

V.V. Borysenko, L.O. Herasymenko, R.I. Isakov, Yu.O. Fysun, P.V. Kydon,
V.V. Shnyder, O.A. Kazakov
Poltava State Medical University, Poltava

DIFFERENCES IN PSYCHOLOGICAL ADAPTATION, PREDICTORS AND FEATURES OF PSYCHOLOGICAL AND SOCIAL MALADJUSTMENT FORMATION IN FOREIGN STUDENTS OF MEDICAL INSTITUTIONS OF HIGHER EDUCATION IN UKRAINE

e-mail: borysenko.vladym@gmail.com

The psychological adaptation of international students to a Ukrainian higher medical school depends on individual and group factors, motivational and background characteristics, cognitive, information-cognitive and gnostic factors, interpersonal relations in international study groups, and the formation of psychosocial maladaptation in foreign students indicates the need to create forms and methods of a differentiated approach to the personality of each student. The study describes the psychological differences in adaptive mechanisms among international students, the presence and severity of psychosocial maladjustment in various areas, and the factors shaping its development. It is shown that the education of international students in medical higher education institutions contributes to integrating domestic medical schools into the global intellectual space and, therefore, stimulates the development of medical science and practice in the country.

Key words: international students, psychological adaptation, psychosocial maladjustment, adaptation disorders.

В.В. Борисенко, Л.О. Герасименко, Р.І. Ісаков, Ю.О. Фисун, П.В. Кидонь,
В.В. Шиндер, О.А. Казаков

ВІДМІННОСТІ ПСИХОЛОГІЧНОЇ АДАПТАЦІЇ, ПРЕДИКТОРИ ТА ОСОБЛИВОСТІ ФОРМУВАННЯ ПСИХОСОЦІАЛЬНОЇ ДЕЗАДАПТАЦІЇ У ІНОЗЕМНИХ СТУДЕНТІВ МЕДИЧНИХ ЗАКЛАДІВ ВИЩОЇ ОСВІТИ УКРАЇНИ

Психологічна адаптація іноземних студентів до медичної української вищої медичної школи залежить від: індивідуальних і групових факторів, мотиваційно-фонових характеристик, когнітивних, інформаційно-пізнавальних і гностичних факторів, міжособистісних відносин у міжнаціональних навчальних групах, а формування психосоціальної дезадаптації у студентів-іноземців свідчить про необхідність створення форм і методів диференційованого підходу до особистості кожного студента. У статті описано психологічні відмінності адаптивних механізмів серед студентів-іноземців, наявність та вираженість психосоціальної дезадаптації у різноманітних сферах та чинники формування її розвитку. Показано, що навчання іноземних студентів в медичних ЗВО сприяє інтеграції вітчизняних медичних шкіл у світовий інтелектуальний простір і, отже, стимулює розвиток медичної науки і практики в країні.

Ключові слова: іноземні студенти, психологічна адаптація, психосоціальна дезадаптація, розлади адаптації.

The study is a fragment of the research project "Systematic approach to studying stress-associated disorders (formation mechanisms, diagnosis, psychosocial maladaptation, therapy, rehabilitation and prevention)", state registration No. 0122U202027.

Every year, almost 150 different countries send their students to study in Ukraine, but most students come from the following countries: Azerbaijan (10,000), Turkmenistan (9,000), India (6,000), Nigeria (3,000), Morocco (3,000), Georgia (2,000), Jordan (2,000), Iraq (2,000), China (2,000), and Uzbekistan (1,000). It is also worth noting that before the outbreak of the war in Ukraine, in addition to those listed, European students also came to Ukraine to get a higher education (about 5 %). The answer to the question of why they chose Ukraine, in particular, is different: some wanted to learn the Ukrainian language, some were disappointed in the education system of their home country, wider opportunities for work attracted some, some have interesting specialities and professions that are poorly developed in education in their home country [2]. It deserves particular attention that many foreigners are attracted by the opportunity to get an education in Ukraine from many angles: from the language and the opportunity to learn about the homeland of their ancestors to career prospects. It should also be noted that Ukrainian education is, in many ways, the "golden mean" between price and quality. With a relatively low cost of education and living (compared, for example, to Great Britain), our country offers a fairly high level of training in all kinds of specialities, especially medical specialities, with the opportunity to find applications for this knowledge in the future [1].

