Relationship between Dissociative Disorders and Maladaptive Behavior in Patients with Chronic Heart Failure

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Abstract

The aim of the research is to determine the clinical and psychological characteristics of dissociative (maladaptive) reactions in patients with chronic heart failure (CHF)

We examined 150 patients with a dissociative reaction associated with CHF and lasting at least 1 month. The comparison groups consisted of 54 patients with CHF without any mental pathology. Research methods included somatic, psychopathological and pathopsychological examination using questionnaires.

Patients with dissociative reactions compared with the control group ($p<0.001$) experienced the symptoms of CHF to a lesser extent and, despite being confident in the correct understanding of the disease, did not realize its' chronic process, believed that they could cope and control the disease on their own. Patients with dissociative reactions were not characterized by either anxiety about health ($p<0.001$), or fear of a possible complication of the condition ($p<0.001$), and there was no vigilance in relation to the symptoms of CHF decompensation ($p<0.001$). An indifferent towards one's own health correlated with personal characteristics, such as "emotional stability" ($p=0.01$), "practicality" ($p=0.02$). Patients with dissociative reactions haven't noticed a significant decrease in quality of life due to the negative impact of CHF symptoms ($p<0.001$), and were characterized by lower adherence to treatment ($p<0.001$). At the same time, there were no significant differences between the groups in terms of clinical and demographic indicators, which excluded the explanation of such an inappropriate response by age-related changes or a milder course of CHF.

Timely identification of patients with dissociative reactions, characterized by an underestimation of the severity of the condition, could contribute to closer monitoring of such patients in order to improve adherence to treatment.

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Introduction

Chronic heart failure (CHF), being one of the most frequent complications of most cardiovascular diseases, affects about 2% of the adult population worldwide[1,2] . Moreover, an inevitable increase in this indicator is predicted due to the aging of the population[1,3]. CHF has a significant negative impact on quality of life of patients, often leading to disability[4-6]. In addition, despite advances in medicine, CHF is still associated with frequent hospitalizations and a high mortality rate, comparable to some types of cancer[7].

An important aspect of successful management of patients with CHF and a favorable prognosis is high adherence to treatment, which implies not only patient compliance with the prescribed therapy, but also changes in lifestyle, constant interaction with the attending physician, timely seeking medical help when the condition aggravates.

One of the factors negatively affecting adherence to treatment in CHF is mental disorders, among which the most common are depressive (11-35%) and anxiety (18.4-36.7%) disorders[8]. A number of studies indicate a decrease in treatment adherence in patients with CHF and depression and/or anxiety through maladaptive behavior, such as lack of physical

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activity, smoking, drinking alcohol[8-11]. Such maladaptive behavior patterns are formed through a distorted perception of the symptoms of a heart disease amid depression and/or anxiety. Thus, patients with depression due to apathy are characterized prone to a passive, indifferent attitude to their own health, CHF symptoms are perceived indifferently, as if non-requiring immediate treatment or specialized help[12,13]. In patients with anxiety, on the contrary, "heart-focused anxiety" becomes dominant in consciousness, based on the belief that stimuli associated with the heart and dysfunction of the cardiovascular system will inevitably lead to negative and life-threatening consequences[14,15].

At the same time, in clinical reality, along with anxiety and depression, there are also mental disorders in CHF, which are manifested by an underestimation of the severity of the somatic condition and, as a result, also lead to maladaptive behavior in the disease. Thus, in the international study Adelphi HF Disease Specific Program (DSP), whose goal was, among other things, to study the correspondence between the presentation of patients and the treating cardiologist about the severity of CHF, it was demonstrated that 28% of participants perceive the severity of their somatic condition incommensurate with the diagnosis of the treating cardiologist, diminishing the severity of the disease[16]. In works devoted to the study of coping strategies, there is also a description of patients with CHF who do not recognize the nature and severity of cardiac pathology[17,18]. Within the framework of the clinical approach, such a phenomenon is referred to as a dissociative reaction[19,20], which is assessed using the Dissociative Experience Scale[21].

Despite the small number of works devoted to disorders characterized by underestimation of the severity of condition, all studies trace their negative impact on the course and prognosis of cardiovascular pathology due to untimely seeking specialized help[22,23].

Thus, to date, the concept of depressive and anxiety disorders in CHF has been widely studied, while information about disorders manifested by an underestimation of the severity of the condition (dissociative reactions) is limited to separate reports. At the same time, understanding the clinical picture of dissociative reactions could contribute to the timely identification of patients with maladaptive behavior and their closer supervision in order to improve the prognosis of CHF.

Aim: Determination of clinical and psychological features of dissociative reactions in patients with CHF.

Materials and methods

The study included patients with chronic heart failure who underwent inpatient treatment at the University Clinical Hospital No.1, I.M. Sechenov First Moscow State Medical University (Sechenov University), Moscow, Russia and the department for patients with CHF and pulmonary hypertension of the City Clinical Hospital No.51 of the Moscow Health Department.

