THE IMPORTANCE OF IODINE PROPHYLAXIS IN THE PREVENTION OF CARDIOVASCULAR DISEASES

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ABSTRACT

At present, mass, group, and individual iodine prophylaxis methods are being implemented to prevent iodine deficiency disorders. Mass iodine prophylaxis is the most effective and economically feasible approach to eliminating iodine deficiency, achieved by adding iodized compounds to commonly consumed food products such as table salt, bread, butter, milk, and drinking water. Group iodine prophylaxis involves the organized intake of iodine-containing preparations by specific population groups at the highest risk of developing deficiency-related disorders — including children, adolescents, pregnant women, and lactating mothers. Individual iodine prophylaxis refers to the use of preventive agents that ensure an adequate physiological intake of iodine by the body. However, the effectiveness of such preventive measures in terms of reducing coronary risk has not yet been fully evaluated..

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According to literature published in previous years, there was a clinical practice of using iodine preparations in the treatment of atherosclerosis, particularly in cases of angina pectoris. For this purpose, iodine compounds were administered in low doses — sodium iodide or potassium iodide at a dose of 0.3 grams, prescribed two to three times per day. Organic iodine preparations were also used, as they contained relatively small amounts of iodine and were therefore considered especially suitable for patients with atherosclerosis. