Реферати

ОСОБЛИВОСТІ НЕЙРОКОГНІТИВНОГО СТАТУСУ ПАЦІЄНТІВ У ГОСТРОМУ ПЕРІОДІ МОЗКОВОГО ІШЕМІЧНОГО ІНСУЛЬТУ РІЗНОЇ ПІВКУЛЬОВОЇ ЛОКАЛІЗАЦІЇ

Пушко О.О., Литвиненко Н.В.

У статті розглянуто особливості нейрокогнітивного статусу пацієнтів після перенесеного гострого ішемічного інсульту різної півкульової локалізації. При лівопівкульовому інсульті виявлено більшу частоту й вищий ступінь когнітивних порушень (середній бал за Mini Mental State Examination 21,3±0,61, за Montreal Cognitive Assessment 18,22±0,9) порівняно з правопівкульовою локалізацією ішемічного вогнища (середній бал за MMSE 24,05±0,52, за MoCa 21,35±0,84) зі статистично значимою різницею між групами пацієнтів у цілому та за окремими блоками субтестів. Також виявлено, що для правопівкульових інсультів характерна більша частота й вищий ступінь тривожно-депресивних порушень (середній бал за Beck Depression Inventory 15,1±0,87, за шкалою реактивної тривожності 37,6±1,71 та 36,55±1,73 за шкалою особистісної тривожності) порівняно з лівопівкульовою локалізацією гострого порушення мозкового кровообігу (середній бал за BDI 11,61±0,71, за шкалою реактивної тривожності 29,78±0,95 та 30,87±1,0 за шкалою особистісної тривожності Спілбергера-Ханіна) зі статистично значимою різницею між групами.

Ключові слова: інфаркт мозку, ішемічний інсульт, гострий період, півкульові особливості, нейрокогнітивні порушення.

Стаття надійшла 31.07.2019 р.

ОСОБЕННОСТИ НЕЙРОКОГНИТИВНОГО СТАТУСА ПАЦИЕНТОВ В ОСТРОМ ПЕРИОДЕ МОЗГОВОГО ИШЕМИЧЕСКОГО ИНСУЛЬТА РАЗЛИЧНОЙ ПОЛУШАРНОЙ ЛОКАЛИЗАЦИИ

Пушко А.А., Литвиненко Н.В.

В статье рассмотрены особенности нейрокогнитивного статуса пациентов после перенесенного острого ишемического инсульта различной полушарной локализации. При левополушарном инсульте выявлено большую частоту и большую степень когнитивных нарушений (средний балл по Mini Mental State Examination 21,3±0,61, по Montreal Cognitive Assessment 18,22±0,9) по сравнению с правополушарной локализацией ишемического очага (средний балл по MMSE 24,05±0,52, по MoCa 21,35±0,84) со статистически значимой разницей между группами пациентов в целом и по отдельным блокам субтестов. Также выявлено, что для правополушарных инсультов характерна большая частота и более высокая степень тревожно-депрессивных нарушений (средний балл по Beck Depression Inventory 15,1±0,87, по шкале реактивной тревожности 37,6±1,71 и 36,55±1,73 по шкале личностной тревожности) по сравнению с левополушарной локализацией острого нарушения мозгового кровообращения (средний балл по BDI 11,61±0,71, по шкале реактивной тревожности 29,78±0,95 и 30,87±1,0 по шкале личностной тревожности Спилбергера-Ханина) со статистически значимой разницей между группами.

Ключевые слова: инфаркт мозга, ишемический инсульт, острый период, полушарные особенности, нейрокогнитивные нарушения.

Рецензент Дельва М.Ю.

DOI 10.26724/2079-8334-2020-2-72-103-108
UDC 616.89:621.039.586

S.V. Rymsha, N.V. Ratsyborynska-Polyakova, A.O. Gavrylyuk
National Pirogov Memorial University, Vinnytsya

FEATURES OF LONG-TERM MENTAL DISORDERS IN THE VICTIMS OF CHERNOBYL ACCIDENT

e-mail: ratsiborinska@gmail.com

The purpose of the work was to study the features of the clinical structure, the pathopsychological and pathophysiological mechanisms of mental disorders formation in the victims of the Chornobyl accident in the long term. The study of the mental status in the liquidators - III groups of complex survey - 202 persons – liquidators of the Chernobyl disaster, that worked in 1988 in 30 – kilometer zone, the radiation level ranged from 0.2 to 25 Gy - took into account the system of risk factors, which included social, radiological, medical aspects, social factors including hypokinesia, unsustainable diet, smoking, alcohol consumption and radiological factors. In the affected by the Chernobyl accident in 1986 long-term consequences for mental health were revealed, mental disorders were found to be dependent on the dose and the relationship between the severity of lesions and radiation symptoms. The study of the liquidators' health can extend the understanding of the relationship between PTSD, depression, risk of internal diseases and recovery. According to our data, the central element in the structure of psychopathological manifestations is psycho-vegetative syndrome with affective accompaniment. Thus, the conclusion was made that psychosocial effects of stress as a result of Chernobyl disaster shows how important it is to continue monitoring of the mental health in the population to establish the relationship between mental well-being, physical illness and mortality.

Key words: Chornobyl catastrophe, liquidators' health status, radiation damage, mental disorders due to irradiation.

The work is a fragment of the research project "Scientific substantiation of diagnostic and therapeutic rehabilitation measures for endogenous and exogenously-organic psychotic and non-psychotic mental disorders", state registration No. 0116U000856.

In the twentieth century, the most frightening and stigmatizing of all technogenic disasters were the nuclear bombings in Hiroshima and Nagasaki and the catastrophes at nuclear power plants at Three Mile Island and Chernobyl. After them revealed the changes in the psyche, such as stigmatization, anxiety, depression and the manifestations of post-traumatic stress disorder (flashbacks and psychic numbing), that lasted sufficiently long, and were associated with a sense of risk for the health, independently of the

objective physical consequences [7, 8, 13]. Liquidators, working at the station in the spring and summer of 1986, have reported long-term effects on mental health, such as increased suicidal activity [14] and significantly higher levels of depression, post-traumatic stress disorder and severe headache comparing to the cohort of liquidators with control geographic age and gender matched group [9]. Domestic studies have found a dose-dependent relationship between the severity of radiation damage and the manifestations of symptoms of post-traumatic stress. The study of the health status of liquidators allows us to expand our understanding of the relationship between PTSD, depression and the risk of cardiovascular diseases, recovery [12] and other conditions [10]. Particular attention we should pay to the presence of symptoms of post-traumatic stress in elderly respondents, especially in woman who survived the evacuation [4]. All these data coincide with the findings of the report of the consequences of the Chernobyl accident, which states that the health status of the inhabitants of the contaminated territories we can describe as bad and the state of health services complicates the evaluation of the explicit consequences for the affected population [3, 112]. Meanwhile, most people with common psychiatric symptoms turn to medical institution to doctors of different specialties, but not to psychiatrists [14]. According to the State Register of Ukraine (SRU) and the Clinical and Epidemiological Register (CER) of the State Institution «Scientific Center of Radiation Medicine of the Academy of Medical Science of Ukraine» the liquidators and evacuees had high levels of cerebrovascular diseases. In addition, the influence of radiation in small doses is a significant risk factor for accelerated aging, irradiation of the thyroid gland at doses >300 mGy is a significant risk factor of the development of cardiovascular and cerebrovascular diseases. Also, at doses >2 mGy — it is a risk factor for mental disorders and diseases of peripheral nervous system. External exposure of the whole body at a dose >250 mGy is a factor of neuropsychiatric and vascular diseases [12]. Thus, the Chernobyl catastrophe has led to long-term neurological and psychopathological consequences, for which established radiation risks exist. Therefore, it is necessary to continue lifelong neurological, psychiatric and epidemiological studies with dosimetry.

