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EVALUATION OF THE EFFECTIVENESS OF NOVOLIPID PLUS IN MIDDLE-AGED PEOPLE

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Abstract: Dyslipidemic conditions, as any disorder of lipid metabolism, leading to an increase in their level in the blood, as a rule , can become a trigger for the onset and exacerbation of various diseases, which are usually based on biological and behavioral causes, such as diet and physical activity. In the article, from the standpoint of medical prevention, the problem of dyslipidemic conditions in middle-aged people is revealed. A brief description of the main means used to prevent such conditions is given, with an emphasis on the lifestyle and physical activity of the study population.

Keywords: monacolin, physical activity, lipid spectrum, average age, men.

Introduction. Currently, dyslipidemic conditions in middle-aged people occur worldwide. Thus, in 13% of the US population, dyslipidemia is a predictor of various cardiovascular diseases [1]. In the US, >100 million adults over the age of 20 years have a total cholesterol level of ≥ 200 mg/ dl (≥ 5.17 mmol /l), almost 31 million - ≥ 240 mg/ dl (≥ 6.20 mmol /l) [2, 3]. However less than 50% of patients with high levels of triglycerides, total cholesterol, and low-density lipoprotein receive treatment. Of those who are treated, only 35% achieve adequate control of cholesterol and TG levels [3, 4]. Coronary heart disease and stroke are diseases that are generally the leading causes of death and disability worldwide. Atherosclerosis plays an important role in the genesis of these diseases, as statistics in Europe show that cardiovascular diseases account for 42 and 38% of all deaths under the age of 75 among women and men, respectively, in 2020 [5, 6]. It has been proven that high levels of LDL-C are the main causal factor in coronary artery disease and stroke. A decrease in LDL-C inhibits atherogenesis and reduces adverse coronary events [7–9].

In connection with the above, it is necessary to carry out preventive therapy among young people and middle-aged people, regardless of gender, profession and physical activity, which was the reason for this study . An alternative to drug therapy can be innovative strategies for the use of targeted functional food and dietary supplements. They can be used as an alternative to, or in addition to, lipid-lowering drugs to prevent dose escalation.

Purpose of the study. To evaluate the level of high and low density lipoproteins in middle-aged people and the effect of Novolipid course intake on lipid spectrum parameters.

Materials and methods. The study involved 92 clinically healthy men, whose age was 38 ± 4.3 . The exclusion criteria were the presence of acute and chronic diseases, as well as the use of anti-inflammatory drugs 2 months before the start of the study. All men who took part in the study were divided into 3 groups by a questionnaire, which included questions about professional activities, lifestyle and physical activity. The first group included men with a high level of physical activity (n =31), the second group consisted of men with a low level of FA and the control group (n =29) consisted of men with an average level of FA. The first and second study groups took Novolipid plus 1 tablet 1 time per day for two months, the control group received no pharmacological support.

The drug Novolipid plus - t tablets which include red yeast rice - 5% monacolin content , fermentation product of the fungus *Monascus purpureus* and contains monacolin K , which is able to modulate blood lipid levels. At Novolipid, red yeast rice is produced under standard conditions with a specific *M. purpureus* strain selected for optimal monacolin levels with a well-defined and guaranteed titer . Novolipid also contains coenzyme Q10 , calcium pantothenate , vitamin B6, B2, B1, chromium, folic acid . in vitamin H, vitamin B12, grape dry extract, olive dry extract. dry extract of artichoke. Ovolipid plus as a combination drug has been used to more effectively and safely maintain normal cholesterol levels in middle-aged individuals. This preparation also contains artichoke extract, chromium, coenzyme Q10, grape and olive extracts and B vitamins (B1, B2, B5, B6, B7, B9 and B12). Monacolin K in Nova.lipid.plus maintains normal cholesterol levels. At the end of the study, the participants in the three study groups underwent a series of examinations: the collection of drug and allergic anamnesis, clinical examination, laboratory physical testing. The lipid profile of the studied groups was analyzed by a screening blood test, during which the content of total cholesterol (cholesterol (OH), high density lipoproteins (HDL), low density lipoproteins (LDL), triglycerides (TG), atherogenic coefficient was determined .

Statistical data processing was performed using the Statistica 6.0 program, where the mean $M \pm m$? t - Student's t-test, $p \leq 0.05$.

Results. When comparing the three study groups in terms of lipid spectrum before taking Novolipid Plus, significant differences were found between the three study groups (Table 1).

**The values of the lipid spectrum of the three study groups before taking
Novolipid Plus**

Table 1

Lipid spectrum	I group (n=31)	II group (n=32)	III group (n= 29)
total cholesterol	5.4±0.9*	6.1±2.4	4.8±1.2***
Triglycerides	1.27±2.1*	1.9±0.8	1.18±1.9
LDL cholesterol	3.08±1.6*	4.72±2.1	3.52±1.3***
HDL cholesterol	0.76±0.3*	0.43±0.5	0.88±0.5***
Atherogenic index	2.6±1.7*	3.2±1.1	2.7±0.8

*differences are statistically significant when comparing the initial values of the studied parameters between groups I and II , ** groups I and III , *** groups II and III (p < 0.05).

As can be seen from Table. 1, the initial values of the lipid spectrum for all indicators in the three study groups had significant differences at the level of p < 0.05. So, when comparing a group of men with high physical activity with hypodynamic men (group II) , there are differences in all lipidogram parameters, similarly when comparing groups II and III of the study.

Lipid spectrum values of the three study groups after two months

table 2

Lipid spectrum	I group (n=31)	II group (n=32)	III group (n= 29)
total cholesterol	3.8±1.5*	4.1±1.7 *	4.1±1.3
Triglycerides	0.9±1.8*	1.31±1.1 *	1.56±0.78
LDL cholesterol	2.4±1.5*	2.97±1.9 *	3.12±1.1
HDL cholesterol	0.38±0.6*	0.67±0.7	0.69±0.8

Atherogenic index	2.4±0.7*	2.1 ±1.3 *	2.9±1.1
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*differences are statistically significant when comparing the initial values of the studied parameters of the three groups and lipid spectrum indicators after 2 months ($p < 0.05$).

As can be seen from Table 2, against the background of taking Novolipid plus in group I of the studied men with high physical activity, the lipid spectrum indicators correspond to normal values and have significant differences at the level of $p \leq 0.05$ compared with the initial ones. In the II group of men with a sedentary lifestyle while taking Novolepid plus, in terms of total cholesterol, HDL, LDL, there is a significant decrease and are characterized by normal ones. In group III of the study (control group), the lipid spectrum indicators remained practically unchanged.

Thus, after a 2-month course of therapy with Novolipid Plus, in terms of lipid spectrum indicators in groups I and II of the study, there were significant positive improvements in all its key parameters, in contrast to the control group ($p < 0.05$).

Conclusion. Thus, the laboratory assessment of lipid metabolism disorders in the daily life of middle-aged men is an integral part of monitoring health and pre-pathological conditions. As shown by this study, taking Novolipid plus 1 tablet 1 time per day can significantly improve the lipid spectrum, regardless of lifestyle, physical activity and eating behavior, without any side effects. It is advisable to carry out dyslipidemic prophylaxis in persons with mild or moderate hyperlipidemia and introduce lipid-lowering drugs into daily clinical practice. nutraceuticals , representative of which is Novolipid , which has a statin-like effect, is well tolerated and does not require monitoring of liver enzymes and creatine phosphokinase .

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