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ABOUT THE NECESSITY TO ANALYZE THE PSYCHOLOGICAL FEATURES OF EXPERIENCING ACUTE STRESS IN PATIENTS WITH MINE-EXPLOSIVE INJURIES

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ПРО НЕОБХІДНІСТЬ ПРОВЕДЕННЯ АНАЛІЗУ ПСИХОЛОГІЧНИХ ОСОБЛИВОСТЕЙ ПЕРЕЖИВАННЯ ГОСТРОГО СТРЕСУ У ПАЦІЄНТІВ З МІННО-ВИБУХОВИМИ ТРАВМАМИ

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Summary/Резюме

Assessing the psychological features of experiencing acute stress in patients with injuries is a very relevant problem today. In modern conditions of active hostilities on the territory of our country, in connection with a large number of injured servicemen, it is necessary to pay attention to their psycho-emotional state. Analysis of modern literature shows that the impact of acute stress, which is formed in professional conditions, is the subject of research by many domestic and foreign scientists. However, most modern studies rely on the experience of the ATO, but do not look at the problem through the prism of new circumstances - a full-scale invasion. It should also be noted that each serviceman endures stress differently, according to personal psycho-emotional characteristics and the nature of the injury, the degree of severity of the injuries received. The development of a psychodiagnostic complex of methods aimed at researching the experience of acute stress in patients with mine-explosive injuries is an extremely necessary issue in the current situation. It is also appropriate to conduct an analysis directly of those factors that affect the experience of acute stress. Therefore, servicemen who have received this type of injury need an in-depth individual assessment, which, according to the Ukrainian Journal of Military Medicine, is 60.1% of all patients in military mobile hospitals. Then, based on the received data, a psychological rehabilitation program will be developed and tested, aimed at reducing the severity of stress and further removing the victims from this state, as well as determine its effectiveness.

Key words: *mine-explosive injury, acute stress, combat injury, full-scale invasion.*

Проведення оцінки психологічних особливостей переживання гострого стресу у пацієнтів з пораненнями є дуже актуальною проблемою на сьогоднішній день. В сучасних умовах активних бойових дій на території нашої країни, у зв'язку з великою кількістю постраждалих військовослужбовців необхідно безперечно звертати увагу на їх психоемоційний стан. Аналіз сучасної літератури показує, що вплив гострого стресу, котрий формується в професійних умовах, є предметом досліджень багатьох як вітчизняних, так і закордонних науковців. Проте, більшість сучасних досліджень спираються на досвід АТО, але не дивляться на проблему через призму нових обставин - повномасштабного вторгнення. Також треба зауважити, що кожен військовослужбовець переносить стрес по-різному, згідно особистих психоемоційних характеристик

і характеру поранення, ступеню тяжкості отриманих травм. Вкрай необхідним питанням у сучасному положенні є складання психодіагностичного комплексу методик, спрямованих на дослідження переживання гострого стресу пацієнтами з мінно-вибуховими травмами. Також доречно провести аналіз безпосередньо тих чинників, що впливають на переживання гострого стресу. Тому військовослужбовцям, отримавшим цей вид поранення потрібна поглиблена індивідуальна оцінка, а це, за даними Ukrainian Journal of Military Medicine 60,1% пацієнтів від усіх осіб у військово-мобільних госпіталях. Тоді, на основі отриманих даних, буде розроблена та апробована програма психологічної реабілітації, спрямована на зниження гостроти переживання стресу та подальше виведення постраждалих із цього стану, а також визначити її ефективність.

Ключові слова: мінно-вибухова травма, гострий стрес, бойове травмування, повномасштабне вторгнення.

Actuality

It's no secret that over the past two years, the level of injuries in combat has increased significantly due to the escalation of the conflict and the full-scale invasion of Russia into the territory of Ukraine. Modern warfare has changed significantly due to the use of improved projectiles: ball bombs, projectiles with arrow-shaped elements, high-speed bullets of reduced caliber, high-explosion combat ammunition have appeared. [4,5,6]

Unfortunately, due to the use of this type of weapon, the lesions become more numerous, affect many anatomical formations, and significant destruction of tissues and organs occurs.

In addition, mine-explosive injuries are often accompanied by complications in the form of infection with dirty clothes, soil, etc. [4], and the level of acute stress, undeniably, obtained through them reaches a high mark [7].

If we take global trends, according to researchers from the USA [8, 9], the most common type of injury on the battlefield is multiple wounds caused by fragments of an explosive device that affect multiple anatomical sites. The largest share is extremity injuries - 64.1%, followed by head and neck injuries - 16%, chest - 8.9%, abdomen - 6.9%, and other injuries - 4.1%. [10, 14]

According to the classification of explosive substances, [10,13] there is a

classification of the mechanisms of explosive injury: primary, secondary, tertiary and quaternary. Each of them causes great damage not only to a local organ, but to entire organ systems. Moreover, injured servicemen from explosive devices can also have burns, which not only complicates the treatment of damaged soft tissues, but also complicates the study of psychological features of experiencing acute stress by patients, because it affects the period of full recovery or maximal possible recovery. [11,12]

It should also be noted that data from scientific literary sources indicate that every fifth military serviceman suffers from neuropsychiatric disorders.[15,16,18] In addition, after some time returning to civilian life, he has the following consequences: such as various psychosomatic diseases [15,16,17,18].