The purpose of the work was to study the features of the clinical structure, the pathopsychological and pathophysiological mechanisms of mental disorders formation in the victims of the Chornobyl accident in the long term.

Materials and methods. We had the III groups of complex survey - 202 persons – liquidators of the Chernobyl disaster, that worked in 1988 in 30 – kilometer zone, the radiation level ranged from 0,2 to 25 Gr. All respondents gave informed consent to participate in the study, as evidenced by the relevant documents. The Committee on Bioethics reviewed the materials of the research work of the Department of Psychiatry, Narcology and Psychotherapy with a course on VNMU "Scientific substantiation of diagnostic and therapeutic rehabilitation measures for endogenous and exogenously-organic psychotic and non-psychotic psychiatric disorders" (a fragment of which is this article). As a result of the examination, it was found that the research materials do not contradict the basic bioethical standards of the Declaration of Helsinki adopted by the General Assembly of the World Medical Association, the Council of Europe Convention on Human Rights and Biomedicine (1977), in accordance with the provisions of WHO, International Council of Medical Sciences Ethics (1983), Council of Europe Convention on the Protection of Vertebrate Animals for Experimental and Other Scientific Purposes, 18.03.1986, EEC Directive 609 of 24.11.1986. and Order of the Ministry of Health of Ukraine No. 281 of 01.11.2000. Croup I - 30 patients underwent stationary investigation and treatment at the regional center of radiation protection of the population for the asthenic variant of psycho-organic syndrome with diencephalic crises. They stayed in 30-kilometer zone - from 6 month to 1 year. Dose of less than 5 rem was in 9 people (30,0%), 5-10 rem- in 2 people (6,7%), 11-15 rem - in 4 people (13,3%), 16-20 rem - y 2 people (16,7%), 21-25 rem - in 7 people (23,3%), more than 25 rem - in 6 people (20,0%). Thus, the patients received a “small” dose of radiation – up to 100 rem. The related specialists: neurologist, therapist, endocrinologist and ophthalmologist examined the patients. Neurologist diagnosed discirculatory encephalopathy in all the patients. Group II - 35 patients, with organic depressive disorder F 06.32 by ICD-10. Diagnosis of depressive organic disorder based on the clinical-psychopathological, pathology-psychological, electroencephalographic investigations, findings of neurologic, ophthalmologist, therapist. Group III - 137 patients (men) with hypochondriac and phobic syndrome in the structure of residual-organic disorders of radiation origin. The observation group included Chernobyl disaster liquidators in 1986 and continued to work with rotation method on the contaminated area. The irradiation dose was 0.025 - 0,03 Gy. Individual irradiation dose based on the official notations in medical documentation. The study of the mental state of liquidators took into account the system of risk factors, which included social, radiological, medical aspects. Social factors included hypokinesia, unsustainable diet, smoking, alcohol consumption. Radiological factors included external and internal radiation doses. Medical and clinical factors were the changes in

different organs and systems, confirmed by therapists, medical and functional – tolerance to physical activity, reduction of performance indications. We did not exclude from anamnestic data the level of stress in the work with rotational method, which manifested in insufficient preparation for work in extreme conditions, unusual physical and psychological stress, and difficulties in adapting to new living conditions, work, subjective perceptions of the victims of Chernobyl disaster about the inadequacy and unevenness of social benefits. The long duration of stress, lack of information about the radiation background and the received dose of irradiation led to further mental disorders and somatic pathology. All surveyed I-III groups were practically healthy to participate in the work of Chernobyl disaster elimination and did not seek medical help. The medical documentation (outpatient cards, certificates of medical commissions) confirmed it. All patients were male; the age was from 50 to 65 years. The exclusion criteria were diabetes, myocardial infarction or stroke in anamnesis, tumors, convulsive syndrome, malignant hypertension and angina pectoralis, alcoholism, dementia, severe somatic diseases, endogenous mental disorders. Each patient underwent a preliminary interview about the research objectives and agreed to use personal data.

