© B. V. Mykhaylov, V. B. Mykhaylov, I. V. Zdesenko УДК 616.89

B. V. Mykhaylov<sup>2</sup>, V. B. Mykhaylov<sup>1</sup>, I. V. Zdesenko<sup>3</sup>,

# SECONDARY DEPRESSION ON CARDIOVASCULAR AND CEREBROVASCULAR DISEASES PATIENTS

Б. В. Михайлов<sup>1</sup>, В. Б. Михайлов<sup>2</sup>, І. В. Здесенко<sup>3</sup>,

ВТОРИННА ДЕПРЕСІЯ У ХВОРИХ НА ІНФАРКТ МІОКАРДА ТА МОЗКОВИЙ ІНСУЛЬТ

Б. В. Михайлов<sup>1</sup>, В. Б. Михайлов<sup>2</sup>, І. В. Здесенко<sup>3</sup>,

# ВТОРИЧНАЯ ДЕПРЕССИЯ У БОЛЬНЫХ ИНФАРКТОМ МИОКАРДА И МОЗГОВОЙ ИНСУЛЬТ

Kharkiv National Medical University, Kharkiv, Ukraine<sup>1</sup>;

Kharkiv Medical Academy of Postgraduate Education, Kharkiv, Ukraine<sup>2</sup>;

SI «Institute of neurology, psychiatry and narcology NAMS», Kharkiv, Ukraine<sup>3</sup>.

Харківська медична академія післядипломної освіти<sup>1</sup>;

Харківський національний медичний університет<sup>2</sup>;

ДУ «Інститут неврології, психіатрії та наркології НАМН України», м. Харків<sup>3</sup>.

Стаття надійшла до редакції 21.04.2016.

#### Resume

In research, based on the systematic approach of evaluating results of complex clinical-psychopathological, psychodiagnostical investigation my- ocardial infarction and cerebral stroke patients the clinical structure features, regularities in the formation, development and course of somatogenic de- pression and associated disorders on these patients was determined.

At patients with cardiac infarction in acute period the pain syndrome is the main one, leads to severe psycho-emotional disorders. Against the background of cognitive function preservation phobic, anxiety and depres- sive symptoms prevail, their intensity depends on the severity of pain. Sub- sequently, the primary psycho-emotional constituent element disappeared and anxiety-depressive disorders developed along with hypo- and anozog- nostical type of personal condition perception. At cerebral stroke patients disorders of level of consciousness were primary with cognitive and asthenic disturbances with subsequent formation of psycho-emotional disorders, anxiety and depressive disorders with hypohondrical elements on the basis of persistent cognitive impairments.

## Keywords

#### Резюме

secondary depression, anxiety, psychotherapy, myocardial infarction, cerebral stroke.

На основі системного підходу в оцінці результатів комплексних клі- ніко-психопатологічних, психодіагностичних досліджень осіб, що пере- несли ІМ та МІ, було визначено особливості клінічної структури, закономірності формування, розвитку та перебігу соматогенної депресії та асоційованих розладів у даних хворих.

У хворих з ІМ в гострому періоді провідним є больовий синдром, що призводить до виражених психоемоційних розладів. На тлі збере- ження когнітивних функцій превалює фобічна, тривожно-депресивна симптоматика, вираженість якої безпосередньо залежить від вираже- ності больового синдрому. У подальшому первинний психоемоційний вітально зумовлений компонент зникає, формуються тривожно-депресивні порушення, гіпо- і анозогностичний типи сприйняття свого стану. У пацієнтів з МІ первинним є порушення рівня свідомості з когнітивними і астенічними порушеннями з подальшим формуванням психоемоцій- них розладів, тривожно-депресивних порушень з елементами іпохонд-ризації на тлі збереження когнітивних розладів.

## Ключові слова

вторинна депресія, тривога, психотерапія, інфаркт міокарда, мозковий інсульт.

#### Резюме

На основе системного подхода в оценке результатов комплексных клинико-психопатологических, психодиагностических исследований лиц, перенесших ИМ и МИ, были определены особенности клинической структуры, закономерности формирования, развития и течения соматогенной депрессии и ассоциированных расстройств у этих больных. У больных ИМ в остром периоде ведущим является болевой синдром, который приводит к выраженным психоэмоциональным расстройствам. На фоне сохранения когнитивных функций превалирует фобическая, тревожно-депрессивная симптоматика, выраженность которой напря- мую зависит от выраженности болевого синдрома. В последующем пер- вичный психоэмоциональный витально обусловленный компонент исчезает, формируются тревожно-депрессивные нарушения, гипо- и анозогностический тип восприятия своего состояния.

