Table 1.

Table 1. – The age affected the nature of suffering and the ISI

Character CHLT	The number of victims	age		
		18–30 years	31–40 years	41 and older
Patients with lesions or rather face zone (group 1)	37 (45.1 %)	23 (28.1 %)	12 (14.6 %)	2 (2.4 %)
Patients with damage to the midface (group 2)	45 (54.9 %)	29 (35.4 %)	14 (17.1 %)	2 (2.4 %)
Altogether	82 (100.0 %)	52 (63.4 %)	26 (31.7 %)	4 (4.9 %)

The possible hidden levels of anxiety, depression, fatigue in patients undergoing CHLT were examined [1; 3; 12]. In this connection, Hamilton scale and Beck was used. The criterion of severity of depression on the Hamilton scale was: mild depression — 14–17 points, moderate depression — 18–25 points, severe depression — more than 25 points. To estimate the rates of reduction in the mood, we used BDI. According to this scale diagnosis was considered established if the total score was more than 19. Additionally, the scale used (MFI-20), which allowed us to estimate a subjective assessment of fatigue in patients with CHLT. The score of points was its individual indicators points for each patient in the range from 4 to 20 points. Calculation of scoring points was based on five scales: general fatigue, physical fatigue, reduced activity, reduced motivation, mental fatigue. The highest score reflects the highest severity of fatigue. The amount more than 12 points according to at least one of the scales was the basis for the diagnosis of fatigue.

To determine the reactive and personal anxiety Spielberger Charles D's scale was used. It should be noted that most of the known measurement techniques make it possible to assess anxiety or personality or state of general anxiety. This survey is the only method that allows you to measure anxiety and differentiated as personal property, and as a state. So the sum is less than 30 points — is considered an indicator of low anxiety, 31–45 points — moderate anxiety, 46 points or more — an indicator of high anxiety. Statistical processing was carried out using parametric and nonparametric methods, using Student's credibility by using the software package «SPSS 21».

Results and discussion. The evaluation of patients with CHLT revealed the subjective and objective neurological symptoms. Patients imposes mostly complaints intense local pain in areas of the facial skeleton injury. It is often the dominant complaint in trauma. In addition, in 77 (90.6 %) cases, patients complained of headaches, 61 (71.8 %) cases of general weakness in 31 (36.5 %), dizziness in 22 (25.9 %) cases patients reported feeling nausea.

The objective neurological examination in both groups in 29 (34.1 %) cases revealed failure VII and XII cranial nerves. Pyramidal symptoms of interest were noted in 31 (36.5 %) patients and were characterized by the revival of tendon reflexes, pathological signs Iambic. In 27 (31.8 %) cases were identified koordinatornyh light violations in the form of intention tremor, mild ataxia.

In most cases in the acute period CHLT were marked autonomic manifestations as diffuse or distal hyperhidrosis akrogipotermii, labile blood pressure, palpitations, total heat, paresthesias in the extremities. Since autonomic dysfunction in patients of group 1 was detected in 31 (83.6 %) cases in group 2 in 39 (86.7 %) cases. The number of signs of autonomic dysfunction per patient averaged in group 1 — 3,5 ± 0,5 us.ed., in group 2 — 3,9 ± 0,6 us. ed. control group of 1,9 ± 0.4 us. ed. Graphically, this is shown in Figure 1.

As follows from the figure, the average number of accompanying symptoms of autonomic dysfunction in patients with 1st and 2nd groups was significantly ($p < 0.05$) higher relative to the control group. Importantly, the study of the autonomic nervous system (ANS) we identified suprasegmentar disorder differed polisistemny and high severity of autonomic dysfunction. Also, we have marked dissomnicheskie violations, who wore a different character on the duration and quality of sleep.