As a result of a comprehensive clinical examination in accordance with the inclusion/non-inclusion criteria in the study, the main clinical sample of patients with a dissociative reaction associated with CHF and lasting at least 1 month was formed.

Inclusion Criteria: 1. Voluntary informed consent to participate in the study; 2. Men and women aged 30 to 85; 3. Verified diagnosis of CHF lasting more than 6 months II-IV functional class according to HYHA and cardiovascular diseases against which it was formed, established on the basis of 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure; 4. Total score on The Dissociative Experience Scale >15 points; 5. Total score on The hospital Anxiety and Depression Scale ≤ 7 points.

Non-inclusion criteria: 1. Severe somatic decompensation conditions that do not allow for a full-fledged psychopathological examination; 2. Schizophrenia (F20); 3. Affective disorder (F30); 4. Adjustment disorder in the form of a depressive and/or anxious reaction (F43.20-F43.22); 5. Organic mental disorders (F0); 6. Mental and behavioral disorders associated with the use of psychoactive substances (F01).

The comparison group consisted of patients with CHF without any mental pathology, which was confirmed by the psychometric method (total score on The Dissociative Experience Scale ≤15 points and The hospital Anxiety and Depression Scale ≤7 points).

Research methods included somatic, psychopathological, and pathopsychological examination using psychometric method.

The physical examination was performed in accordance with the standards of medical care in a hospital in connection with the verification of the diagnosis of CHF and included laboratory examination and instrumental methods (electrocardiography, echocardiography).

To determine the clinical features of dissociative reactions, a set of psychometric methods was used:

- Big Five personality factor (5PFQ; Heijiro Tsuji, 2001) is aimed at determining one of the five polar fundamental characterological features: extraversion-introversion, attachment-isolation, self-control-impulsivity, emotional instability-emotional stability, expressiveness-practicality;
- Short Health Anxiety Inventory (SHAI; Salkovskis P. M., Rimes K. A. et al., 2002) allows you to determine the presence and severity of anxiety about health, fear of the negative consequences of the disease and assess the patient's vigilance to bodily sensations or changes;
- Beck Depression Inventory (BDI; Aaron T. Beck, 1961) the scale is aimed at identifying depression and determining its clinical severity from mild to severe, distinguishing between affective-cognitive and somatic manifestations of depression;
- Illness Perception Questionnaire (IPQ; Moss-Morris et al., 2002) reflects the patient's view of the disease: the identity and cause of the disease, the temporal course of the disease, its consequences and the effectiveness of treatment;
- Minnesota Living With Heart Failure Questionnaire (MLHFQ; Thomas Rector, 1987) determines the subjective assessment of the impact of CHF symptoms on the patient's daily activities.

The 4-item Morisky Medication Adherence Scale (MMAS-4; D.E. Morisky, 1986) was used as an assessment of adherence to treatment in the study.

Statistical data processing was carried out using the programs R (R version 3.2.4), STATA (version 12.1) and SPSS (version 16). Contingency tables were used to analyze categorical features. Conclusions about the statistical significance of relationships were made on the basis of Pearson chi2 statistics. The analysis of differences in numerical characteristics was carried out using the Student's test. The level of statistical significance was chosen $p<0.05$.

Results

Clinical and demographic characteristics

The main clinical sample consisted of 150 patients (78 men, 72 women, mean age 64.3±12.8) with dissociative reactions. The comparison group, represented by patients with CHF, but without any mental pathology, consisted of 54 patients (34 men, 20 women, mean age 63.0±15.3).

Comparative characteristics of clinical and demographic variables between groups are presented in Table 1.

Variables	Dissociative reactions n=150	Control group, n=54	P-value
Age, mean	64,3±12,8	63,0±15,3	0,69
Sex, men (n, %)	78 (52,0%)	34 (62,9%)	0,32
Marital status, married (n, %)	98 (65,3%)	40 (74,0%)	0,40
Professional status, employed (n, %)	50 (33,4%)	18 (33,4%)	1,00
Duration of CHF, years	3,9±4,2	4,1±3,3	0,81
Left ventricular ejection fraction, LV EF % reduced (<40) mid-range (40-49) preserved (≥50)	 54 (36,0%) 36 (24,0%) 60 (40,0%)	 14 (25,9%) 18 (33,4%) 22 (40,7%)	0,53
Function class (NYHA): II III IV	 26 (17,3%) 90 (60,0%) 34 (22,7%)	 16 (29,6%) 34 (62,9%) 4 (7,5%)	0,13
Cardiac disease:			
hypertensive disease	130 (86,6%)	48 (88,9%)	0,76
atrial fibrillation	94 (62,6%)	38 (70,4%)	0,47
coronary heart disease	58 (38,6%)	22 (40,7%)	0,78
dilated cardiomyopathy	24 (16%)	8 (14,8%)	0,65

Table 1. Comparative characteristics of clinical and demographic variables of patients with dissociative reactions and the control group.

