

Medical Sciences

New Approaches to Treatment of Gerontologic Patients with the Presence of Ischemic Heart Disease (IHD) with Syndrome of Stenocardia

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ABSTRACT. Interest in the quality of life of elderly people and state of health of old-aged patients has recently considerably increased. Special attention is given to cardiovascular pathology which is the main reason of death for this category of patients. The albuminous component acquires an increasing significance in modern representations about atherosclerosis and cholesteric theory is gradually replaced by lipoproteidic one. The purpose of the present work was to study efficiency of joint application of vitamin E intramuscularly and oral administration of the combined preparation "Triovit", containing several antioxidants (β carotene, vitamin E, vitamin C and selenium), in gerontologic patients with (IHD) and syndrome of stenocardia and hyperlipidemia. It is proved for the first time that vitamin E decreases not only cholesterol, but also low density lipoproteids (LDL) and triglycerides (TG). At the same time, vitamin E increases the level of high density lipoproteids (HDL). The obtained changes are maintained in patients for a long time after termination of reception of the preparation. Application of vitamin E in patients with ischemic heart disease promotes improvement of the clinical period of the disease. © 2007 Bull. Georg. Natl. Acad. Sci.

Key words: *old and senile patients, vitamin E, hypolipidemic therapy.*

According to the data of WHO in the countries of Europe 40-50% out of the total number of people perish from cardiovascular pathology [1, 4-7]. It is evident, that diseases of cardiovascular system such as atherosclerosis, arterial hypertension, ischemic disease of heart and brain, heart insufficiency actively progress in the second half of human life, being the first reason of the death rate of elderly people [2, 3]. According to the data by A. M. Vihert (1977) in people over 50 years of age fibrous plaques of aorta are found in 90-95% of cases. Total area of atherosclerotic changes of coronary arteries increases from 2-3% of the inner layers of artery walls in the age of 10-19 years up to 60-62% in the age of 80-89 years [8-9]. The albuminous component acquires an increasing significance in modern representations about atherosclerosis and cholesteric theory is gradu-

ally replaced by lipoproteidic one. The proteids-apoproteins are important components of the inner layer of arteries. If low density lipoproteids (LDL) and through them very low density lipoproteids (VLDL) deliver cholesterol to the cell, high density lipoproteids (HDL) possess antiatherogenic effect. HDLs participate in the process of cholesterol leaching from the cell, influence the capture of VLDL by the cell, stabilize particles of VLDL. Besides, some apoproteins possess coenzyme function, adjusting particular reactions of lipid exchange.

Data on the efficiency of vitamin E in atherosclerosis treatment were reported for the first time by Academician Nodar Kipshidze at the World Congress of Cardiology in Mexico City in 1962. Questions of the efficiency of vitamins E and B₆ at atherosclerosis were intensively studied further in the Scientific Research Institute of

Experimental and Clinical Therapy in Tbilisi, both in experimental and clinical conditions. We were aimed at studying the efficiency of joint application of vitamin E intramuscularly and preparations "Trioivit", containing β carotene, vitamin E, vitamin C and selenium. A total of 37 patients of both sexes – two groups - elderly (60-74 years of age) and senile patients (75-89 years of age) suffering with IHD accompanied by the syndrome of stenocardia have been involved in the research. To all the patients antioxidant therapy with vitamin E and "Trioivit" has been prescribed against the background of earlier conducted traditional antianginal therapy. Vitamin E has been administered intramuscularly (2 ml of 10% inf.) for 10 days and then in the form of the drug "Trioivit" in a daily dose 1 tablet once a day. The patients under investigation were subjected to Cholter Monitoring and loading tests on the veloergometer. Also the quantity of consumed nitroglycerine tablets and blood lipid spectrum were estimated. The parameters of the above-stated examinations were defined before the treatment, after the termination of intramuscular administration of vitamin E, in 2 months' therapy and in a month after the termination of the therapy. Statistical processing of obtained data was conducted with the use of Microsoft Excel.