In foreign literature, adaptation problems were reflected in the works of authors such as Brain, Bochner, David, Gullahon, Coelho, Parker, Shield, and others. In the works of foreign authors, several problems related to the socio-psychological factors of adaptation of international students to social and cultural differences in countries such as the USA, England, Australia, India and Germany have been revealed [7]. The phenomenon of adaptation is one of the most significant and discussed phenomena of social life in the 21st century. Adaptation to an unfamiliar cultural environment is a natural phenomenon, an element of world processes related to the international mobility of students from different countries and regions of the

modern world. The real theoretical and practical need to study the phenomenon of adaptation of foreign students of medical institutions far abroad in Ukraine arose not only in historical, political, and educational but also psychological aspects, from the point of view of medical, general and social psychology [9]. To date, the study of the foreign students' adaptation phenomenon in Ukraine and the differentiated study of their national-psychological personal characteristics will contribute to the development of mechanisms for successful adaptation to higher education. Education of international students in medical higher education institutions contributes to integrating domestic medical schools into the global intellectual space and, therefore, stimulates the development of medical science and practice in the country [13]. At the same time, the factors of the formation of psychosocial maladjustment among international students and the differences in their psychological adaptation have not been fully clarified. In the domestic, primarily psychiatric literature, this term appeared relatively recently, and its use in the clinical context remains ambiguous and even contradictory, particularly regarding the assessment of the role and place of maladjustment states about the categories of "norm" and "pathology". Psychosocial maladjustment is a failure in the mechanisms of mental adjustment in the event of acute or chronic emotional stress, resulting in a partial or complete inability to adapt to the conditions of the social environment and to perform the role usual for one's status in society due to limitations in the functionality of the psyche [10, 11].

The purpose of the study was to investigate predictors of the formation of psychosocial maladjustment and features of psychological adaptation of international students of medical institutions of higher education in Ukraine.

Material and methods. A comprehensive examination of 57 people (citizens of Morocco, Iran, India, Tunisia, Uzbekistan) who are foreign students of the Poltava State Medical University and study at the medical and dental faculties was carried out. The age of the students ranged from 19 to 25 years. All international students gave consent to participate in this study. The main criterion for including an international student in the study was mandatory residence during studies in Ukraine. The exclusion criterion was only online education in medical higher education institutions. Examining international students was carried out with the help of online communication and at the Department of Psychiatry, Narcology, and Medical Psychology of PDMU. The foreign students involved in the study were representatives of different cultures and acted as objects of study and as subjects of pedagogical influence. To solve the goal, a matrix of initial data on international students was formed, and decisive rules were selected to form a classification based on comparing the applicant's personal data with a set of psychological qualities necessary for assessing the adaptation of foreign students.

When choosing the methods and scales for evaluating the studied qualities, it was taken into account that, on the one hand, the set of tests should be quite complete, allowing for the assessment of the individual style of activity as a whole. On the other hand, the selected methods should represent expressed methods of psychodiagnostics.

To assess the reliability of the results of psychodiagnostic study, the following requirements for psychodiagnostic methods were taken into account: validity, reliability, unequivocal method, accuracy. The choice of computer testing methods was analyzed from the following aspects: on the one hand, the set of tests should be quite complete, which allows evaluation of each quality separately, and on the other hand, the selected methods should correspond to the set of psychological qualities necessary for successful adaptation. The applied questionnaires contain statements about a person, his way of life, experiences, thoughts, habits, and behaviour styles, which can always be associated with a way of life.

The following methods are used to assess adaptation and psychosocial maladaptation in international students:

1. The scale of socio-psychological adaptation (K. Rogers, R. Diamond) is used as a measuring tool for identifying states of adaptation and maladaptation, features of self-image, and their restructuring in age-critical periods of development and critical situations that prompt an international student to reevaluate oneself and one's capabilities.