Results of the study and their discussion. The patients with verified acute radiation sickness develop post-radiation organic and psychiatric disorders. The vegetative vascular and visceral stage of neurological and psychiatric pathology (3-5 years after irradiation) changed to cerebral-organic, cerebral-vascular and somatogenic neurological and psychiatric disorders (≥5–10 years after irradiation). Apathetic variant of organic personality disorder (microvascular neurological symptoms, personality changes, negative psychopathological symptoms, depression, and cognitive deficiency) is characteristic for long-term effects of acute radiation sickness [12]. The problem of health status of Chernobyl disaster liquidators remains relevant due to the significant spread of CNS diseases, which manifest by a wide range of psychiatric disorders from asthenic states to the exhaustion of adaptive capacity of brain structures. If in the first (1987-1989) years of the post-accident period the vegetative-vascular dystonia prevailed among the list of diseases, then, from 1992 to the present day, the early development of hypertension and cerebral atherosclerosis are dominant. They lead to cerebral blood circulation disorders, and, gradually, to the encephalopathy. Pathogenic mechanisms of development of cerebrovascular disorders of Chernobyl disaster liquidators manifest as a combination of discirculatory encephalopathy syndrome and hydrocephalic-hypertension syndrome. Radiation factors influence the central parasympathetic mechanisms, that lead to the deep brain systems lesion (brain stem, hypothalamus, rhinencephalon), that are important structural formations of the limbic-reticular complex. These systems refer to as vegetative trans-segmental formations, which lack specific vegetative centers, but have integrative systems, that regulate vegetative support of various forms of behavior. Vegetative disorders have both paroxysmal and permanent nature. Paroxysmal autonomic disorders are vegetative crises (sympathetic-adrenal, vago-insular and mixed), in modern literature, they refer to as panic attacks. Permanent vegetative disorders are not absolute stable indicators, but their frequent fluctuations, that we cannot record clinically, as they do not reach the level of vegetative crisis. Since 1990, the scientists covered the severity of psychiatric disorders in persistent vegetative-vascular dystonia and distinguished asthenic, asthenic-neurotic, asthenic-hypochondriac and asthenic-depressive syndrome. The mentioned data indicate the adverse impact of radiation on the mental health of large populations affected by the Chernobyl disaster. Over time, the number of people with organic brain disorders among the affected liquidators tend to increase, and the symptomatology – to enrich. In this regard, we devote our study to the transformation of chronic fatigue syndrome into an asthenic variant of psycho-organic syndrome with diencephalic crises. We can trace the correlation between the duration of work at the CNPP, the radiation dose and the severity of psychopathological symptoms. Among the variants of psycho-organic syndrome non-psychotic forms as a hypersthenic type of asthenic or dysthymic depression with predominance of affective disorders in combination with intelligence and memory disorders without severe intellectual deficiency. The common manifestations of it are the following: general inhibition of mental processes, narrowing of the circle of interests, monotonous hypothymia in combination with pessimistic assessment of the surrounding, dissatisfaction with own inability, weakness, it does not have daily fluctuations and is not due to external factors. Thus, ICD-10 classifies them as F 06.32 – organic depressive disorders. The spreading of combined cerebral-vascular pathology with perceptual-cognitive, cerebral asthenic, affective and personal disorders determine the further search for new approaches and medicaments with multicomponent pharmacological effects that regulate metabolic, neurotransmitter disorders in the organism, and reveal adaptation and compensation abilities.

