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ДИНАМИКА ПОКАЗАТЕЛЕЙ ПСИХОЛОГИЧЕСКОГО СТАТУСА У ПАЦИЕНТОВ СО СТАБИЛЬНОЙ ИШЕМИЧЕСКОЙ БОЛЕЗНЬЮ СЕРДЦА И КОРОНАРНЫМ ШУНТИРОВАНИЕМ

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Цель. Оценка и анализ динамики показателей психологического статуса у пациентов с ишемической болезнью сердца (ИБС), направленных на коронарное шунтирование (КШ).

Материалы и методы. Проведено изучение показателей психологического статуса, а именно внутренней картины болезни, копинг-стратегий и смысложизненных ориентаций у 58 пациентов-мужчин в возрасте от 40 до 74 лет со стабильной формой ИБС до и после проведения операции КШ. Оценка показателей проводилась клиническим психологом на 2-3 день после поступления пациента в стационар, и через 7-8 дней после проведения КШ. Клинико-психологическая диагностика проводилась с помощью опросников «ТОБОЛ» (Вассерман Л.И. с соавт.), «Смысложизненные ориентации» (Леонтьев Д.А.), «Стратегии совладающего поведения» (Лазарус Р., Фолкман С., адаптированный вариант Крюковой Т.А.). Для проведения статистического анализа использовано компьютерное программное обеспечение Statistica 10.0.

Результаты. У пациентов с ИБС после проведения КШ было установлено значимое снижение показателей тревожного варианта внутренней картины болезни по опроснику «ТОБОЛ», копинг-стратегии «положительная переоценка» при оценке стресс-преодолевающего поведения, и уровня шкалы «Цель» при оценке уровня невротизации по тесту «Смысложизненные ориентации».

Заключение. Результаты исследования указывают на снижение уровня адаптации к своему заболеванию у пациентов с ИБС после проведения КШ из-за поведенческих нарушений и трудностях в постановке дальнейших целей на выздоровление. Для повышения послеоперационной адаптации «мишенью» психокоррекционного воздействия может являться копинг-стратегия «положительной переоценки» и оказание помощи в постановке целей на послеоперационном этапе КШ.

Ключевые слова: *внутренняя картина болезни; ишемическая болезнь сердца; коронарное шунтирование; смысложизненные ориентации; копинг-поведение.*

DYNAMICS OF PARAMETERS OF PSYCHOLOGICAL STATUS OF PATIENTS WITH STABLE ISCHEMIC HEART DISEASE AND CORONARY ARTERY BYPASS SURGERY

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Aim. Assessment and analysis of parameters of psychological status of patients with coronary heart disease (CHD) referred for coronary artery bypass surgery (CABG).

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Materials and Methods. A study of parameters of psychological status, in particular, of the attitude to illness, coping strategies, and lifelong orientations was conducted in 58 male patients aged 40 to 74 years with a stable form of CHD before and after CABG surgery. The parameters were evaluated by a clinical psychologist in 2-3 days after admission of the patient to the hospital and in 7-8 days after CABG. Clinical and psychological diagnostics was carried out using the following questionnaires: TOBOL (L.I. Wasserman, et al.), «Life-Purpose Orientations» (D.A. Leontiev), «Coping Behavior Strategies» (R. Lazarus, adapted version of T.A. Kryukova). Statistical analysis was performed with use of computer Statistica 10.0 software program.

Results. After CABG patients with coronary artery disease show a significant reduction of the parameters of the anxious variant of the internal picture of the disease on the basis of TOBOL questionnaire, of the «positive re-evaluation» coping strategy on the basis of evaluation of stress-coping behavior and of the level of «Aim» scale on the basis of evaluation of the level of neurotization using the «Life-Purpose» test.

Conclusion. The results of the study indicate reduction of the level of adaptation to the disease in patients with coronary artery disease after CABG in result of behavioral disorders and difficulties in setting further aims for recovery. To increase postoperative adaptation, the psychocorrection measures may be «targeted» to the coping strategy for «positive re-evaluation» and assistance in setting aims in the postoperative stage of CABG.

Keywords: *internal picture of the disease; coronary heart disease; coronary artery bypass surgery; life-purpose orientations; coping behavior.*

Nowadays ischemic heart disease (IHD) is a leading cause of disability of the working-age population in Russia [1]. The modern and most effective treatment of IHD is surgical treatment. One of the most high-tech method of cardiosurgical treatment of patients with IHD is considered to be coronary artery bypass surgery (CAPS). It is acknowledged to be the most promising kind of surgical intervention in terms of improvement of the quality of life of patients with severe or rapidly progressing from of IHD [2].