У пациентов с МИ первичным является нарушение уровня сознания с когнитивными и астеническими нарушениями с последующим форми- рованием психоэмоциональных расстройств, тревожно-депрессивных нарушений с элементами ипохондризации на фоне сохраняющихся когнитивных расстройств.

### Ключевые слова

вторичная депрессия, тревога, психотерапия, инфаркт миокарда, мозговой инсульт.

The cardiovascular and cerebrovascular diseases are the main medical problem at the end of XX and beginning of XXI centuries. The growth of pace of life, changes in demographics, bad habits, scientific and technological progress, constant exposure to stress determine not only an increase of cardiovascular and cerebrovascular pathology, but also a significant increase of mental and behavioral disorders, a special role among which takes violations of depressive spectrum.

Herewith increase of depressive disorders is not due to endogenic forms, but due to psychogenic, reactive, masked, mixed forms, including somatogenic which characterized by primarily somatic manifestations. This trend contemporary continues in the world and in Ukraine as well.

The problem of cardiovascular diseases takes a special place in the range of psychosomatic pathologies [1]. It is connected with their significant incidence, also in productive age, high mortality and disability rates. Every year cardiovascular diseases caused 4300000 deaths in Europe, in particular, there are more than 2 million fatal cases in the European Union [2-5].

In Ukraine mortality associated with cardiovascular diseases occupies the first place and the hardest complications of cardiovascular diseases are Myocardial infarction (MI) and Cerebral stroke (CS). MI and CS are the main causes of mortality, accounting for 55% of all fatalities [2, 4, 6].

The majority of patients (60 - 85%) with MI and CS suffered from depressive spectrum disorder that complicated the course of treatment, the outcomes of the disease, the recovery and rehabilitation processes [3, 4, 7 - 10]. Approximately 10 - 15% of patients with depression prone to suicidal attempts [3, 4, 6, 9].

# The main objects of our research.

To study clinical structure, patterns of development, pathophysiological formation mechanisms of somatogenic depression and associated disorders in patients with MI and CS.

To conduct comparative analysis of depressive spectrum disorders and associated disorders in MI and CS patients.

To create multimodal based system of psychotherapeutical correction of depressive spectrum disorders and associated disorders in MI and CS patients.

For conducting the research 120 patients were involved and they were divided into 2 supervision groups (60 patients with MI and 60 patients with CS). Examination of the patients was carried out in four stages: Stage 1 – within 28 days after MI or CS (acute phase), Stage 2 – 3 months after the event (subacute phase), Stage 3 – 6 months after the event (the recovery period), Stage 4 – 1 year after the event (consequences period). Throughout the period of the survey on the background of basic therapy patients have been conducted by psychotherapeutic correction and psychological support.

**Methods of research:** clinical methods, psycho-diagnostical methods (Hamilton scale of depression (HDRS), Beck scale of depression (BDS), Spylberger scale of personal and reactive anxiety, Mini-Mental State Examination (MMSE), quality of life test (I. Mezzich, N. Cohen, M. Ruiperez, I. Lin, G. Yoon, 1999), statistical methods [5, 11, 12].

Dynamic of leading depressive spectrum and associated disorders in patients with MI and CS illustrated on pic. 1 and pic. 2 of Supplement №1.

The obtained results demonstrated that the most frequent syndromes in MI patients in the acute phase were: pain (86,7%), phobic (83,3%), asthenic-anxious (43,3%) syndromes. Development and severity of panic and phobic symptoms depend on pain syndrome severity. Asthenic symptoms in this group of patients were part of the asthenic-anxiety, asthenia, depression (16,7%), asthenic-hypochondriac (10,0%) syndromes. Hysteria syndrome and cognitive deficits were observed in 6,7% of cases. In 13,3% of MI patients anozognostical attitude to the disease manifested as appropriate response impairment, denying hospital admission and treatment, decrease in critical assessments of their own state, complete disregard as to the severity of their condition. Dis- orders of consciousness in their superficial form, obnubilation, were observed in 6,7% of patients.

During the second stage of our research the MI patients demonstrated a decrease in pain (50,0%), phobic (40,0%) and asthenic-anxiety (33,3%) syndromes. On the contrary, incidence and severity of asthenic-depressive (26,7%), hysterophorm (10,0%) and asthenic-hypochondriac (10,0%) syndromes increased. The number of patients with cognitive impairments (10,0%) and anozognostical attitude to the disease (16,7%) increased as well.