Patients in I group with psycho-vegetative syndrome noted, that one of the obligatory symptoms at the beginning of the disease was persistent fatigue with impaired performance, which occurred on the

background of somatic well-being and lasted more than 6 months. Patients associated the onset of their disease with the effects of exogenous factors (radiation). Patients had the highest latency of sleep (time to fall asleep) and the lowest duration of sleep with frequent awakenings during the night. Headaches and sleep disorders were, undoubtedly interrelated, and one symptom exacerbated the severity of the other. Disturbances of night sleep aggravated the headache, which gradually influenced falling asleep and changed the character of the night sleep. On this background the patients noted a progressive decline in ability to work, so they often smoked to improve mental activity, and occasionally consumed alcoholic beverages to ‘’reveal’’ the psychological stress. Clinical features of the disorders were due to hypertensive, hypotonic, cardiac type of vegetative-vascular dystonia and proceeded in the form of sympathetic adrenal and vago-insular crises. The main features of vegetative manifestations are the presence of both subjective and objective disorders and effects on different systems. Central to the study is the investigation of the autonomic crisis manifestations. In 21 patients (70%) sympathetic adrenal activity increased in the first half of the day, resulting in patients complaining of palpitations at rest, weight loss, white dermographism, pain and unpleasant sensations in the heart area, increasing of blood pressure, numbness and cooling in the extremities. In nine patients (30%), there were vago-insular crises, which included increased sweating, hyperthermia of the skin, red dermographism, bradycardia, tugs in the heart area, arrhythmia, pressure in the chest, and feeling of lack of air, shortness of breath, polyuria, and spastic constipation. The vegetative crisis appeared suddenly, within a few minutes developed the complex of symptoms of vegetative disorders, accompanied with a feeling of fear and anxiety. Duration of the attack - 20-30 minutes. Patients regarded their condition, as severe cardiac pathology. In intermittent period, the phobic-anxious component of emotional disorders prevailed. In addition to the mentioned above symptoms, functional neurotic components of the crisis (“feeling of lump in the throat”, “numbness, weakness in the extremities”, “increasing of the chills to the degree of tremor”) – occurred in 15 patients (50%). Emotional-affective components (fear of death, which transformed into feeling of unreasonable fear) occurred in 12 patients (40%). Feeling of internal tension, irritability, vulnerability and frequent complaints of hypersensitivity to external stimuli (especially sound and light) appeared periodically. Cognitive components in the structure of crisis*:* feeling of “derealization”, “depersonalization”, sense of remoteness of sounds (“as in an aquarium”) – in three patients (10%). Subsequently, all patients noted the attachments of ideation-level symptoms of asthenic disorders, which manifested with intellectual impairment: memory impairment, increased time for concentration, impaired playback in memory of events of one’s own life, errors in performing mathematical operations. In the structure of psycho-vegetative syndrome, all patients had cephalic and insomnia syndromes. In 18 patients (60%) - cardiac, and in 12 patients (40%) – hyperventilation syndrome. According to the Spielberger test, patients had high levels of both reactive - 48 points, and personal anxiety - 53 points. Depression level (Beck test) was one, 5 points, indicating that 25 patients (83%) had subdepressive condition. The results of the questionnaire showed that the clinical manifestations of the psycho-vegetative syndrome amounted to 45 points on the vegetative questionnaire. Hyperventilation syndrome - 43 points. Asthenic questionnaire - 18 points. Sleep Quality Assessment Questionnaire - 17 points. The quality of life indicator reduced to 35%. The objective score for well-being in VAS was 1,6. Patients with headache slept less than those in the control group (6.1 versus 6.7 hours). In addition, they were more likely to wake up at night (1.98 and 0.96 times, respectively), at the same time, the patients felt correspondingly tired in the morning (100% vs. 36%). The clinical condition of the majority of patients of the II group with organic depression before the start of treatment was determined by a combination of cerebral asthenic phenomena (headaches, dizziness, tinnitus, hypertension, fatigue, exhaustion, sleep disorders), cognitive disorders of varying degrees (difficulties of concentration, impairment of the short- and long-term memory, intellectual productivity, general activity), as well as affective disorders (irritability, internal tension, fussiness, mood swings with anxiety, hypothymia), the severity of which was different. In 60.7% on initial stage occurred cephalgia, tension, cognitive, dyssomnia, vegetative disorders, increased hypersthenic type fatigue and fatigue during normal workload, decreased performance, which met the criteria of discirculatory encephalopathy (DEP) I stage. Page with DEP II stage reported emotional lability with decreased sad mood (dysthymia), intellectual and memory dysfunction, social and professional maladaptation. In 13, aggression, and intellectual accompanied 3% of patients with DEP III stage, dysthymic depression and memory disorders resembled pseudo-dementia. In the clinical manifestations, responders of the group III, as a component of the summation syndrome in investigated patients, reported manifestations of the cerebral asthenic complex of symptoms (irritability, fast mental and physical exhaustion, sensitivity, weather-sensitive migraine-type headache,