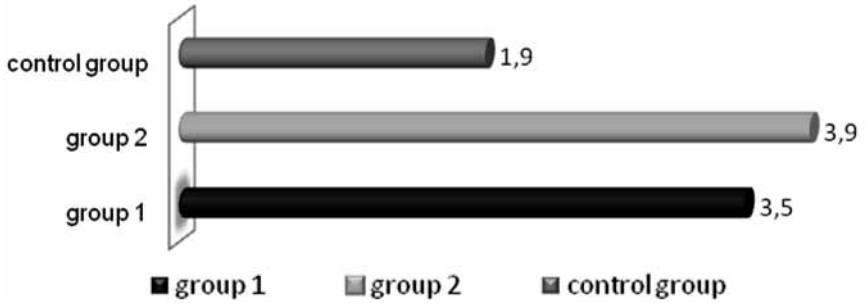

Fig. 1. Average number of accompanying symptoms of autonomic dysfunction in the acute period in patients with CHLT

In the study, we noted mental health problems with symptoms of fatigue, anxiety, mild depression. This fact gave rise to a more detailed study and analysis of data displays. Given these circumstances, we separately considered psychopathological syndrome, which had the character of neurotic, asthenic and neurotic states. These manifestations were observed in 62 (75.6%) patients after CHLT. In the formation of this syndrome, in our view, lies multifactorial processes occurring in the nervous system when CHLT but lead, in our opinion, is the presence of traumatic brain injury and stress. It should be recognized that the presence of stress factors in the acute period CHLT often helps smooth, both subjective and objective neurological symptoms that greatly complicates diagnosis of cerebral dysfunction.

Showing signs of depression BDI were observed in 14 (50%) patients of group 1 and in 11 (32.4%) patients of group 2. The results allowed to note a significant increase depressive symptoms in both groups relative to the control group. The results are shown in Table 2.

This research allowed us to refine the level of depression BDI, where it was noted that in the 1st half of the group was set soft level. Indicators of the level of depression in the 2nd group were predominantly mild or rate level. The results were comparable to the control group. Graphically, this is shown in Figure 2.

Table 2. – Rates of depression in patients with CHLT with different localization and the control group (BDI)

Level of depression	Surveyed patients				The Monitoring Group	
	group 1 (n=28)	%	group 2 (n=34)	%	(n=25)	%
rate	10	35.7	18	52.9	21	84
mild	14	50	11	32.4	3	12
moderate	3	10.7	3	8.8	1	4
strong	1	3.6	2	5.9	–	–
maximum	–	–	–	–	–	–

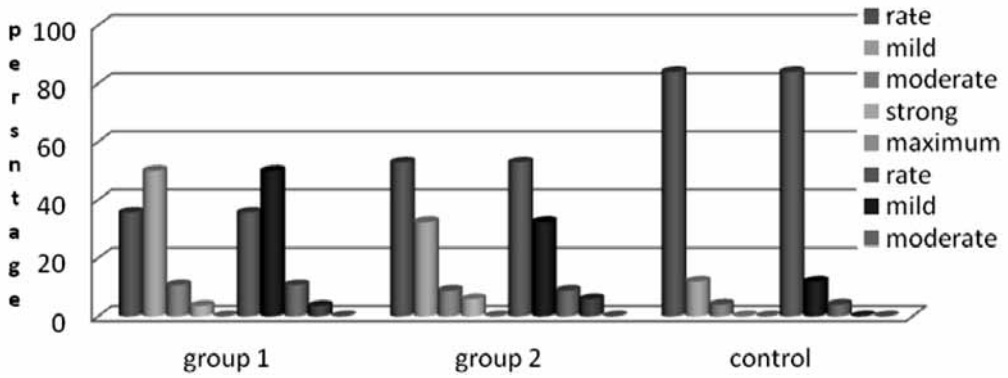

Fig. 2. Levels of depression BDI patients in the acute period CHLT different localization and the control group

We noted that 32 (43.4%) cases, patients in both groups subjectively noted a sense of anxiety, restlessness, thus attracted attention depression patients and between irritation when communicating. Level of personal and reactive anxiety was established taking into account the Spielberger's scale. The results in Table 3.