During the third stage of our research the most frequent were asthenic-depressive (33,3%), pain (30,0%) syndromes, anozognostical attitude to the disease (23,3%). Asthenic-anxiety (23,3%) and phobic (13,3%) syndromes were also frequently diagnosed in MI patients but their intensity decreased. The incidence of cognitive impairments (13,3%) increased, especially in depressed patients.

During the fourth stage of our research the incidence and severity of psychopathological syndromes decreased after psychotherapeutic support. Thus, pain syndrome was observed in 23,3% of cases, asthenic-depressive syndrome in 21,7% of cases, asthenic-anxiety syndrome in 13,3% of cases, phobic syndrome in 10,0% of cases and attitude to the disease in 16,7% of cases. The incidence of cognitive impairment (10,0%), hysteroform (10,0%) and asthenic-hypochondriac (6,7%) syndromes remained on the same level.

Altered consciousness syndrome was the primary one in all cerebral stroke patients in the acute phase. Superficial forms of consciousness disorders, such as somnolence (10,0%), obnubilation (46,7%), torpor (33,3%) were prevalent. 10,0% of patients developed more intensive consciousness disorders (stupor). Subsequently they developed cognitive disorders syndrome (83,3%) and asthenic syndrome (66,7%). During the recovery period, on the second stage of the study, cognitive impairments intensity (66,7%), pain syndrome (53,3%), asthenic syndrome (40,0%), anozognostical disorders (10,0%) decreased. Psycho-emotional disorders became the main ones. Asthenic syndrome remained the basic one, developing depressive (33,3%), hypochondriac (10,0%), anxious (16,7%), hysterophorm (6,7%) features.

In the third stage of the research the intensity of psycho-emotional disorders and depressive reactions was increasing in CS patients. Pain syndrome (40,0%), asthenic-depressive syndrome (40,0%), cognitive impairment syndrome (80,0%) were the main ones. The number of patients with isolated asthenic syndrome decreased to 20,0%. Asthenic syndrome was part of the asthenic-depressive (40,0%), asthenic, anxiety (23,3%) and asthenia-hypochondriac (16,7%) syndromes. Representation of hysterophorm syndrome at this stage of the research was the same. Incidence of anozognostical attitude to the disease decreased to 6,7%. Depression and anxiety correlated with the intensity of neurological deficit and its impact on quality of life. In the fourth stage of the research against the background of psychotherapeutic correction, the intensity of psycho-emotional disorders and depressive reactions remained unchanged against cognitive impairments, although quantification of major syndromes decreased. So, asthenic-depressive syndrome was observed in 33,3% of patients, asthenic-anxiety in 23,3% of patients, asthenic-hypochondriac in 13,3% of patients, phobic syndrome in 16,7% of patients, anozognostical disorders in 5,0% of patients. At this stage of the study the incidence of cognitive impairment comprised 73,3%. A decrease in cognitive impairment syndrome representation was associated with the reduction in the incidence and severity of psycho-emotional disorders.

**Table 1.** Multimodal psychotherapeutic correction system in MI and CS patients.

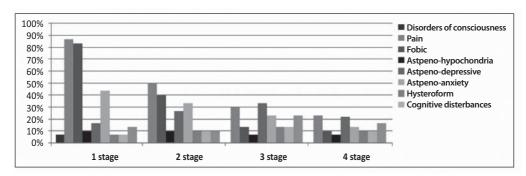
Stages	AIM	Orientation of psychotherapy	Methods of psychotherapy	The numbers and forms of sessions
Diagnostical	Examination of the patients personality	Diagnostic	Personal orientated, rational, CBT	5-7 sessions during 2 weeks
Adapta- tional	Setting psychological, emotional contact with the patient; Trust formation to the doctor; Adequate treatment, positive attitude to psychotherapeutic process	Mostly symptomatically. Partially pathogenical	Rational, Inderect, CBT	2-3 individual and 2-3 group sessions During 2 weeks
Medical	Achievement of positive dynamics of the patients emotional state, learning and transformation personal reactions of the patient, his relations system, scale experience of illness and its social significance, correction psycho-emotional disorders of the patient	Mostly pathogenical, Partially symptomatically	For MI patients- rational, personal - orientated, CBT Autogenic (AT). For CS patients — hypnosuggestive, cognitive training, AT, CBT	5-6 individual and 8—12 group sessions During 9 weeks
Final	Consolidating process of therapeutic results, skills of psychological self- regulation, correction of the system of life goals, values, attitude to the disease	Mostly preventive, Partially pathogenical	AT, rational, personal orientated, self - hypnosuggestive, cognitive training, CBT	3 - 5 individual and 6-7 group sessions During 8 weeks
Psycho- preventive	Consolidating therapeutically process	Mostly preventive, Partially pathogenical	AT, rational, personal orientated, cognitive training, CBT	6-12 individual and 6-12 group sessions During 6 month

The multimodal based system of psychotherapeutical correction of somatogenic depression depressive and associated disorders in MI and CS patients were developed (tabl. 1).