INTERHEART research conducted in 52 countries confirmed the suggestion that alongside with smoking, arterial hypertension and diabetes mellitus, an important factor in progress of cardiologic diseases is psychoemotional disorders [3]. A study of risks of development and of unfavorable outcomes of IHD permitted to identify a number of psychological factors that impede full rehabilitation after CABS: disadaptive variants of the internal picture of the disease (IPD), psychoemotional disorders, non-effective coping strategies, etc. [4].

For the prophylaxis of the postoperative risk factors and for further development of methods of psychological assistance to patients with IHD referred for CABS, a complex study of the structure and dynamics of psychological parameters of this category of patients is required.

The *aim* of the study was to evaluate the dynamics of the parameters of the psychological status of patients with IHD referred for CABS.

Materials and Methods

A psychological examination of 58 male patients of 40 to 74 years of age with stable IHD with planned CABS in conditions of the artificial circulation in Research Institute for Complex Problems of Cardiovascular Diseases was conducted from 2018 to 2019.

Criteria for inclusion: male gender, planned CABS, voluntary informed consent of for participation in the study.

Criteria for exclusion: unstable angina; reduced ejection fraction of the left ventricle (less than 40%); evident disorders in the rhythm and conduction of the heart; recent

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(less than 28 days ago) myocardial infarction; existence of serious somatic diseases preventing implementation of rehabilitation measures; refusal of the patient from participation in the study.

The study was carried out in accordance with standards of Good Clinical Practice and with principles of the World Medical Association's Declaration of Helsinki «Ethical conduct of the study with participation of human». All participants signed Informed voluntary consent. The work was conducted in support of complex program of fundamental scientific research of Siberian Branch of the Russian Academy of Sciences. The protocol of the study was approved by Ethic Committee of Research Institute for Complex Problems of Cardiovascular Diseases.

Clinical anamnestic characteristics are given in Table 1.

Table 1

Clinical Anamnestic Characteristics of Patients of Preoperative Period of CABS (n=58)

Parameter	Result
Mean age, years, Me [Q25; Q75]	60 (54;65)
Duration of ischemic heart disease, years, Me [Q25; Q75]	1 (1;4)
Duration of arterial hypertension, years, Me [Q25; Q75]	6 (3;9)
Arterial hypertension, n (%)	54 (93)
Stenoses of carotid arteries, n (%)	19 (33)
Ejection fraction of the left ventricle, Me [Q25; Q75]	60.5 (55;64)
Myocardial infarction in history, n (%)	35 (61)
Body mass index, kg/m^2, Me [Q25; Q75]	28 (25;31)
Total cholesterol, mmol/l, Me [Q25; Q75]	3.9 (3.4;4.2)

Clinical psychological diagnosis of patients with IHD was conducted by a clinical psychologist with the help of questionnaires on the 2nd-3^{d} day after admission to the hospital and in 7-8 days after CABS. The diagnosis included evaluation of IPD using TOBOL questionnaire (L.I. Vasserman, et al.), evaluation of the level of neurotization of personality using Life-Purpose Orientation test (D.A. Leontieva) and of behavior using Coping Behavior Strategies methodology (R. Lazarus, S. Folkman, adapted version of T.A. Kryukova).

Statistical analysis was conducted using Statistica 10.0 computer software program (Stat Soft Inc., USA). The dynamics of clinical and psychological parameters was evaluated by T-Wilcoxon test. Clinical and psychological parameters were presented I the form of median of 25th and 75th percentiles (Me [Q25; Q75]).

Results and Discussion

Examination of the dynamics of IPD showed a significant reduction of the level of the anxious internal picture of the disease after CABS (Table 2).

Analysis of the dynamics of parameters of coping behavior revealed statistically significant reduction of the level of 'Positive re-evaluation' coping strategy (Table 3).

A study of the dynamics of life-purpose orientations in patients with IHD showed a significant reduction of the 'Aim' parameter after CABS (Table 4).

Thus, as it is known, preparation to surgical intervention may become a strong stress factor for a patient and may negatively influence his psychological state and further success of medical and rehabilitation measures. In this context, evaluation of the psychological status is an obligatory constituent of the com-

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Table 2

Dynamics of IPD Parameters in Patients with IHD Referred for Coronary Artery Bypass Surgery

Parameters	Internal Picture of Disease, points, Me [Q25; Q75]		p
	before CABS	7-10 days after CABS	
Harmonic	33 (26;42)	31 (25;40)	0.1
Ergopathic	29 (26;40)	29 (19;40)	0.2
Anosognostic	24 (16;32)	20 (13;30)	0.2
Sensitive	12 (8;17)	15 (8;21)	0.7
Hypochondriac	7 (4;11)	7 (4;14)	0.6
Ergocentric	5 (4;8)	5 (5;9)	0.1
Anxious	**3 (0;8)**	**0 (0;7)**	**0.03**
Neurasthenic	3 (0;7)	4 (0;11)	0.1
Paranoic	2 (0;4)	2 (0;6)	0.9
Melancholic	0 (0;4)	0 (0;4)	0.2
Dysphoric	0 (0;3)	0 (0;4)	0.2
Apathic	0 (0;3)	0 (0;6)	0.9

