



## STUDY OF QUALITY OF LIFE INDICATORS IN PATIENTS WITH CORONARY HEART DISEASE USING THE SF-36 QUESTIONNAIRE

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Article history:	Abstract:
<p><b>Received:</b> 8<sup>th</sup> March 2022 <b>Accepted:</b> 10<sup>h</sup> April 2022 <b>Published:</b> 22<sup>th</sup> May 2022</p>	<p>A simple prospective study of the effect of lipid-lowering therapy on the assessment of quality of life was conducted using the SF-36 questionnaire for coronary heart disease in men before and after pharmacological intervention. There were no statistically significant differences in the dynamics of indicators of the SF-36 questionnaire scales both before and after treatment in patients with coronary artery disease, stable angina pectoris I–II FC with atherogenic GLP, sensitive to treatment with rosuvastatin, in comparison with a group of patients transferred to bicomponent therapy. However, when analyzing the questionnaire data of patients with coronary heart disease, taking into account the genotype, it was found that the initial values of quality of life indicators according to the SF-36 questionnaire scales in carriers of the D allele by ACEI/D polymorphism differed from those in comparison with carriers of the I allele. Thus, patients carrying the D allele showed both an initially low assessment of the quality of life and a lower dynamics of values on the scales of the SF-36 questionnaire, regardless of the type of pharmacological correction of lipid metabolism disorders.</p> <p>Therefore, from the point of view of the preventive approach, the connection of genetic and personal-behavioral characteristics considered as psychological risk factors for coronary heart disease is of interest</p>

**Keywords:** ischemic heart disease, hypolipidemic therapy, quality of life

### INTRODUCTION

Traditionally, the criteria for the effectiveness of treatment in clinical studies, physical and laboratory-instrumental indicators are used. However, they are not able to characterize the patient's well-being and his functioning in everyday life - quality of life (QOL). Study of QOL allows you to get a complete picture of the patient's well-being, to see the "integrity of the disease situation through the eyes of the patient." In modern medical literature, the concept of "QOL due to health" (health-related quality of life) is used, which evaluates the components of this indicator, associated with a particular disease, and allows you to differentially determine the impact of the disease and treatment on the physical, psychological, the emotional state of the patient and his social status. The assessment of QOL in patients with coronary heart disease (CHD) has been criticized by a number of researchers as too subjective and unreliable. At the same time, the reliability of assessing the patient's condition with the help of special questionnaires for coronary heart disease is comparable with the results of stress tests.

Currently, according to domestic recommendations, increasing life expectancy and improving the quality of life of patients are the main tasks in the treatment of coronary heart disease.

### MATERIALS AND METHODS

121 men with hyperlipidemia (GLP), as well as coronary heart disease related to a group at very high risk of developing cardiovascular complications on the SCORE scale. Choice men are due to their greater morbidity CHD. The study was carried out by a simple, prospective method. Groups of patients were formed according to the following stratification criteria: age from 40 to 61 years, I or II functional class stable angina pectoris, the presence of isolated (IIA) or combined (IIB) GLP. Patients had body mass index 26.8 (25.6—27.8). Pharmacological correction was performed with rosuvastatin in a dose 10 mg/day for a year with the control of lipid metabolism parameters at the time of switching on after 4, 8, 24 and 48 weeks (0-, 1-, 2-, 3- and the 4th point of the study, respectively), with the transfer to combination therapy (rosuvastatin at a dose of 10 mg / day and atorvastatin 10 mg /day) of patients who did not reach the target values for LDL cholesterol (1.8 mmol /l) to the 8th week of the study (3rd point). As a criterion for the effectiveness of hypolipidemic therapy, it was taken condition for achieving the target values of the level of HS LNP.

The study of the quality of life was conducted using the SF-36 questionnaire. The questionnaire reflects the general well-being and the degree of satisfaction with those aspects of human life that are affected by the state of health.

SF-36 consists of 36 questions grouped into eight scales: physical functioning, role-playing activity, bodily pain, general health, vitality, social functioning, emotional state and mental health. The indicators of each scale are compiled in such a way that the higher the value of the indicator (from 0 to 100), the better the score on the selected scale. Of these, two parameters are formed: psychological and physical components of health. The assessment was carried out on the following scales: physical functioning (PF), role physical (RP), body pain (BP), general health (GH), vitality scale (VT), social functioning (SF), role emotional (RE), mental Health (MH).

The type of data distribution was checked using the Kolmogorov—Smirnov criterion. The comparison of the groups was carried out using nonparametric statistics methods with Bonferroni correction for multiple comparisons. The influence of the type of intervention/therapy, as well as genotypes on the parameters of the SF-36 questionnaire scale was evaluated by the Mann—Whitney criterion or by a rank analysis of variations according to Kraskel-Wallis (when comparing 3 groups). The study tested dominant, recessive and additive genetic models. The critical significance level for the study was assumed to be 0.05. Statistical processing of the obtained data was carried out using Statistica v.10 (StatSoft Inc., USA).

