

# Depression, anxiety and sleep disorder in the pre- and postoperative periods of the aorto-coronary bypass surgery

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## ABSTRACT

Abstract Cardiac surgery operations suggested for the treatment of ischemic heart disease are performed quite successfully nowadays in our country. Speaking of the positive effects of this operation, the psycho-emotional disorders remain often without attention. The aim of the research was to reveal the spread of the pathology of mental health in the pre- and post-operative periods of the aorto-coronary bypass surgery. Results and their analysis show that depression in the research group was expressed in 65,38% (n=34) in average degree, in 19,2% (n=10) in grave degree and no depression in 15,38% (n=8). Personal anxiety was revealed in high degree in 38,46% (n=20), in average degree in 57,69 % (n=30) and no anxiety in 3,84 % (n=3,84). Situational anxiety was revealed in high degree in 11,53% (n=6), in average degree in 26,9 % (n=14) and no anxiety in 61,5% (n=32). Sleep disorder was revealed in high degree in 75% (n=39), sleep disorder wasn't revealed in 25% (n=13) patient. Research carried by us shows that pathology of the mental health is widespread in the part of the patients with ischemic heart disease who are to undergo or have undergone the bypass operation. All the above-mentioned symptoms need so much attention as the somatic pathology itself.

**KEYWORDS:** depression, anxiety, sleep disorder, aorto-coronary bypass surgery

Cardiac surgery operations suggested for the treatment of ischemic heart disease are performed quite successfully nowadays in our country.

Aorto-coronary bypass surgery is quite an effective method to treat rapidly progressing ischemic heart disease cases resistant to therapeutic treatment within the ages from 50 to 65.

Speaking of the positive effects of this operation, disorders in the mental health remain often without attention. Though it is doubtless that operations on open heart are important stressor factors, which act in the post-operative period as well and influence the quality of life and process of convalescence.

It is generally established that pathology of mental health is so expressed in the patients with the cardiovascular system pathology that it often needs more attention than the somatic disease itself.

Pathology of the mental health in the pre-operative period is the independent predictor of the malevolent clinical prognosis in post-operative period (Davies Ostercamo, K. Mohlen).

The aim of the research was to reveal the spread of the pathology of mental health in the pre- and post-operative periods of the aorto-coronary bypass surgery.

## MATERIALS AND METHODS

**Materials:** the research was performed in 55 patients (n=55), they had established the grade of the coronary occlusion that wouldn't respond to therapeutic treatment and to angioplasty of the coronary blood vessels (e.g., Left coronary artery - 70 % occlusion LAD, coaxial branch - 90 % occlusion, trunk - 40%, right coronary artery - diffuse occlusion RCA).

Mainly stenoses of several coronary arteries were expressed.

The main diagnosis which caused surgery (in 90%) was myocardial infarction, in the rest of the cases (in 15%) this was non-stable angina.

3 patients were excluded from the research group, 1 because of the language barrier, 2 because of the graveness of their illness.

Also the healthy population was subjected to study, comprising 30 people.

**Methods to evaluate depression:** Beck depression scale was utilized which includes 21 questions and assesses the state of the patient during last two weeks.

	Research group			Control group	
	n=52			n=29	
	0	1	2	0	1
<b>Depression</b>	8	34	10	24	5
	$\chi^2 = 35.93$ p < 0.001				
<b>Personal anxiety</b>	2	30	20	16	13
	$\chi^2 = 33.80$ p < 0.001				
<b>Situational anxiety</b>	32	14	6	24	5
	$\chi^2 = 5.32$ p = 0.072 (NS)				
<b>Sleep disorder</b>	13	39		24	5
	$\chi^2 = 25.03$ p < 0.001				

**Tab.1** Spread of the pathology of mental health in the pre- and post-operative periods of the aorto-coronary bypass surgery.

Anxiety were assessed by the Spielberger scale for alarm syndrome assessment, which includes 2 groups, each of which includes 20 questions. The first group assesses the state of the patient during last two weeks and is called the questionnaire for the assessment of the personal anxiety, and the second group assesses the state of the patient in the moment of the quiz and it is called the questionnaire for the assessment of the anxiety of situational genesis.

Existence of the sleep disturbance was assessed on the basis of the anamnestic data.

By the above-mentioned tests state of the patients was assessed in the pre-operative, as well as in the post-operative period (on the 5<sup>th</sup> day since the outlet from the operation chamber).

Statistical analyses were performed using Student t test (Tab.1).

### RESULTS AND DISCUSSION

Results show that depression in the research group was expressed in 65,38% (n=34) in light degree, in 19,2% (n=10) in grave degree and no depression in 15,38% (n=8) (Fig.1).

Personal anxiety was revealed in high degree in 38,46% (n=20), in average degree in 57,69% (n=30) and no anxiety in 3,84% (n=3,84) (Fig.2).

Situational anxiety was revealed in high degree in 11,53% (n=6), in average degree in 26,9% (n=14) and no anxiety in 61,5% (n=32) (Fig.3).

Sleep disorder was revealed in high degree in 75% (n=39), sleep disorder wasn't revealed in 25% (n=13) patient (Fig.4).

In the control group symptoms of sleep disturbance were revealed in 4,5% only.

In the control group depression wasn't revealed in grave form in any of the cases and in average degree in 16%.