2. Scale of psychosocial maladaptation according to L.O. Herasymenko, A.M. Skrypnikov.

3. To identify and measure the severity of psychosocial maladjustment "Scale for a comprehensive assessment of the degree of psychosocial maladjustment in various spheres", according to R.I. Isakov, L.O. Herasymenko.

Results of the study and their discussion. According to the results of the conducted research, it was determined that the adaptation process of foreign medical students of higher education institutions continues throughout the entire study period in Ukraine. As the research showed, its efficiency depends on the socialization and personality characteristics of the international student. Four groups were established according to the qualitative level of adaptability: high ($13.1 \pm 2.4\%$), medium ($51.8 \pm 2.4\%$) and low ($16.3 \pm 3.0\%$), but at the same time, the adaptation process was successfully carried out not for all international students. According to the data obtained, the number of maladapted students is about $18.8 \pm 0.7\%$ of the total number and leading positions are held by first-year students ($16.3 \pm 3.0\%$).

The difference in psychological adaptation is the influence of the following components:

a) inadequate personality formation at the early stages of its development in the family circle, as a result of the formation of an immature personality, which is reflected in social attitudes and roles (33.1±1.4 %);

b) low level of intellectual abilities, motivation and other qualities involved in the process of socialization of the individual (18.2±0.9 %);

c) bias towards our country, towards the uniqueness of Ukrainian culture and set of values, rejection of religious customs of Ukraine (38.2±1.4 %);

d) extremely high requirements of the situation, causing a lack of existing adaptive abilities (18.2±2.2 %).

It has been established that the predictors of the formation of psychosocial maladjustment in foreign students are, firstly, the initial stage of the personality's "entry" into a new macro- and microenvironment, which is especially characteristic of foreign students in the first year of study, as well as students studying at pre-university training. The vast majority of international students have a low level of awareness of Ukraine's political, economic, and social systems, the norms, customs, traditions, and culture of the people, and the existing system of higher education in the country. For most of them, the problem of internationalization, the need to communicate with carriers of different social, ethnic, and national norms and cultures, arises for the first time. In this context, the concept of a mental adaptation barrier is critical – an individual functional and dynamic formation that prevents the overstrain of adaptation mechanisms to avoid forming a state of mental maladaptation and psychogenic disorders, in particular neurotic pathology [3, 4, 5].

The barrier of mental adaptation is a dynamic formation, and when the student is in a state of mental tension, it approaches the individual's critical value. In the case of a harmonious psychological attitude to a stressful situation, under the influence of mental trauma, personality traits that were previously in a latent state may manifest. At the same time, the student uses all his reserved capabilities and performs a complicated activity without feeling anxiety, fear and confusion, which does not prevent maximum adaptive behaviour. However, the sudden and long-term tension of the functional activity of the adaptation barrier leads the international student to overload, which forms a state of psychosocial maladaptation. Under the condition that the pressure on the mechanisms of mental adaptation increases and the reserve possibilities are exhausted, psychopathological syndromes may arise, which are the result of decompensation, a "breach of the barrier". Such two response types are homonomous (constitutional) and heteronomous (neurotic), but it is not always possible to draw a clear line between them.

It should be noted that for foreign students, breaking through the adaptation barrier in a crisis situation can be formed at different levels: biological (vegetative-visceral), psychological (emotional-affective, motivational) or social, which refers to social factors that block the actual needs of the individual and prevent the achievement of life goals.

When diagnosing psychosocial maladjustment in international students of higher education institutions, we are talking about a violation of the process of not only the functional but also the substantive side of socialization. An index of maladaptation in such a case is the lack of adequate and purposeful response in situations that require vigorous adaptation measures. In the end, this globally leads to a violation of the educational process, professional activity, dependence on outsiders, deformation of the system of internal regulation, value orientations and social attitudes, and loss of the ability to exist independently to establish social ties.

