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Anxiety Disorders and Coronary Heart Disease

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Abstract: According to the World Health Organization, mortality from cardiovascular diseases remains the highest in comparison with economically developed countries among both men and women. In recent years, the prevalence of the main risk factors for cardiovascular diseases in Uzbekistan has not changed significantly, at the same time, the level of emotional stress has increased significantly. The growth of psychosocial stress in the population is accompanied by an increase in the level of emotional tension, anxiety among the population. The prevalence of anxiety disorders in the population, according to various authors, ranges from 3 to 30%. Anxiety increases after mental trauma, acute and chronic somatic diseases and neuropsychiatric diseases. Thus, the severity of anxiety and the level of anxiety, reflecting the degree of personal distress, can be a kind of marker of chronic psychological stress. With an increase in the level of anxiety, there is a change in the activity of sympathoadreal, hypothalamic-pituitary–adrenal and renin–angiotensin–aldosterone systems -Moreover, it is naturally accompanied by changes in carbohydrate, protein, and lipid metabolism, procoagulant shifts in hemostasis, and impaired vascular endothelial function. All these disorders can lead to increased progression of atherosclerosis, increased coronary vascular tone, increased instability of atherosclerotic plaques, a tendency to thrombosis and contribute to the aggravation of the course of coronary heart disease (CHD). At the same time, the peculiarities of the influence of anxiety disorders on the course of coronary heart disease and quality of life have not been studied enough.

Keywords: coronary heart disease, term "anxiety", emotional stress

Introduction

The term "anxiety" (as a personality trait) characterizes a relatively stable degree of severity of the perception of a threat to oneself in various situations and a tendency to respond to them by increasing the state of anxiety. At the same time, anxiety is a factor that can manifest itself as an adaptation syndrome in an acute stressful situation. Chronic anxiety is considered as a prenosological syndrome leading to the development of psychosomatic pathology.

Psychoemotional stress syndrome, manifested by an increase in the level of personal and reactive anxiety, a decrease in emotional stability, the level of social adaptation, the predominance of the tone of the sympathetic system with changes in hemodynamics, a shift in the spectrum of lipoproteins towards atherogenic fractions. Similar changes were observed in the study of emotional stress and adaptation to stressful loads.

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In such patients, affective spectrum disorders significantly aggravate the course of cardiological pathology in the form of progression of the atherosclerotic process and aggravate the prognosis. Markers of immune inflammation, and above all cytokines, are of particular importance in the proatherogenic effect in the foci of atherosclerosis. The main regulators of such processes at the neuroimmune level are endogenous opiate peptides. Their role in stabilizing the cytokine content during the development of inflammation in the atherosclerotic plaque and in the process of adaptation of the heart muscle to stressful influences is noted. Despite the availability of reliable data on the role of markers of immune inflammation in atherogenesis, the validity of the regulatory value of opiate peptides in this process is still open questions about the influence of affective spectrum disorders on the neuropeptide-cytokine status of the immune system in patients with chronic coronary artery disease, as well as in what range these changes will be traced in pain and pain-free myocardial ischemia. In this connection, the purpose of this study was to assess the effect of the severity of anxiety-depressive disorders on the neuropeptide-cytokine status of the immune system in patients with chronic coronary artery disease in various clinical variants of its course, as well as a comparative characteristic of the degree of these changes in pain and pain-free myocardial ischemia.
Objective: to study the features of the course of coronary heart disease in patients with different levels of anxiety.