### RESULTS AND DISCUSSION

Processing of the initial data showed that the medians of the quality of life of patients with coronary heart disease differed significantly from the level of ideal health and were comparable in all the studied groups.

A detailed analysis of QOL allowed us to establish that in patients with coronary heart disease and atherogenic GLP, at the time of inclusion in the study, the indicators of psychological health, physical functioning and the sphere of social relationships were most significantly impaired.

Indicators of physical functioning in patients suffering from coronary heart disease with atherogenic GLP at the time of inclusion were reduced mainly due to the scales of vital activity, energy and physical pain, discomfort. Patients complained of pain syndrome, poor health, decreased vital energy, increased fatigue. Pain in the heart area was perceived by them as an obstacle to full-fledged constructive

life. During the conversation, it turned out that most patients had a feeling of fear caused by the constant threat of pain, characteristic of angina pectoris, especially for the onset of the disease. The level of independence in patients of three groups

received average ratings, was reduced mainly due to the account of dependence on taking medications and the ability to perform everyday tasks.

The next stage of the survey of patients was carried out after 48 weeks of pharmacological correction of lipid metabolism disorders. As a result of the analysis of questionnaires of patients with coronary artery disease with atherogenic GLP before and after the course of lipid-lowering therapy, results were obtained that indicate a positive effect of the studied drugs.

In patients with coronary artery disease with atherogenic HFRS who received hypolipidemic therapy, in comparison with the control group, there was a statistically significant change in the assessment of the impact of pain syndrome on the quality of life, including the state of physical health, which led to a significant

growth on the vitality scale along with positive dynamics of psychological health. All this indicates an improvement in the quality of life of patients with coronary artery disease with atherogenic GLP against the background of hypolipidemic therapy.

Then we evaluated the effect of lipid-lowering therapy on the dynamics of indicators QL according to the scales of the SF-36 questionnaire, taking into account the severity of the individual response during pharmacological correction of lipid metabolism disorders and genotype. In patients with coronary heart disease, stable angina pectoris I—II FC with atherogenic GLP, sensitive to treatment with rosuvastatin, in comparison with the group of patients resistant to monotherapy and transferred to component therapy, there were no statistically significant differences in the dynamics

of indicators of the SF-36 questionnaire scales as before treatment, and after. However, when analyzing the questionnaire

data of patients with coronary heart disease, stable angina pectoris I—II FC with atherogenic GLP against the background of correction of lipid metabolism disorders taking into account the genotype, it turned out that the initial values of QL indicators according to the scales of the SF-36 questionnaire in carriers of the D allele by polymorphism AKA/D differed from those in comparison with carriers of the I allele.

Upon further analysis of the dynamics of the values of QL indicators on the scales of the SF-36 questionnaire, it turned out that the change in QL assessment in carriers of the D allele was less pronounced in comparison with carriers I allele on the background as monotherapy with rosuvastatin 10 mg/day, and with the addition of atorvastatin 10 mg/day, which was most clearly manifested when testing the dominant model in assessing the severity of pain syndrome, role-based physical and social functioning. Dynamics of the values of the quality of life scales of the SF-36 questionnaire depending on the genotype without taking into account the type of pharmacological correction primary atherogenic GLP in patients with coronary heart disease, stable angina pectoris I—II FC.

## CONCLUSION

The QOL analysis allowed us to establish that in patients with coronary heart disease and atherogenic GLP, at the time of inclusion in the study, the indicators of psychological health, physical functioning and the sphere of social relationships were most significantly impaired. During the discussion of the results obtained, attention should be paid to the absence of statistically significant differences in

the assessment of QL in patients with coronary heart disease, stable angina pectoris I—II FC with atherogenic GLP, sensitive to rosuvastatin therapy 10 mg / day in comparison with the group of patients resistant to this type intervention and transferred to combination therapy with the addition of atorvastatin 10 mg/day.

Another equally important fact from the practical side is the difference in the assessment of QOL in patients with different ACEI/D genotype. Thus, patients

carrying the D allele showed as initially low assessment of QL, and lower dynamics of values according to the scales of the SF-36 questionnaire, regardless of the type of pharmacological correction of lipid metabolism disorders. Therefore, from the point of view of the preventive approach, the connection of genetic and personality and behavioral characteristics considered as psychological risk factors

for coronary heart disease. Implemented earlier by polymorphism ACEI/D genotypically differentiated analysis of the psychological portrait of patients with coronary heart disease it seemed that carriers of the DD genotype more often than carriers of the ID and II genotypes showed increased hostility, expressed in negative attitudes and assessments in relation to surrounding people and events, and signs of type A behavior (tendency to rivalry, ambition, impatience and tension), which perhaps explains the dependence we have identified.

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