Secondly, this is the stage of socialization and adaptation of the individual in new macro- and microsocial conditions. International students are socialized, mature individuals formed under the influence of the environment in which they were brought up. They usually have a certain life position, goals, value system, and value orientations. In addition, each international student has specific characteristics: ethnic, national-psychological, psychological and physiological, personal, etc.

Thirdly, this is a stage of not always adequate mental and physical stress. An international student, included in a new environment, feels natural discomfort. Therefore, there is a restructuring, a change in the psychological and physiological processes of the personality. In the initial period of adaptation, he is in a "shock" (stressful) state due to information overload at all levels (in the educational process and outside of it); emotional overload (new connections, communications, comfort, language barrier, etc.); adaptations at the household level (independence in budget allocation, self-sufficiency and self-service, etc.).

Therefore, the task at this stage consists of teaching students the mechanisms of self-regulation and helping them master them, creating comfortable conditions for the removal of psychological and physiological difficulties (regular medical examination, psychological and psychosocial support, "dosage" of the information flow, training aimed at interpersonal communication).

The above-listed features of the foreign contingent of students and several others are the sources of those difficulties that are especially acutely felt in the first year of stay in a new country.

According to our study, the leading areas of difficulties faced by international students of higher education institutions have been identified and grouped as follows:

1. Adaptation difficulties at different levels: linguistic, conceptual, moral-informational, climatic, household, communicative, etc.

2. Psychological and physiological difficulties associated with personality restructuring in the conditions of initial adaptation and “entry” into a new macro- (ethno-social and ethno-cultural) environment and micro- (horizontally international and vertically controlled) environment.

3. Educational and cognitive difficulties, primarily related to the language barrier; overcoming differences in education systems; adaptation to new requirements and knowledge control system; organization of the educational process, which should be based on the principles of self-development of the individual, “cultivation” of knowledge, instilling skills of independent work.

4. Communication difficulties both vertically, that is, with the administration of the faculty, with teachers and employees, and horizontally, that is, in the process of interpersonal communication within an international small study group, a study stream, in a dormitory, on the street, in shops, etc.

5. Domestic difficulties are associated with the lack of independence, decision-making, and problem-solving skills.

All these groups of difficulties are mutually determined and represent a psychological barrier, the overcoming of which is connected with mental (spiritual), personal, emotional, intellectual, and physical overloads, which is confirmed by research.

According to the study results, predictors of psychological adaptation, which are divided into objective and subjective, were established and systematized. The number of objective factors of psychological adaptation can include the presence of an attitude towards the assimilation of new cultural phenomena, the desire to integrate into a new non-national environment, the desire to overcome informational isolation, the establishment of communicative ties with the environment and people, the presence of motivational needs to obtain higher education in Ukraine, the existence of international study groups, the presence of students from different regions of the world, ignorance and incompetence, lack of intercultural communication language knowledge in a foreign language environment, lack of behavioral skills in the conditions of intercultural interaction.

The subjective factors of psychological adaptation include the psychological structure of the individual, which is based on psychological and physiological functions and motives of behavior, national-psychological features of students, the system of student's attitude to all components of the educational process at the stage of pre-university training, meaningful signs of psychological factors of the educational process (cognitive, gnostic and factor of satisfaction with the efficiency of the educational process – author's developments), emotional factors of educational success.

The study results established that among international students of higher education institutions, the most widespread was the mixed variant of maladjustment, diagnosed in 45.8 %.

We systematized the results obtained in Table 1.

Table 1

**Results of maladjustment options among foreign students
of higher education institutions**

Number of affected areas of activity	Number of detected cases of maladaptation	
	Abs. (57)	%
Adaptability	21	36.7
Borderline state	10	17.5
One area of activity	6	10.5
Two areas of activity	7	12.2
Three areas of activity	4	7.0
Four areas of activity	4	7.0
Five areas of activity	3	5.3
Total maladaptation	2	3.5

The results of the structural analysis of the identified variants of psychosocial maladjustment are summarized in Table 2.