and dizziness, faint). They also reported hypochondriac overvalued ideas, and has the basis of poly-organ organic pathology, affecting cardiovascular, digestive, muscular-skeletal systems and manifested by palpitations, blood pressure fluctuations, hyperhidrosis, unpleasant physical sensations without clear localization, with diffuse, and in some cases migratory character. In addition, patients complained of unpleasant isolated sensations (contraction, flipping, pressure), coming from different parts of the body, or separate organs (senestopathies). Senestopathies were located in the chest and muscular-skeletal system. Argumentation of hypochondriac manifestations based on paresthesia's, senestopathies, pains, which had a long course, so patients had a tendency of self-observation, and underwent multiple investigations at doctors of different profiles. Therefore, they formed a stable confidence in the incurability of the disease, loss of hope for recovery, the idea of the futility of the future. Thus, based on the previous system we can establish the correlation between hypochondriac and phobic symptoms, namely: the onset of fear of death, fainting, and oncological disease (respectively thanato-, vertigo-, and cancerophobia). We noted following cognitive disorders: difficulty of concentration of attention, decreased short- and long-term memory, loss of ability to learn new information, which led to intellectual disability and the transition to the disability group.

The analysis of the structure and prevalence of long-term mental disorders in the victims of Chernobyl accident, their clinical typology and the peculiarities of these states were presented in the professional literature are in the agreement with our research [1, 2, 5, 6, 11, 13]. Thus, the typical clinical manifestations in patients with psycho-vegetative syndrome at the initial stage were the following complaints: mental and physical fatigue, rapid decrease in concentration of attention, increased irritability, increasing headache by type of compression or migraine, unilateral by localization, throbbing, insomnia at night and drowsiness during the day, which to some extent coincides with the results of other researchers [1, 2, 5]. Headaches and sleep disorders progressed and were not associated with somatic disease. Beside the mentioned complaints, there were usually the signs of vegetative-vascular disorders. Analysis of the clinical and psychological examination showed, that the most frequent vegetative manifestations were in the cardiovascular, respiratory system, gastrointestinal disorders were less likely to occur. Psycho-vegetative manifestations of this contingent of individuals tend to be resistant to progressiveness with the addition of symptoms of intellectual and memory impairment. The clinical condition of the majority of patients with organic depression before the start of treatment was determined by a combination of cerebral asthenic phenomena, cognitive disorders of varying degrees, as well as affective disorders, the severity of which was different. Responders of the with summation syndrome reported manifestations of the cerebral asthenic complex of symptoms. In our previous studies (1994-1998), we also noted a correlation of somatic-vegetative disorders with psychopathological symptoms in the liquidators of the consequences of the Chernobyl accident, which to some extent coincides with results of some scientists [6, 12].