Table 3

Dynamics of Expression of Models of Coping Strategy in Patients with IHD Referred for Coronary Artery Bypass Surgery

Parameters	Coping Strategies, points, Me [Q25; Q75]		p
	before CABS	7-10 days after CABS	
Distancing	51 (44;58)	48 (41;58)	0.2
Search for social support	50 (40;57)	46 (40;51)	0.5
Positive re-evaluation	**50 (41;55)**	**45 (38;53)**	**0.03**
Planning of problem salvation	48 (42;56)	45 (42;51)	0.4
Escape-avoidance	46 (38;52)	46 (35;54)	0.07
Confrontation	46 (38;51)	42 (4;11)	0.3
Self-control	45 (39;54)	42 (33;51)	0.2
Taking responsibility	44 (8;17)	47 (40;55)	0.3

Table 4

Dynamics of Expression of Life-Purpose Orientation in Patients with IHD Referred for Coronary Artery Bypass Surgery (n=58)

Parameters	Life-Purpose Orientations, points, Me [Q25; Q75]		p
	before CABS	7-10 days after CABS	
General comprehension of life	154 (135;169)	154 (135;162)	0.4
Aim	**38 (31;40)**	**36 (31;38)**	**0.02**
Process	33 (31;40)	35 (29;37)	0.7
Locus of control - life	32 (28;37)	33 (27;40)	0.6
Result	28 (26;32)	27 (23;32)	0.1
Locus of control - ego	23 (20;25)	23(19;25)	0.1

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plex rehabilitation program. Identification of factors that influence formation of neurotic disorders in patients with IHD prior to CABS permits timely correction of psychoemotional disorders that worsen the postoperative course of the disease.

The results of the conducted study of the dynamics of the psychological status parameters of patients with IHD showed alteration of the parameters of IPD, of coping-behavior and life-purpose orientations after conducted CABS.

One of important factors that determines postoperative psychological status of the patient, is his IPD [5]. It is known that high levels of disadaptive anxiodepressive variants of IPD lead to a more frequent and unjustified seeking medical advice as well as to inadequate fulfilment of medical prescriptions [6]. A study of parameters of IPD in patients with IHD after CABS showed a reliable reduction of parameters of the anxious picture of the disease which indicates direct relationship of IPD with expectation of the surgical intervention. Thus, without rendering additional psychological assistance the parameters of anxious IPD may change by themselves after the operation.

A study of behavioral peculiarities of patients with IHD, in particular, of stress-coping behavior, showed reduction of parameters of 'positive re-evaluation'. The results of study of this coping strategy in patients with past myocardial infarction showed a positive influence of 'positive re-evaluation' on reduction of negative emotions. In patients with past myocardial infarction having low predisposition to using this coping strategy, there may appear both increase in negative emotions or indifferent attitude to the course of the disease and to probable complications which negatively influence prognosis for the recovery [7]. Evaluation of coping behavior showed a significant reduction of 'positive re-evaluation' that may lead to additional risks of psychological disadaptation in the postoperative stage of CABS. Thus, formation of positive mindset to recovery using psychotherapeutic methods before and after CABS may be one of 'targets' of psychocorrection.

A study of life-purpose orientations showed a significant reduction of the 'Aim' parameter after CAPS. It is known that high values on this scale show the ability of the patient to set aims for the future which gives meaning, direction and time-associated prospects to life. Reduction of these parameters indicates difficulties in setting long-term aims which may lead to depressive state [8]. With this, it is known that depression is a significant prognostic factor of repeated hospitalizations and of increased risk of death in the period within 2 to 6 months after CABS [9]. From there, an important 'target' of psychological action is assistance in setting aims for further recovery after the operation.

Conclusion

The results of study permitted to make the conclusion about reduction of the level of adaptation in patients with IHD after CABS due to behavioral disorders and difficulties in setting further aims for recovery. The 'target' for psychocorrection to increase adaptation of patients with IHD after CABS may be coping strategy of 'positive revaluation' and assistance in setting aims in the post-operative period.