Low levels of anxiety in group 1 was observed in 53.6% of cases, in the 2nd group, the figure was 47.1% (control group 16%). It was noted that in both groups of patients with CHLT traced mainly low level of personal anxiety relative to the control group. It should be noted that in the three cases had high level of personal anxiety. This result was established in 3 young women and more was associated with facial cosmetic defect after injury.

Another criterion of mental and physical condition of patients must be considered CHLT asthenic manifestations. Given that the majority of complaints were manifested in the form of lower total fononastroeniya, distraction, rapid

exhaustion in performing a number of tasks, reduced concentration, associated with mental stress, as well as lethargy and general weakness in this regard, we have carried out a study on the scale of the subjective assessment of fatigue (MFI–20). The results take into account the evaluation of the overall fatigue (OA); reduced activity (PA); decline in motivation (SM); physical fatigue (FA); mental fatigue (PA). The results are shown in Table 4.

Group 1 patients overall score averaged 31.8 ± 2.67 points. In the 2nd group it was 35.1 ± 2.22 points. Results for MFI-20 scale, as in the 1st and 2nd group revealed a high percentage of patients with CHLT who were identified asthenic manifestations.

Conclusion. The result of combined craniofacial trauma are cerebral symptoms with moderate neurological deficit. This study allowed to note that TCHLO launches mechanisms leading to psychopathological manifestations of varying severity in the form of higher levels of trait anxiety, fatigue and depression manifestations that in different groups were of similar character and did not depend on the location of the injury.

Table 3. – Indicators of the level of trait anxiety in the acute period in patients with CHLT different localization and control group

Level personal anxiety	Surveyed patients				The Monitoring Group	
	group 1 (n=28)	%	group 2 (n=34)	%	(n=25)	%
rate	7	25	11	32.4	20	80
lowest	15	53.6	16	47.1	4	16
moderate	5	17.9	5	14.6	1	4
high	1	3.5	2	5.9	0	0

Table 4. – Quantitative subjective evaluation indicators fatigue scale (MFI-20) in patients with CHLT various localization and control groups

Investigated parameters	Surveyed patients				The Monitoring Group	
	group 1 (n=28)	%	group 2 (n=34)	%	(n=25)	%
general asthenia	28	100	34	100	5	20
reduced activity	21	75	26	76.5	3	12
decline in motivation	19	67.9	24	70.6	1	4
physical fatigue	25	89.3	30	88.2	2	8
psychic asthenia	27	96.4	31	91.2	6	24

Note: Normally, the total number of points should not exceed 20–30.

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System of work with young specialist of nursing in the medical organization (on the example of State-financed health institution of the Samara region «Samara city clinical hospital № 1 named after N.I. Pirogov»)

Abstract: Features of work with young specialists of nurse business in a versatile hospital are considered. The special attention is paid to the mechanism of the mentoring playing huge role in adaptation and education of young specialists on a workplace.

Keywords: young specialist, mentoring, adaptation of the personnel.

The question of work in hospitals and other medical organizations of Samara and the Samara region of young specialists is raised at various levels. And meanwhile, still there is a problem how to involve certified specialists of nursing to work in structural subdivisions of the health care organizations and that is even more essential how to hold them at the workplaces. Especially during the adaptation period in the institutions of inpatient and outpatient type beginners are afraid not to cope with the functional duties, find lack of the knowledge, practical skills.

According to the Territorial body of Federal Service of State Statistics in the Samara region after the graduation from the medical schools and colleges about 90 % of the graduates obtain employment at health institutions. But, in a year of work more than 80 % of young employees leave the medical organizations. Despite a big number of graduates of nursing secondary professional educational institutions to keep most of them in the profession is a very complex challenge.

In State-financed health institution of the Samara region "Samara city clinical hospital № 1 named after N.I. Pirogov", work with young specialists is put as follows. Involvement of future nurses in the multidisciplinary medical organization, which provides round the clock medical care to the population of the city and of the region, begins with a student's bench. "Samara city clinical hospital № 1 named after N.I. Pirogov" is the main clinical base for educational and work practice