Conclusion

On basis of the research, we can formulate the concept of post-Chernobyl syndrome as a polymorphic complex of symptoms, which includes psychopathological and neurological manifestations, related to the consequences of Chernobyl catastrophe. Mental disorders, correlated with somatic pathology, present in Chernobyl catastrophe liquidators, are exogenous-organic and progressive. These disorders had following stages: the initial period (vegetative dysfunctions) included sympathetic-adrenal and vago-insular crises, the final stage – intellectual and memory decline. In the I half of the day a sympathetic-adrenal crisis was noted in the clinical manifestations of vegetative disorders. In the II half of the day, the activity of parasympathetic nervous system was increased, resulting in vago-insular crises. The clinical manifestations of sympathetic-adrenal and vago-insular crises, aggravated by affective disorders: phobic, anxious, and depressive. The obtained results show, that psycho-vegetative syndrome with affective components is a central link in the structure of psychopathological manifestations. Thus, the psychosocial impact of stress in the Chernobyl disaster shows the importance of continuing to monitor the mental health of the population in order to establish a link between mental well-being, somatic illness and mortality.

References

1. Bromet E.J. Posledstviya chernobyilskoy katastrofyi dlya psihicheskogo zdorovya - «Vestnik Assotsiatsii psihiatrov Ukrainyi» (02) 2012 - http://www.mif-ua.com/archive/issue-34084/ - [In Russian].

2. Burtovaya EYu, Kantina TE, Litvinchuk EA, Cheban AYu, Akleev AV. Kharakteristika otdalennykh astenicheskikh rasstroystv u lits, podvergshikhsya khronicheskomu radiatsionnomu vozdeystviyu. Klinicheskie, biologicheskie, psikhologicheskie aspekty

psikhiatrii i narkologii. Materialy mezhregionalnoy nauchno-prakticheskoy konferentsii s mezhdunarodnym uchastiem pod redaktsiey D.M. Ivashinenko. 2016; 13-18. Dostupno na: elibrary.ru. [in Russian]
3. Vaynshteyn LA, Stozharov AN, Hayashida N, Takahashi J. Psikhologicheskie podkhody i analiz stressovykh sostoyaniy cheloveka pri deystvii radiatsionnogo faktora. Big Data and Advanced Analytics. 2019; 5: 92-99. [in Russian]
4. Kostyuchenko SI. Analiz obsuzhdeniya v fokus-gruppakh problem, svyazannykh so zdorovyem i posledstviyami Chernobylskoy katastrofy, sredi zhiteley Beloy Tserkvi. Vestnik Assotsiatsii psikhiatrov Ukrainy. 2013; (01). Dostupno na: http://www.mif-ua.com/archive/issue-34119/ - [in Russian].
5. Adams R.E., Guey L.T., Gluzman S.F., Bromet E.J. Psychological wellbeing and risk perceptions of mothers in Kyiv, Ukraine, 19 years after the Chornobyl disaster // Int. J. Soc. Psychiatry. - 2011 Nov. - 57(6). - 637-645.
6. Bromet EJ. Emotional consequences of nuclear power plant disasters. 2014; 106(2): 206-10.
7. Bromet E.J., Guey L.T., Taormina D.P., Carlson G.A., Havenaar J.M., Kotov R., Gluzman S.F. Growing up in the shadow of Chornobyl: adolescents' risk perceptions and mental health // Soc. Psychiatry Psychiatr. Epidemiol. — 2011 May. — 46(5). — 393402.
8. Bromet E.J., Havenaar J.M., Guey L.T. A 25 year retrospective review of the psychological consequences of the Chernobyl accident // Clin. Oncol. - 2011. - 23. - 297-305.
9. Bromet E.J. Mental health consequences of the Chernobyl disaster. J. Radiol. Prot. 2012; 32(1): 71-75.
10. Fukasawa M, Kawakami N, Umeda M, Miyamoto K, Akiyama T, Horikoshi N, Yasumura S, Yabe H. Environmental radiation level, radiation anxiety, and psychological distress of non-evacuee residents in Fukushima five years after the Great East Japan Earthquake: Multilevel analyses
- SSM - Population Health journal. 2017. Available at: 2352-8273/© 2017. - P.1-12 - home page: www.elsevier.com. doi.org/10.1016/j.ssmph.2017.09.002.
11. Kim Y., Tsutsumi A., Izutsu T., Kawamura N., Miyazaki T., Kikkawa T. Persistent distress after psychological exposure to the Nagasaki atomic bomb explosion // Br. J. Psychiatry. - 2011. - 199. - 411-16.
12. Loganovsky KN, Zdanevich NA. Cerebral basis of posttraumatic stress disorder following the Chernobyl disaster. CNS Spectrums. 2013; 18(2): 95-102. doi: 10.1017/S109285291200096X. Epub 2013 Feb 27.
13. Matsuoka Y., Nishi D., Nakaya N., Sone T., Noguchi H., Hamazaki K., Hamazaki T., Koido Y. Concern over radiation exposure and psychological distress among rescue workers following the Great East Japan Earthquake // BMC Public Health. - 2012 May 15; 12: 249.
14. Samet JM, Patel SS The Psychological and Welfare Consequences of the Chernobyl Disaster: A Systematic Literature Review, Focus Group Findings, and Future Directions, April 18, 2011 Available at: http://globalhealth.usc.edu and www.greencross.ch.