As a result of the treatment carried out, 24 patients have ceased to require additional reception of nitroglycerine tablets, in 7 patients this parameter decreased on the average by 62.3%, in 2 cases the quantity of additionally consumed nitroglycerine tablets has not changed, that might have been caused by the initial gravity of the patient's state. As a result of therapy the reduction in the frequency of ischemia attacks on the average from 5.9 ± 0.7 episodes per day to 3.2 ± 0.6 episodes per day was observed, totalling 45.1%. At the same time significant reduction in the general duration of ischemia per day of supervision from 1673 ± 676 sec/day up to 364 ± 137 sec/day was marked and in average this decrease amounts to 69.2%. Besides, in patients with preserved episodes of ischemia throughout a day after the conducted treatment more than 50% reduction in the parameter of depression

of ST segment was observed. During the treatment also increase in tolerance to physical activity by 20-25% and performed work by 25-30% was marked. The level of cholesterol progressively decreased in the course of antioxidant therapy within 2 months and after the termination of antioxidants' application. The tendency was maintained for at least 4 more weeks. At the beginning of treatment the level of cholesterol on the average amounted to 5.71 ± 0.36 mmol/l, in 10 days after administration of vitamin E it made 4.78 ± 0.24 mmol/l; in 2 months of therapy – 3.92 ± 0.19 mmol/l and in a month after the termination of the therapy it was equal to 3.65 ± 0.22 mmol/l, being significantly ($p < 0.05$) below the initial level. Parameters of LDL and TG have changed similarly: before the treatment their level made 4.63 ± 0.26 and 3.45 ± 0.13 mmol/l, respectively; in 10 days after administration of vitamin E - 3.38 ± 0.24 and 2.40 ± 0.12 mmol/l and in 2 months - 2.66 ± 0.28 and 1.30 ± 0.10 mmol/l, accordingly. In a month after the termination of the therapy the given parameters were equal to 2.40 ± 0.26 and 1.17 ± 0.12 that is considerably less as compared to the initial parameters. On the contrary, the level of HDL prior to the beginning of treatment was equal to 1.14 ± 0.08 mmol/l, in 10 days after introduction of vitamin E it made 1.32 ± 0.07 mmol/l, in 2 months of therapy 1.47 ± 0.05 mmol/l and in a month after the termination of therapy – 1.53 ± 0.06 mmol/l. Inclusion of vitamin E in complex therapy of IHD has allowed to cease administration of nitroglycerine and calcium antagonists in 64.86% of cases (in 24 patients).

Thus, the possibility of decreasing not only the cholesterol level but also of LDL and TG and at the same time the increase of HDL level under the action of vitamin E is proved in the present study. It should be outlined that the above-mentioned changes are maintained in patients for a long time after the termination of reception of the preparation. Application of vitamin E in the therapy of heart ischemic disease promotes improvement of the clinical course of the disease, being expressed in the reduction in the quantity of ischemia episodes and their duration, decrease of quantity of consumed tablets of nitroglycerine, increase of the patient's tolerance to physical load.

სამედიცინო მეცნიერებანი

გერონტოლოგიური პაციენტების მკურნალობის ახალი მიდგომები სტენოკარდიის სინდრომით მიმდინარე გულის იშემიური დაავადების დროს

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ინტერესი ხანდაზმული ასაკის ადამიანების ჯანმრთელობის მდგომარეობისა და ცხოვრების ხარისხის მიმართ მკვეთრად გაიზარდა უკანასკნელ წლებში. ამჟამად დროს, ათეროსკლეროზის შესახებ არსებულ ძირითად თანამედროვე წარმოდგენებს შორის მზარდ მნიშვნელობას ანიჭებენ ცილოვან კომპონენტს. ჩვენი შრომის მიზანი იყო E-ვიტამინისა და პრეპარატ თრიოვიტის ეფექტურობის შესწავლა გერონტოლოგიურ პაციენტებში სტენოკარდიის დროს. პირველად არის დამტკიცებული არა მხოლოდ ქოლესტერინის, არამედ დაბალი სიმკვრივის ლიპოპროტეიდებისა და ტრიგლიცერიდების დონის დაწვევის, ხოლო მაღალი სიმკვრივის ლიპოპროტეიდების გაზრდის შესაძლებლობა E-ვიტამინის გამოყენების შედეგად, რაც შენარჩუნებული იყო მკურნალობის კურსის დამთავრების შემდეგ. აღნიშნული თერაპია ხელს უწყობს ავადმყოფთა კლინიკური მდგომარეობის გაუმჯობესებას, რაც გამოიხატება იშემიის ეპიზოდების რაოდენობისა და ხანგრძლივობის დაქვეითებაში, მიღებული ნიტროგლიცერინის აბების რაოდენობის შემცირებაში, ფიზიკური დატვირთვის მიმართ ტოლერანტობის დონის გაზრდასა და ტრადიციული ანტიანგიინალური პრეპარატების დოზების შემცირებაში.

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Received January, 2007