Personal anxiety was revealed in average degree in 45%, and no grave forms were manifested in any of the patients.

Situational anxiety was revealed in average degree in 16%.

There was not found different of the pathology of mental health in the pre and post-operative (after 5 days) periods of the aorto-coronary bypass surgery.

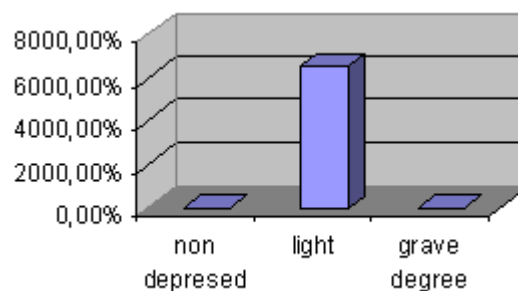
Research carried by us shows that pathology of the mental health is widespread in the part of the patients with ischemic heart disease who are to undergo or have undergone the bypass operation.

This influences the process of convalescence. It is also remarkable that pathology of the mental health is so much expressed in cases that in the post-operative period signs of psychosis were manifested.

All the above-mentioned symptoms need so much attention as the somatic pathology itself.

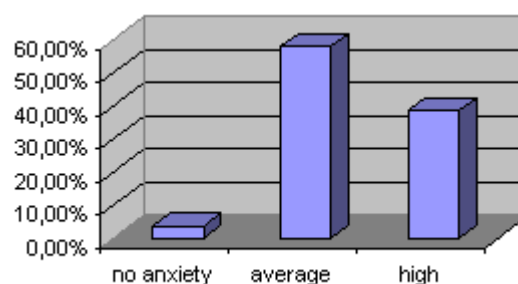
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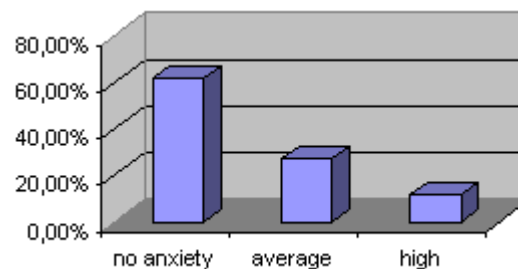
Non depressed - 15.38%, light depressed - 65,38%, grave degree - 19,2%.

**Fig.1** Depression disorder.



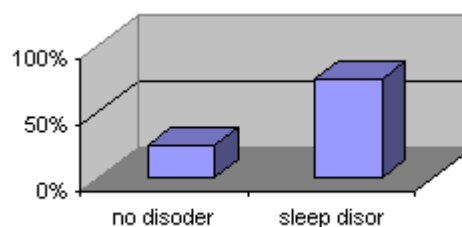
No personal anxiety - 3,84%, average degree - 57,69%, high degree - 38,46%.

**Fig.2** Personal anxiety.



No situational anxiety - 61,5%, average degree - 26,9%, high degree - 11,53%

**Fig.3** Situation anxiety.



No disorder - 25%, sleep disorder - 75%.

**Fig.4** Sleep disorder.

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## **Патологии психической сферы (депрессии, тревожности и нарушении сна) после аортокоронарного шунтирования**

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### **Р Е З Ю М Е**

Целью исследования являлось изучение патологии психической сферы до и после аортокоронарного шунтирования. Анализ проведенного исследования показывает, что из 52 обследованных пациентов депрессия не отмечается лишь у 15,38% (8 пациентов), в легкой и средней степени она выражена у 65,38% (34 пациентов), тяжелой степени - у 19,2% (10 пациентов). Персональная тревожность не была выражена у 3,84% (2 пациентов), в средней степени - у 57,69% (30 пациентов), в высокой степени - у 38,46% (20 пациентов). Что касается тревожности в процессе исследования (т.н. реактивная тревожность), она в высокой степени была выражена лишь у 11,53% (6 пациентов), не была выражена у 61,5% (32 пациентов) и средней степени - у 26,9% (14 пациентов). Полученные результаты показали серьезность нарушений психо-эмоционального состояния больных, подвергшихся аортокоронарному шунтированию.

**Ключевые слова:** депрессия, тревожность, нарушение сна, аортокоронарная шунтирования

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□ **International committee of medical journal editors. Uniform requirements for manuscripts submitted to biomedical journals.** Ann Intern Med 1997;126:36-47.

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#### **Editorial Freedom and Integrity**

*Owners and editors of medical journals have a common endeavor-the publication of a reliable and readable journal, produced with due respect for the stated aims of the journal and for costs. The functions of owners and editors, however, are different. Owners have the right to appoint and dismiss editors and to make important business decisions in which editors should be involved to the fullest extent possible. Editors must have full authority for determining the editorial content of the journal. This concept of editorial freedom should be resolutely defended by editors even to the extent of their placing their positions at stake. To secure this freedom in practice, the editor should have direct access to the highest level of ownership, not only to a delegated manager.*

*Editors of medical journals should have a contract that clearly states the editor's rights and duties in addition to the general terms of the appointment and that defines mechanisms for resolving conflict.*

*An independent editorial advisory board may be useful in helping the editor establish and maintain editorial policy.*

*All editors and editors' organizations have the obligation to support the concept of editorial freedom and to draw major transgressions of such freedom to the attention of the international medical community.*