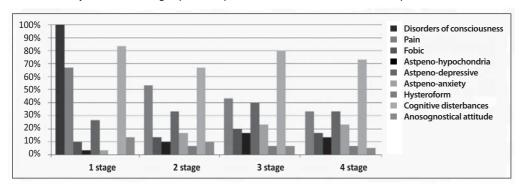
For MI patients this system includes personal – oriented, rational, and autogenic-training therapy, for cerebral stroke patients – hypnosuggestive, cognitive-behavioral therapy, cognitive and autogenic-training therapy.

Conclusion. The proposed system demonstrated a significant improvement in 80,0% of MI patients and 77 % of CS patients, a partial improvement in 10,0% of MI patients and in 13,0% of CS patients.

The main conclusion of our research is that among MI patients in acute period the pain syndrome is the main one, leads to severe psycho-emotional disorders. Against the background of cognitive function preservation phobic, anxiety and depressive symptoms prevail, their intensity depends on the severity of pain. Subsequently, the primary psycho-emotional constituent element disappeared and anxiety-depressive disorders developed along with hypo- and anozognostical type of personal condition perception.



**Pic. 1.** Dynamic of leading depressive spectrum and associated disorders in patients with Ml..



Pic. 2. Dynamic of leading depressive spectrum and associated disorders in patients with CS.

In CS patients consciousness level disorders are the primary ones with cognitive and asthenic disorders with subsequent formation of psycho-emotional disorders, anxiety and depressive disorders with hypochondriac features against the background of persistent cognitive impairments.

## RefeRences:

- Depression and late mortality after myocardial infarction in the Enhancing Recovery in Coronary Heart Disease (ENRICHD) study / R. M. Carney, J. A. Blumenthal, K. E. Freedland [et al.] // Psychosom. Med. – 2004. – Vol. 66. – P. 466 – 474.
- 2. Dolzenko M. N. Depressive and anxiety disorders in cardiovascular diseases / M. N. Dolzenko// Practial angiology. − 2006. − Vol. 2, №1. − P. 17 − 23.
- 3. Lincoln N. B. Cognitive behavioral psychotherapy for depression following stroke. A randomized control trial /T. Flannaghan // Stroke. 2003. Vol. 34. P. 111 115.
- 4. Effects of depression and anxiety on adherence to cardiac rehabilitation / A. McGrady, R. McGinnis, D. Badenhop [et al.] // J. Cardiopulm. Rehabil. Prev. 2009. Vol. 29. P. 358 364.
- 5. Mishchenko T. S. Clinical scales and psycho-diagnostic tests in the diagnosis of cerebrovascular diseases / T. S. Mishchenko,
- L. F. Shestopalova // News of medicine and pharmacy. 2009. Vol. 277. P. 62 74.
- Mast B. T. Post-stroke and clinically-defined vascular depression in geriatric rehabilitation patients / S. MacNeill, P. Lichtenberg // Am. J. Geriat. Psychiat. – 2004. – Vol. 12 (1). – P. 84 – 92.
- 7. Association of anhedonia with recurrent major adverse cardiac events and mortality 1 year after acute coronary syndrome / K. W. Davidson, M. M. Burg, I. M. Kronish [et al.] // Arch. Gen. Psychiatry. 2010. Vol. 67. P. 480 488.
- 8. Frenneaux M. P. Autonomic changes in patients with heart failure and in post-myocardial infarction patients / M. P. Frenneaux. 2004. Vol. 90. P. 1248 1255.
- 9. Depression and platelet activation in outpatients with stable coronary heart disease: findings from the Heart and Soul / A. Gehi, D. Mus-selman, C. Otte [et al.] // Study. Psychiatry Res. 2010. Vol. 175. P. 200 204
- 10. Ming L. Stroke: encouragement and disappointment in clinical trials / L. Ming // Lancet Neurol. 2008. Vol. 7 (1). P. 5 7.
- 11. Belova A. N. Scales and questionnaires in neurology and neurosurgery / A. N. Belova. M., 2004. 432 p.
- 12. Clinical scales and psychodiagnostic tests vascular brain diseases diagnostic / Compiled by T. S. Mishchenko, L. F. Shestopalova, M. A. Treschinskaya. Kharkiv: Guidelines, 2008. 36 p.