Materials And Methods

121 patients suffering from coronary heart disease and 25 practically healthy individuals were examined. As can be seen from the presented data, the group of healthy and CHD patients did not differ in age and gender. At the same time, patients with coronary heart disease had significantly higher body weight, cholesterol, triglycerides and plasma glucose levels.
The patients underwent a general clinical examination, stress tests, echocardiography in M–IIn–mode. The severity of the pain syndrome was assessed on a visual–analog scale (VAS). Quality of life – according to the Seattle questionnaire. Psychological testing was carried out according to the Spielberger questionnaire to study the level of reactive and personal anxiety. With a score of 30 or less, the level of anxiety was considered low, 31-45 points – average, 46 points and higher – high. The severity of anxiety was assessed by the hospital scale of anxiety and depression is GSTD (an indicator of ≤ 7 points was considered the norm, 8-10 points – a subclinical level of anxiety, 11 points or more – a clinically pronounced level of anxiety). The characteristic features of the personality were studied by the RESIN test. The results were subjected to statistical processing. The reliability of the differences between the samples was evaluated using the Student's t–test, if necessary, the Mann–Whitney test using the statistical package "Excel 2000" and "Statistica 5.0".
The level of anxiety in the group of patients with coronary heart disease was 2 times higher than in healthy patients and was respectively 8.4±0.3 and 4.1±0.5 points for GSTD ($p<0.001$). When studying the ratio of the number of patients with different levels of anxiety, it was found that the indicator did not exceed the norm in 40% of patients with coronary heart disease, 20% had a subclinical level, 40% had a clinically pronounced level of anxiety. In 8% of healthy individuals, a subclinical level of anxiety was detected, in 92% – the indicator did not exceed the norm. The level of personal and reactive anxiety in the group IHD was significantly higher and amounted to respectively 44.8±0.9 and 46.9±0.8 points and similarly 36.4±1.3 and 34.8±0.9 points in the

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healthy group (p<0.001). According to the RESIN test, in the group of patients with coronary heart disease, compared with healthy ones, the indicators were significantly higher on the estimated F scale and lower on the K scale, which indirectly indicates the internal tension of these patients and their unwillingness to build their behavior taking into account the opinions of others. In addition, the IHD group had significantly higher indicators on the scale of hysteria and hypomania, which indicates the prevalence of an anxious rather than depressive radical in the emotional profile and about impulsivity of these patients. To study the features of the course of coronary heart disease, depending on the level of anxiety, patients were divided into 2 groups: with a high level of anxiety (subclinical and clinical level of anxiety according to GSTD) – Group 1 and patients without anxiety disorders (≤7 points on GSTD) – Group 2. Between the groups, patients did not differ in age, gender, hereditary burden and percentage of smokers. The groups did not differ in the age of occurrence and duration of coronary artery disease, the number of myocardial infarctions and the number of patients with PIX. However, in group 1, the age of occurrence of MI was significantly younger (45.0±1.3 vs 53.5±1.1 years, p<0.01). The average functional class of stress angina in group 1 was 2.61±0.08, in group 2 – 2.33±0.07 (p<0.05). The duration of the anginal attack did not differ significantly between the groups, however, the intensity of pain in group 1 was higher compared to group 2, and was respectively 4.8 ±0.2 and 3.7±0.2 points (p<0.05) on the VAS scale. When comparing coronary angiographic data, it was found that in patients with three– and two–vascular lesions of the coronary bed with hemodynamically significant stenoses were more often observed with high anxiety, in group 2 – two- and single-vascular. The average number of affected vessels in group 1 was 2.33±0.09, in group 2 – 1.88±0.10 (p<0.01). The total blood cholesterol content in the group with a high level of anxiety was significantly higher than in the comparison group and amounted to 6.33±0.27 mM/l and 5.55±0.15 mM/l, respectively (p<0.05). The groups did not differ in the number of patients with a disability group, however, the age of retirement disability in group 1 was younger (46.0±1.7 vs 49.0±2.4 years, p<0.01). In the group with high anxiety, the number of repeated hospitalizations over the past year was significantly higher.

Results

According to the Seattle Quality of Life Questionnaire, group 1 patients, compared with group 2 patients, noted a worse quality of life on the angina stability scale, assessment of treatment, perception of the disease. As a result, the total indicator of their quality of life was also significantly lower. Correlation analysis of the final quality of life indicator of the Seattle questionnaire revealed a significant negative correlation with the level of anxiety, depression (GSTD), the severity of reactive and personal anxiety (Spielberger questionnaire), the level of autonomic disorders and functional class of angina pectoris. At the same time, the final indicator of quality of life was practically not correlated with the degree of coronary artery atherosclerosis.