According to the data obtained among international students of medical higher education institutions, the highest specific weight of psychosocial maladjustment was diagnosed in the production, communication and information spheres. In the vast majority of cases, we were talking about a violation of informational and communicative functioning within the framework of a mixed variant of maladaptation and secondary damage to the component of professional relations (learning) due to dysfunctionality in other areas. The integration of communicative relations with different spheres of activity and their mutual influence played a role. For its part, information maladaptation was also the most frequent reason for developing maladaptation in other spheres of activity.

**Variants of psychosocial maladjustment were found in foreign students
of medical higher education institutions**

Maladaptation option	Mild severity		Moderate severity		Severe course		Total	
	abs.	%	abs.	%	abs.	%	abs.	%
Family	3	5.9	-		-		3	4.0
Sexual	6	11.8	2	11.8	1	14.3	9	12.0
Economically and property	7	13.7	1	5.9	-		8	10.7
Production (service)	9	17.7	5	29.4	1	14.3	15	20.0
Communicative	14	27.5	5	29.4	2	28.6	21	28.0
Informational	12	23.4	4	23.5	3	42.8	19	25.3

The study confirmed that the adaptation of international students to the Ukrainian medical higher school depends on individual and group factors, motivational and background characteristics, cognitive, information-cognitive and gnostic factors, and interpersonal relations in international study groups.

The conducted research made it possible to diagnose the presence of various forms of psychosocial maladjustment in 48.6 %, which indicates the need to create a reference point in the choice of forms and methods of a differentiated approach to the personality of each student in an international educational group, choosing the most appropriate and effective methods of psychological and pedagogical influence on students, as well as developing programs aimed at preventing psychosocial maladjustment and eliminating the formation of predictors of its development for this category of students. The central psychological conflict is mainly in the information plane, or in the sphere of interpersonal, professional or family relations. Additional stressors known to disrupt mental adaptation can be overwork, tension, conflicts and failures, accidents, and infectious and severe somatic diseases [12, 14]. However, the severity of stress does not always determine the formation of a mental disorder and does not determine severity [15]. In each specific case, the pathogenicity of this or that factor is determined not only by the objective nature of the psycho-traumatic situation but also by the subjective attitude of the individual towards it. That is why the maladjustment of international students also largely depends on their characteristics. Of decisive importance are characterological features that do not permit the development of coping mechanisms adequate to the new reality [6, 8].

Conclusion

Thus, violations in at least one area of the psyche, according to the “falling domino” principle, inevitably cause violations in all other mental areas. Often, the lack of understanding and the expected reaction (supportive communication) provokes the further development of subclinical deviations and contributes to their transformation into a full-fledged disease. The formation of psychosocial maladjustment in foreign medical students during their studies occurs in the presence of one or more stressors that may act periodically or continuously, be single or multiple. An essential factor in its development is the characteristics of the society in which foreign students live. The predictors of the formation of psychosocial maladjustment include the availability of help, its correspondence to actual needs, the possibility of organizing life taking into account the individual characteristics of the psyche, and material living conditions. It is also possible to have a situation where maladaptation in one field of activity is successfully compensated by increasing efficiency and shifting the focus of attention to others. In this way, the subjective significance of a problem that cannot be solved is reduced, and this helps to reduce stress.