Variables		Dissociative reactions n=150	Control group, n=54	P-value
Beck Depression Inventory	cognitive-affective	2,9±3,3	4,9±4,8	0,05
	somatic	5,0±2,8	6,4±4,4	0,13
	total score	7,9±5,3	11,3±8,4	0,05
Short Health Anxiety Inventory*	health anxiety	3,1±2,3	12,0±4,3	<0.001
	fear of negative consequences	3,6±2,5	6,5±2,9	<0.001
	awareness of bodily sensations	2,4±1,6	6,1±2,3	<0.001
Big Five personality factor	introversion-extroversion	50,2±10,4	49,6±10,8	0,80
	separateness-attachment*	52,4±8,4	56,4±6,5	0,01
	impulsiveness-self-control	51,8±7,7	49,7±17,8	0,54
	emotional stability- emotional instability*	42,1±11,2	35,4±10,9	0,01
	practicality-expressiveness*	47,5±10,0	53,1±10,6	0,02
Illness Perception Questionnaire * №1 How much does your illness affect your life?*		4,2±1,6	9,6±0,7	<0.001
№2 How long do you think your illness will last?*		5,2±2,1	8,9±0,6	<0.001
№3 How much control do you feel you have over your illness? *		6,0±1,2	2,7±1,8	<0.001
№4 How much do you think your treatment can help your illness?*		5,7±1,0	6,5±0,9	<0.001
№5 How much do you experience symptoms from your illness?*		6,1±2,4	9,3±1,2	<0.001
№6 How concerned are you about your illness?*		4,1±1,6	9,3±0,9	<0.001
№7 How well do you feel you understand your illness?*		6,7±1,6	7,6±0,6	<0.001
№8 How much does your illness affect you emotionally?*		4,9±1,3	9,0±0,9	<0.001
Minnesota Living With Heart Failure Questionnaire*		33,5±13,8	60,3±12,2	<0.001
тест Мориски-Грина для оценки приверженности*		1,2±0,8	2,2±1,1	<0.001

Table 2. Comparative characteristics of psychometric variables of patients with dissociative reactions and the control group. *p < 0,05.

Patients with dissociative reactions, as well as control groups, were evenly distributed by gender, mostly married and were retired.

Cardiological variables between the groups were comparable. In the main clinical sample, patients with reduced (54 cases, 36.0%) and preserved (60 cases, 40.0%) LV EF were accumulated almost evenly, mainly from III (90 cases 60.0%) FC according to NYHA. Among the most common underlying diseases were hypertension (130 cases, 86.6%) and atrial fibrillation (94 cases, 62.6%). The average duration of CHF from diagnosis verification to inclusion of the patient in the study was 3.9±4.2 years.

Psychopathological characteristics

According to the results of a detailed psychopathological and psychometric examination, neither the main clinical sample nor the control group revealed depressive symptoms, as well as significant differences in this variable (see Table 2). The data obtained confirmed the exclusion of depressive reactions not detected by screening.

The presentation and understanding of CHF, its impact on the emotional sphere significantly differed in patients with dissociative reactions and in the control group, which was confirmed by the Illness Perception Questionnaire ($p<0.001$ for all items of the questionnaire). Patients with dissociative reactions felt the symptoms of CHF to a lesser extent (average score for item No.5 – 6.1±2.4 and 9.3±1.2) and, despite being confident in the correct understanding of the disease (average score for item No.7 – 6.7±1.6 and 7.6±0.6), did not realize its chronic process (average score for item No.2 – 5.2±2.1 and 8.9±0.6) and believed that they could cope and control the disease on their own (average score for item No.3 – 6.0±1.2 and 2.7±1.8). Patients did not feel the negative impact of CHF on their usual way of life (average score for item No. 1 - 4.2±1.6 and 9.6±0.7). The presence of CHF also did not affect the emotional sphere of patients (average score for item No. 8 - 4.9 ± 1.3 and 9.0 ± 0.9), not concerned about the disease (average score for item No. 6 - 4.1 ± 1 .6 and 9.3±0.9).

Emotionless perception of a life-threatening and requiring constant monitoring of such a cardiological disease as CHF was also confirmed by the results of the SHAI. For patients with dissociative reactions, compared with the control group, neither anxiety about health was characteristic (subscale " health anxiety " - 3.1±2.3 and 12.0±4.3, respectively, $p<0.001$), nor the fear of a possible deterioration state (subscale "fear of negative consequences" - 3.6±2.5 and 6.5±2.9, respectively, $p<0.001$), and there was no vigilance in relation to a possible change in the somatic state, the appearance of symptoms of CHF decompensation (subscale "awareness of bodily sensations" - 2.4±1.6 and 6.1±2.3, respectively, $p<0.001$).