According to respected authors [18], injury or simply participation in an armed conflict is a powerful stress factor, it leads to various functional disorders of the body, and certainly psychological ones. According to data [15, 18], the vast majority of servicemen have pronounced signs of post-traumatic stress reaction - which indicates that this category of patients needs psychological rehabilitation. A set of psycho-traumatic factors has an immediate effect: an inadequate response can be expressed by maximum motor excitement, shouting, throwing, panic. Or in the form of hyporeaction - retardation, motor retardation, out of embryo. In the future, the

serviceman does not remember what happened to him, does not understand the reasons for the acute stress experienced. [24, 25]. In the future, this complicates the individual psychological assessment of experienced stress, the term of rehabilitation and full integration of a serviceman after the termination of participation in an armed conflict.

A huge problem in the assessment of acute stress is also the fact that due to multiple organ damage, it sometimes becomes impossible to conduct a psychological interview (clinical interview), because a large part of potential interviewees is in a serious somatic condition, had damage to the upper part of the body - head 11.9 %, as well as closed craniocerebral injury 4.7%. [18,19]

It should also be noted that a number of researchers [23, 24] conducted a survey of participants in combat events who were affected by stress factors of increased intensity. According to research, [23] the social state of an individual after demobilization is characterized by the so-called "identity crisis" - a person loses a holistic view of the future and is in doubt about the feasibility of accepting his social role. Most of the half of the respondents claimed that they do not see understanding either from their relatives or from society. Every fourth person has difficulties with communication in society, and 50% of respondents changed their place of work at least twice.

Currently, on a national scale, diagnosis of the type and degree of psychological consequences is carried out in accordance with the approved order of the Ministry of Defense of Ukraine [20], this allows to assess the degree of acute stress and the fact of post-traumatic stress disorder by using the "Short scale of anxiety, depression and PTSD" [19, 20]. Its basis is in the verbal socio-psychological interaction of a psychologist and an injured serviceman. By asking targeted questions, psychological problems are diagnosed, such as aggressiveness, impaired

concentration, exaggerated response, poor sleep quality. [18, 19].

It is the basis of these data [18, 21] that can give us the opportunity to determine the psychological features and tendencies of acute stress experienced by patients with mine-explosive injuries. This was the purpose of our research.

To solve this issue, we consider it a very urgent task to analyze modern theoretical and methodological approaches to the problem of higher prevalence of mine-explosive injuries among military personnel in connection with a full-scale invasion of the territory of our state.

It should also be stated that our psychologist colleagues in other countries do not sit idly by and conduct scientific research to determine the psychological characteristics and post-traumatic behavior of servicemen with various types of injuries and in various fields of medicine. [22]

Conclusion

In the conditions of a full-scale invasion, large-scale mobilization and, as a result, a greater prevalence of mine-explosive injuries among servicemen, an assessment of the psychological features of the course of acute stress in connection with the injury is extremely necessary. In order to improve the provision of psychological assistance in Ukraine, scientific research is urgently needed in the conditions of the circumstances associated with the impact of a complex of interrelated stressogenic factors acting on fighters under the conditions of a full-scale invasion and, in general, a prolonged combat conflict.

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FAS-FASL ЯК КЛЮЧОВА СИСТЕМА ФУНКЦІОНУВАННЯ НАТУРАЛЬНИХ КІЛЕРІВ ПРИ ПОСТТРАВМАТИЧНОМУ СТРЕСОВОМУ РОЗЛАДІ

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FAS-FASL AS A KEY SYSTEM OF NATURAL KILLER FUNCTIONING IN POST-TRAUMATIC STRESS DISORDER

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Summary/Резюме

Post-traumatic stress disorder (PTSD) is a debilitating mental condition that occurs after trauma as a result of a combination of factors. Disturbances in the functioning of the immune system, in particular, a change in the cytotoxic functions of natural killers (NK), are of great importance.

The *aim* of our study was to study the expression of receptor-ligand Fas-FasL on NK cells in patients with PTSD and human herpesvirus type 6 (HHV6) reactivation.

Materials and methods. 40 patients of both sexes with PTSD, aged 39.4 ± 6.7 years, participated in the study. Two comparison groups into 20 members were distinguished depending on the presence of DNA HHV6 in biological media identified by the PCR method. The control group consisted of 20 healthy members without DNA HHV6. The interaction in the Fas/FasL system was studied by determining the CD95 receptor (Fas/APO-1) and its ligand CD178 on NK cells.

Results. We found a statistically significant difference in the expression of receptors and ligands Fas-FasL on NK cells between the groups of PTSD patients with and without HHV6 reactivation, as well as the control group.

Conclusions. In patients with PTSD and reactivation of HHV6: 1) an imbalance develops between the normal antiviral functions of NK cells and their actual implementation; 2) there is a risk of damage to the structure and functioning of the central nervous system due to the formation of immunopathological disorders.