Реферати

ОСОБЛИВОСТІ ВІДДАЛЕНИХ ПСИХІЧНИХ ПОРУШЕНЬ У ПОСТРАЖДАЛИХ ВІД АВАРІЇ НА ЧАЕС

Римша С.В., Рациборинська-Полякова Н.В., Гаврилюк А.О.

У постраждалих внаслідок аварії на ЧАЕС 1986 року виявлені віддалені наслідки для психічного здоров'я, виявлена залежність від дози та взаємозв'язок між важкістю радіаціоного ураження та проявами порушень психіки. Вивчення стану здоров'я ліквідаторів дозволяє розширити розуміння взаємозв'язку між ПТСР, депресією, ризиком внутрішніх захворювань та одужанням. За нашими даними центральною ланкою в структурі психопатологічних проявів є психовегетативний синдром з афективним супроводженням. Психосоціальний вплив стресу в результаті Чорнобильської катастрофи свідчить наскільки важливо продовжувати моніторинг психічного здоров'я населення з метою встановлення взаємозв'язку між психічним благополуччям, соматичними захворюваннями і смертністю.

Ключові слова: Чорнобильська катастрофа, стан здоров'я ліквідаторів, радіаційне ураження, психічні розлади внаслідок опромінення.

Стаття надійшла 10.06.2019 р.

ОСОБЕННОСТИ ОТСРОЧЕННЫХ ПСИХИЧЕСКИХ РАССТРОЙСТВ У ПОСТРАДАВШИХ ОТ АВАРИИ НА ЧАЭС

Рымша С.В., Рациборинская-Полякова Н.В., Гаврилюк А.А.

У пострадавших вследствие аварии на ЧАЭС в 1986 году выявлено отдаленные последствия для психического здоровья, выявленная зависимость от дозы и взаимосвязь между тяжестью радиационного поражения и проявлениями нарушений психики. Изучение состояния здоровья ликвидаторов позволяет расширить понимание взаимосвязи между ПТСР, депрессией, риск внутренних заболеваний и выздоровлением. По нашим данным центральным звеном в структуре психопатологических проявлений является психовегетативный синдром с аффективным сопровождением. Психосоциальное воздействие стресса в результате Чернобыльской катастрофы свидетельствует, насколько важно продолжать мониторинг психического здоровья населения с целью установления взаимосвязи между психическим благополучием, соматическими заболеваниями и смертностью.

Ключевые слова: Чернобыльская катастрофа, состояние здоровья ликвидаторов, радиационное поражение, психические расстройства вследствие облучения.

Рецензент Єрошенко Г.А.