Prospective follow-up of CHD patients for 24.7±0.38 months revealed higher overall mortality in patients with a high level of personal anxiety compared with CHD patients with a low level of personal anxiety. Thus, anxiety disorders detected in patients with coronary heart disease and accompanied by a sufficiently pronounced decrease in the quality of life undoubtedly require correction of these changes by psychotherapeutic and medicinal means. Naturally, for the correction of anxiety disorders of the neurotic circle, priority is given to tranquilizers with anxiolytic, hypnotic, vegetostabilizing and central muscle relaxant effects and acting on almost all

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pathogenetic links of anxiety disorders. Preference here is most often given to the so – called "daytime" tranquilizers that do not have a pronounced hypnotic effect, which are convenient to use in outpatient practice, for example, alprazolam medazepam, oxazepam, tofizopam, lorazepam, as well as the domestic anxiolytic Afobazol. Afobazole is an original drug developed in accordance with the pharmacogenetic concept of the anxioselective effect, preventing a sharp drop in the binding capacity of the benzodiazepine site of GABA. The effect of the drug is realized mainly in as a combination of anxiolytic (anti-anxiety) and mild stimulating (activating) effect. Reduction or elimination of anxiety (anxiety, bad premonitions, fears, irritability), tension (timidity, tearfulness, anxiety, inability to relax, insomnia, fear), and consequently, somatic (muscular, sensory, cardiovascular, respiratory, gastrointestinal symptoms), vegetative (dry mouth, sweating dizziness), cognitive (difficulty concentrating, impaired memory) disorders observed on 5-7 day of treatment with Afobazole. The maximum effect is achieved by the end of the 4th week of treatment and persists in the post–therapeutic period. The use of the drug is especially indicated in patients with predominantly asthenic personality traits in the form of anxious suspiciousness, uncertainty, increased vulnerability and emotional lability, a tendency to emotional stress reactions. The results of clinical trials have shown that Afobazole has a combination of anti-anxiety, vegetostabilizing and moderately pronounced activating effects, eliminates painful bodily sensations associated with anxiety and anxiety–depressive disorders, is characterized by good tolerability, does not cause daytime drowsiness, muscle relaxation, does not worsen, and in some cases restores impaired cognitive functions (memory, attention), when taking the drug, addiction and "withdrawal syndrome" does not develop.

When anxiety disorders are combined with depressive disorders, antidepressants with anxiolytic properties and also having vegetostabilizing, muscle relaxant, analgesic effects are shown, for which their safety for patients with coronary heart disease is shown, for example: tianeptin, fluoxetine, mianserin, mirtazapine.

Of course, the appointment of psychotropic drugs should be carried out taking into account the identified psychopathological disorders, the severity of the underlying disease, concomitant pathology and existing contraindications to the appointment of these drugs, which often makes the choice of the necessary drug quite difficult. At the same time, an experienced internist, owning this rich arsenal of medicines, has the opportunity to help his patients much more successfully in the treatment of chronic diseases and improve their quality of life.

Conclusions

1. Patients with coronary heart disease have a higher level of anxiety, reactive and personal anxiety and a greater accentuation of personality compared to healthy ones. In 60% of patients with coronary heart disease, there is a subclinical and clinically pronounced level of anxiety.
2. Patients with coronary heart disease with a high level of anxiety were characterized by more pronounced damage to the coronary bed, atherosclerosis, and the occurrence of a heart attack myocardial infarction and disability at a younger age, a large number of repeated hospitalizations.
3. The quality of life of patients with coronary heart disease depends not only on from the severity of the functional class of angina pectoris, but also from their emotional status.
4. CHD patients with anxiety disorders were characterized by low quality of life and a worse prognosis (they had higher overall mortality).

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