References

1. Avetikov DS, Yatsenko IV, Lokes KP, Stavitskiy SO. Dystantsiynе navchannia yak nova tekhnolohiya praktychnoyi pidhotovky i kontroliu yakosti osvity u vyshchyykh medychnykh navchalnykh zakladakh. Aktualni pytannia kontroliu yakosti osvity u vyshchyykh medychnykh navchalnykh zakladakh: materialy nauk.- prakt. konf. z mizhnar. uchastiu; 2018; Poltava. Poltava; 2018. p. 8–10. [in Ukrainian]
2. Zhdan VM, Babanina MYu, Volchenko HV, Kyrian OA, Kitura YeM, Tkachenko MV, et al. Tsyfrovyy rozryv u systemi medychnoyi osvity. Medychna osvita za novymy standartamy: vyklyky ta intehratsiya v mizhnarodnyi osvityniy prostir: materialy navch.-nauk. konf. z mizhnar. uchastiu; 2023 Mar 30, Poltava. Poltava; 2023. p. 66–68. [in Ukrainian]
3. Kozhyna HM, Zelenska KO, Kraskovska TYu, Kozhyn MI. Kompleksnyi pidkhid v terapiyi rozladiv adaptatsiyi. Ukrainskyi visnyk psykhonevrolohiyi. 2020; 105 (4): 34–39. doi: 10.36927/2079-0325-V28-is4-2020-6. [in Ukrainian]
4. Maruta NO, Yavdak IO, Koliadko SP, Fedchenko VY, Cheredniakova OS, Zavorotnyi VI. Osoblyvosti psykhichnoho stanu vnutrishnyo peremishchenykh osib (struktura ta vyrazhenist psykhopatolohichnykh porushen). Medychna psykholohiya. 2019; 3: 40–44. doi: 10.31071/mps2019.03.040 [in Ukrainian]
5. Rakhman LV. Parametry sotsialnoyi dysfunktsiyi pry terapevtychno rezystentnykh depresiyakh. Medychna psykholohiya. 2018; 13 (1): 36–41. [in Ukrainian]
6. Kharchenko AV, Tkachenko TV. Analiz kliniko-psykhopatolohichnoho ta psykhotodnostychnoho doslidzhennia u khvorykh z hostroyu reaktivnoyu na stres ta rozlady adaptatsiyi z suitsyadnalnoyu povedinkoyu. Psykhichne zdorovya. 2012; 2: 11–14. [in Ukrainian]
7. Shelestova OV. Rozlady adaptatsiyi yak naslidok vplyvu stresu. Medychna psykholohiya. 2016; 4: 74–77. [in Ukrainian]

8. Boiko DI, Rahman MH, Kachala VV, Zehravi M, Shkodina AD, Kundu MK, et al. A pilot study of stress coping and anxiety among internally displaced people in Russian-Ukrainian war who experienced stress-related disorders. *Psychiatry Research*. 2023; 324: 115191. doi: 10.1016/j.psychres.2023.115191
9. Boiko DI, Shkodina AD. Increased subsequent risk of mental disorders after experiencing stress-related disorders: correspondence. *Annals of Medicine & Surgery*. 2023; 85 (4): 1306–1307 doi: 10.1097/MS9.0000000000000295
10. Isakov RI, Herasymenko LO, Kydon PV, Fysun YuO, Belov OO, Pshuk NG, et al. Predictors of the formation and features of the clinical picture of adjustment disorders. *World of Medicine and Biology*. 2023; 1 (83): 72–77. doi: 10.26724/2079-8334-2023-1-83-72-77.
11. Isakov RI, Skrypnikov AM, Herasymenko LO, Hryn KV, Kydon PV, Vdovina OO. Clinical and psychopathological features of internally displaced women with adjustment disorders. *World of Medicine and Biology*. 2021; 1 (75): 64–68. doi: 10.26724/2079-8334-2021-1-75-64-68.
12. Kaidashev I, Shlykova O, Izmailova O, Torubara O, Yushchenko Ya, Tyshkovska T, et al. Host gene variability and SARS-CoV-2 infection: A review article. *Heliyon*. 2021; 7(8): 07863. doi: 10.1016/j.heliyon.2021.e07863.
13. Katrushova L, Yalanska S, Rudenko L, Katrushov O. Peculiarities of the process of psychological adaptation of foreign students of Ukrainian higher education institutions of medical profile, role of emotional intelligence in the socialization process. *Wiadomości Lekarskie*. 2019; 72(10):1930–1934.
14. Savchenko LV, Kaidashev IP. Individual approach to the treatment of obese copd patients can reduce anthropometric indicators, the level of systemic inflammation and improve the quality of life. *Wiadomości Lekarskie*. 2018; 71 (3): 451–459.
15. Tsuber V, Kadamov Y, Tarasenko L. Activation of antioxidant defenses in whole saliva by psychosocial stress is more manifested in young women than in young men. *PLoS ONE*. 2014; 9 (12): 115048. doi: 10.1371/journal.pone.0115048.