An analysis of personal characteristics showed that patients with dissociative reactions were more tenderness and responsible for the well-being of close ones (average score 52.4±8.4 on the "separateness-attachment" subscale, correlated with high values of 51-75 points, $p=0.01$). At the same time, patients demonstrated emotional restraint, increased perseverance and lack of flexibility in achieving material benefits, in order to ensure the well-being of close ones, they were completely immersed in work, as evidenced by a low score on the "emotional stability-emotional instability" subscale (average score 42.1±11, 2, $p=0.01$) and "practicality-expressiveness" (average score 47.5±10.0, $p=0.02$). Such a combination, on the one hand, of increased concern for others, and, on the other hand, emotional deprivation and purposefulness in a career, led to an indifferent and cold attitude towards one's own health.

Despite the fact that the clinical sample was comparable to the control group in terms of the severity of the cardiac condition, patients with dissociative reactions did not notice a significant decrease in the quality of life due to the negative impact of CHF symptoms (average score for MLHFQ - 33.5 ± 13.8 and 60, 3±12.2, $p<0.001$) and were characterized by lower adherence to treatment (average score for MMAS-4- 1.2±0.8 and 2.2±1.1, $p<0.001$).

Discussion

To date, CHF remains one of the most common complications of most cardiovascular diseases and is associated with a high level of disability and mortality[4-7]. Among the factors of progression of CHF, the presence of comorbid mental disorders that negatively affect adherence to treatment through maladaptive behavior in the disease[8-15]. At the same time, if disorders of the anxiety and depressive spectrum are widely

covered, then information about dissociative reactions in CHF, manifested by an underestimation of the severity of the condition, is limited to individual reports[16-17]. However, the negative impact of dissociative reactions on the course and prognosis of cardiac pathologies can be traced even in early works[22].

In our study, we studied the clinical picture of dissociative reactions in CHF, highlighting significant clinical and psychopathological features, in order to timely identify patients who require closer monitoring of treatment.

According to the results of the study based on questionnaires, a lower adherence to treatment was found in patients with dissociative reactions compared to the control group. The data obtained confirmed earlier results of studies that positioned the negative impact of dissociative reactions on the course and prognosis of cardiac diseases[22-24].

Low adherence to treatment, untimely seeking specialized help in case of deterioration of the condition were due to a distorted perception of CHF symptoms and understanding of cardiac disease in general, which was confirmed by the results of the Illness Perception Questionnaire. Patients did not feel the symptoms of a cardiac disease, which led to the postponement of seeking help for decompensated CHF. Patients were not aware of the chronic process of the disease, they were confident in the resources of their own body and the possibility of a cure and return to their usual way of life. At the same time, patients, being confident in the correct understanding of CHF, believed that they could cope and control the disease on their own. Subjectively, the presence of CHF did not affect the habitual way of life of patients, and the perception of a life-threatening disease requiring constant monitoring was unemotional and indifferent.

Patients were characterized by the absence of anxiety about health, fear of a possible deterioration in their condition, vigilance and attention to the appearance of symptoms of CHF decompensation, as evidenced by low values on the SHAI scale. In addition, patients also denied a significant deterioration in the quality of life compared with the control group.

When assessing personal characteristics, it was found that patients with dissociative reactions are characterized by responsiveness, conscientiousness, an increased sense of responsibility for the well-being of others, combined with emotional retention. Apparently, the combination of “attachment” and “emotional stability” leads to a shift in attention to excessive concern for close ones in the absence of concern for one's own health. Patients were immersed in work, worries about others, ignoring the worsening of their cardiac disease and not seeking specialized help in a timely manner.

It is important to note that patients with dissociative reactions were comparable with the control group in terms of clinical and demographic indicators, which excluded the explanation of such an inappropriate reaction by age-related changes or a milder course of CHF. At the same time, timely detection of deterioration in the condition is especially important in the management of such patients. Verification of CHF decompensation at the initial stage can significantly improve the long-term prognosis and prevent undesirable consequences.

Conclusions

Thus, the results of this study confirm the negative impact of dissociative reactions on adherence to treatment in patients with CHF, which determines the relevance of verifying clinical and psychological characteristics. We found that the lack of concern about changes in the bodily sphere, the denial of a decrease in the quality of life in patients with such characterological features as increased attachment to others with avoidance of conflicts to the detriment of their own priorities, combined with deprivation of emotions, determine the clinical picture of dissociative reactions. Timely identification of patients with dissociative reactions, characterized by an underestimation of the severity of the condition, could contribute to closer monitoring of such patients in order to improve adherence to treatment.

Declaration of Interest

The authors report no conflict of interest.

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