Литература

1. Помешкина С.А., Кондрикова Н.В., Барбараш О.Л. Оценка трудоспособности пациентов, подвергшихся коронарному шунтированию // Комплексные проблемы сердечно-сосудистых заболеваний. 2014. №1. С. 26-30. doi:10.17802/2306-1278-2014-1-26-30
2. Щетко В.Н. Особенности тактики хирургического лечения ишемической болезни сердца у пациентов с выраженной дисфункцией миокарда левого желудочка // Медицинский вестник Юга России. 2018. Т. 9, №1. С. 99-104. doi:10.21886/2219-8075-2018-9-1-99-104
3. Yusuf S., Hawken S., Ôunpuu S., et al. Effect of po-

tentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study // The Lancet. 2004. Vol. 364, №9438. P. 937-952. doi:10.1016/s0140-6736(04)17018-9
4. Солодухин А.В., Трубникова О.А., Яницкий М.С., и др. Клинико-психологическая характеристика пациентов с ИБС перед подготовкой к коронарному шунтированию в зависимости от их психоэмоционального статуса // Лечащий врач. 2017. №11. С. 76-79.
5. Полонская И.И., Сергеева В.В. Медико-социальные аспекты реабилитации при ишемической болезни сердца после шунтирования коронарных артерий // Вестник современной клинической медицины. 2018. Т. 11, №6. С. 68-73. doi:10.20969/VSKM.2018.11(6).68-73
6. Яковлева М.В., Лубинская Е.И., Демченко Е.А. Внутренняя картина болезни как фактор приверженности лечению после операции коронарного шунтирования // Вестник Южно-Уральского государственного университета. Серия: Психология. 2015. Т. 8, №2. С. 59-70.
7. Зубарева О.А. Взаимосвязь совладающего поведения с типами отношения к болезни у пациентов с острыми формами ишемической болезни сердца // Ученые записки СПбГМУ им. И.П. Павлова. 2014. Т. 21, №4. С. 32-35. doi:10.24884/1607-4181-2014-21-4-32-35
8. Василенко Т.Д., Селин А.В., Мангушев Ф.Ю. Смысловые аспекты телесного опыта хронического соматического заболевания // Курский научно-практический вестник «Человек и его здоровье». 2016. №2. С. 116-121. doi:10.21626/vestnik/2016-2/22
9. Чугунова Ю.В., Чумакова Г.А., Веселовская Н.Г. Тревожно-депрессивные расстройства и качество жизни у пациентов с ожирением, перенесших аортокоронарное шунтирование: обзор литературы // Международный журнал прикладных и фундаментальных исследований. 2015. №11-2. С. 235-238. Доступно по: https://applied-research.ru/ru/article/view?id=7714. Ссылка активна на 21.02.2020.

References

1. Pomeshkina SA, Kondrikova NV, Barbarash OL. Labour ability assessment of patients undergone coronary artery bypass grafting. *Complex Issues of Cardiovascular Diseases.* 2014;(1):26-30. (In Russ). doi:10.17802/2306-1278-2014-1-26-30
2. Shchetko VN. Features of surgical treatment of ischemic heart disease in patients with the expressed dysfunction left ventricular. *Medical Herald of the South of Russia.* 2018;9(1):99-104. (In Russ). doi:10.21886/2219-8075-2018-9-1-99-104
3. Yusuf, S., Hawken, S., Ôunpuu, S., et al. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. *The Lancet.* 2004;364 (9438):937-52. doi:10.1016/s0140-6736 (04)17018-9
4. Solodukhin AV, Trubnikova OA, Yanitsky MS, et al. Clinical-psychological characteristics of patients with CHD before preparation for coronary bypass depending on their psycho-emotional status. *Lechaschi Vrach*. 2017;(11):76-9. (In Russ).
5. Polonskaya II, Sergeyeva VV. Medical and social aspects of rehabilitation for coronary heart disease after coronary artery bypass grafting. *The Bulletin of Contemporary Clinical Medicine*. 2018;11(6):68-73. (In Russ). doi:10.20969/VSKM.2018.11(6).68-73
6. Iakovleva MV, Lubinskaya CI, Demchenko EA. Internal Picture of the Disease as a Factor of Adherence to Treatment after Coronary Bypass Surgery. *Bulletin of the South Ural State University. Ser. Psychology.* 2015;8(2):59-70. (In Russ).
7. Zubareva OA. Correlation between the coping behavior and types of attitude to the disease in patients with coronary heart disease. *The Scientific Notes of the Pavlov University.* 2014;21(4):32-5. (In Russ). doi:10.24884/1607-4181-2014-21-4-32-35
8. Vasilenko TD, Selin AV, Mangushev FY. Semantic aspects of corporal experience in a chronic somatic disease. *Kursk Scientific and Practical Bulletin «Man and His Health».* 2016;(2):116-21. (In Russ). doi:10.21626/vestnik/2016-2/22
9. Chugunova YV, Chumakova GA, Veselovskaya NG. Anxiety-depressive disorders and quality of life in patients with obesity, undergoing coronary artery bypass grafting: review. *Mezhdunarodnyj Zhurnal Prikladnyh i Fundamental'nyh Issledovanij.* 2015; (11)2: 235-38. Available at: https://applied-research.ru/ru/article/view?id=7714. Accessed: 2020 February 21.

Дополнительная информация [Additional Info]

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