

The Ability of Natural Relevant Food Ingredients to Prevent Hypertension in People

Abstract

Current work is concerned with the development of new biologically active dietary supplements (BAFS) for the treatment of atherosclerosis. Atherosclerosis is considered a disease of old age, so the composition of dietary supplements should include essential minerals such as magnesium and potassium, which are widely used to prevent atherosclerosis, as well as the needs of the elderly. Formulated with vitamins C, E, and B group for the elderly. The authors provide an overview of the technology for manufacturing dietary supplements and describe a clinical study conducted in patients with peripheral atherosclerosis around the age of 60. The research methodology focuses on studying the efficacy of developed dietary supplements by evaluating the impact of active ingredients on the treatment of metabolic disorders. Blood tests, ultrasound, and physical examination were performed to determine the efficacy of the dietary supplement. Combination therapy improved metabolism and improved overall cardiovascular function. BASF is therefore recommended as part of a combination therapy for the prevention and treatment of atherosclerosis and age-related vascular changes.

Keywords: **BAFS • Functional foods • Peripheral atherosclerosis • Combination therapy**

Introduction

Recent technological advances have enabled dietary supplement manufacturers to offer a wide variety of end products that meet the needs of both children and adults. In Russia, for example, the popular line of "Pantoshika" dragees helps children get the recommended daily intake of essential vitamins and minerals, and "Vitamin Balsam" (a concentrated vitamin drink) made from products and herbs, adults use it to boost metabolism and prevent cold-weather infections. With the rapid aging of the population, interest in nutritional supplements for the elderly has increased. As a general rule, the elderly tend to have low nutrient intakes and therefore suffer from deficiencies of essential minerals and vitamins. One of the most common diseases that can develop with age is atherosclerosis.

Diseases caused by atherosclerosis continue to be the leading cause of death in healthy people in most countries of the world.

The impact of atherosclerosis on the development and development of cardiovascular disease is immense. First, atherosclerosis increases susceptibility to vascular spasm. Apparently, this is because vessel wall deposits and plasma impregnation can irritate the sensitive ends of vasoconstrictors embedded in the vessel wall, which are much more sensitive to stimulation than vasodilators. Therefore, even weak spasms can cause powerful pressor effects, intensifying and accelerating angina attacks and hypertensive crises. Second, atherosclerotic plaques and blood vessel wall thickening narrow the lumen of blood vessels, blocking blood flow to organs such as heart muscle and brain tissue. Atherosclerotic plaques can completely occlude the lumen of feeding arteries and cause corresponding organ failure. Third, the atherosclerotic process damages the vascular endothelium, leading to thrombus formation, as one of the most important

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factors in thrombus formation is the violation of intimal integrity[1]. Blood clots can lead to disruption of the blood supply to varying degrees. It can also break and become an embolism. Finally, at the atherosclerotic ulcer stage, debris entering the bloodstream also becomes embolic, carried by the blood, and blocking small blood vessels. This process is particularly dangerous in the case of ulcerative atherosclerotic plaque, when it is functionally localized in the lumen of distal coronary and cerebral vessels. Debris can flow through the bloodstream and into the smaller branches of these vessels, clogging them and causing the development of a heart attack or ischemic stroke[2].

Despite significant advances in cardiology and clinical pharmacology, the issue of effective and safe treatment of patients with circulatory failure due to atherosclerosis remains important. In addition to drug development, to create new naturally-derived anti-atherosclerotic drugs, includes multicomponent biologically active nutraceuticals that can act at different stages of disease pathogenesis is now required. This approach promotes dietary therapy as part of combination therapy and improves preventive measures in people who do not show clinical symptoms of disease.

Recently, many scientists are studying the impact of proper nutrition on atherosclerosis by analyzing n-3 fatty acids, vitamins and herbs and looking for the appropriate composition, route and dosage. Recognizing the importance of research, we wanted to develop a new nutritional supplement consisting of a blend of minerals and vitamins tailored to the needs of the elderly[3].

Material and Method

The research design

A randomized trial was conducted to evaluate the developed dietary supplement. A sample size of 20 participants was calculated to be the most cost- and time-efficient to conduct the study. Participants were men aged 55 years or older who had a diagnosis of atherosclerosis and who had cardiovascular disease meeting the inclusion criteria. Must have risk factors for development [4,6].

This study was conducted in accordance with the guidelines of the Declaration of

Helsinki, the ICH-GCP principles, the ethical requirements of the European Union Directive 2001/20/EC, and the requirements of Russian law. Each patient signed an informed consent form to participate in the study. Twenty men with peripheral arteriosclerosis (main group) were observed according to the examination protocol. The average age of male he was 61.3 ± 4.3 years. The control group consisted of 15 male subjects with a similar diagnosis and a mean age of 63.2 ± 3.5 years. All volunteers smoked 1/2 to 1 pack of cigarettes per day and thus had risk factors for developing adverse cardiovascular disease (CVD). The main group of patients took his 1 tablet of dietary supplement three times a day for 1 month, whereas the control patients did not. The severity of peripheral arteriosclerosis (degree of disease), nutritional status, coagulation system, and blood lipid spectrum were analyzed before, during, and after treatment. The study is conducted on the basis of the Department of General Surgery of the Siberian State Medical University and is headed by Prof. V.I. Doctor of Medicine Tikhonov[7,8].

Product manufacturing technology

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Results and Discussion

Patients with peripheral arteriosclerosis taking nutritional supplements did not differ significantly from the control group, but showed positive dynamics of clinical status.

The main symptom of peripheral atherosclerosis obliterans (POA) is known to be leg pain during walking, which gradually disappears when walking is stopped. This classic symptom is common and is called "intermittent claudication." This is a result of tissue ischemia that occurs during exercise due to restricted blood flow, while an adequate blood supply is restored at rest. They reduce the severity of peripheral atherosclerosis. Tend to let I am here. We were able to demonstrate a significant increase in blood flow velocity under the influence of dietary supplement intake. This demonstrates the capillary-strengthening effect of trophic factors and their positive effect on microcirculation.

Blood chemistry and electrocardiogram results showed no significant difference in disease kinetics before and after treatment with dietary supplements. This fact indicates that the product does not affect the homeostasis index. Volunteer products were also well received. Examination of the coagulation index also showed no significant deviations during treatment. In addition, favorable trends of improving blood rheological properties and normalizing cholesterol metabolism were observed in patients with peripheral arteriosclerosis who received special nutritional supplements. A reduction in VLDL cholesterol levels indicates that healthy people can take special products to prevent atherosclerotic lesions in their arteries. It may indicate the need for a period of use. Taking the product improved my microcirculation. Improving capillary bed tone in patients with peripheral arteriosclerosis taking the product as part of combination therapy. Membrane

stabilizing activity of product antioxidants was demonstrated when the severity of the inflammatory process was reduced. Given the importance of age-related changes in the development of vascular atherosclerosis and the known reasons for its development, it can be said that taking the product slows down the development of the disease. Oxidants can reduce the severity of oxidative stress and nicotine abuse, thus playing a role in slowing disease progression. It can also provide the body with trace minerals (potassium and magnesium) that may lower blood pressure.

Conclusions

As with most studies, our study has certain limitations that could be addressed in future studies. First, all participants selected for the study was male. Second, smoking was a risk factor for all participants. Therefore, these limitations should be considered when interpreting study results. Considering all the results obtained, we can conclude that we take nutritional factors. The severity of metabolic disorders is reduced. As specific nutrients become more important to overall health, it is also recommended as a combination therapy for healthy individuals.

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