Стаття надійшла 27.11.2022 р.

DOI 10.26724/2079-8334-2023-4-86-29-35

UDC 616-073.756.8, 616.714

G.S. Gasimzade

Azerbaijan State Advanced Training Institute of Doctors named after A. Aliyev, Baku, Azerbaijan

THE INFORMATIVENESS OF METHODS OF RADIATION DIAGNOSTICS IN THE DETECTION OF SKULL FRACTURES

e-mail: dr.gasimzade@mail.ru

In 157 (16.2 %) of 969 patients who were injured for various reasons, X-ray diagnostics was performed, in 447 (46.1 %) – CT, in 33 (3.4 %) patients – MRI. The results were subjected to comparative analysis. In total, 167 people were diagnosed with traumatic brain injury. Among patients with identified traumatic brain injuries, X-ray examination was performed in 98 (58.7 %), CT – in 162 (97.0 %), MRI – in 20 (12.0 %) patients. Combined trauma was noted in 63 (88.7 %), isolated trauma – in 8 (11.3 %) patients. Based on the results of the study in detecting head injuries as a result of road accidents, CT can be considered a more effective method due to its sensitivity (89.0 %) and specificity (98.4 %). When detecting a combined traumatic brain injury, MRI due to its specificity (100.0 %), and CT with specificity (96.7 %) and sensitivity (91.8 %) were accepted as more informative methods of examination. It was found that the reformation of CT images in axial and cranial projection allows timely and correct diagnosis of fractures and tomography of the skull bones.

Keywords: traumatic brain injury, combined trauma, radiation diagnostics, sensitivity, specificity

Г.Ш. Гасимзаде

ІНФОРМАТИВНІСТЬ МЕТОДІВ ПРОМЕНЕВОЇ ДІАГНОСТИКИ ПРИ ВИЯВЛЕННІ ПЕРЕЛОМІВ КІСТОК ЧЕРЕПА

У 157 (16,2 %) із 969 пацієнтів, які отримали травми з різних причин, проведено рентгендіагностику, у 447 (46,1 %) – КТ, у 33 (3,4 %) пацієнтів – МРТ. Результати були піддані порівняльному аналізу. Загалом у 167 осіб діагностовано черепно-мозкову травму. Серед пацієнтів із виявленими черепно-мозковими травмами рентгенологічне дослідження виконано у 98 (58,7 %), КТ – у 162 (97,0 %), МРТ – у 20 (12,0 %) пацієнтів. Комбінована травма відзначена у 63 (88,7 %), ізольована травма – у 8 (11,3 %) пацієнтів. На підставі результатів дослідження при виявленні травм голови внаслідок дорожньо-транспортних пригод, КТ можна вважати ефективнішим методом завдяки його чутливості (89,0 %) та специфічності (98,4 %). При виявленні комбінованої черепно-мозкової травми, МРТ у зв'язку з її специфічністю (100,0 %), а КТ зі специфічністю (96,7 %) та чутливістю (91,8 %) були прийняті як більш інформативні методи обстеження. Встановлено, що реформування зображень КТ в аксіальній та краніальній проекції дозволяє своєчасно та правильно діагностувати переломи та отримати томографію кісток черепа.

Ключові слова: черепно-мозкова травма, комбінована травма, променева діагностика, чутливість, специфічність.

The study of skull fractures is important both in clinical medicine and in forensic pathology. Currently, head injuries resulting from fractures of the skull bones remain a serious medical and social problem [1,14]. Skull fractures are observed in 3.5–24 % of patients with traumatic brain injury (TBI). Fractures of the bones of the skull, allocated to open and closed fractures, in comparison with fractures of the bones of the whole body, are among the most dangerous fractures. In addition, there may be an incomplete fracture, a crack, comminuted fractures, as well as depressed fractures. Local symptoms are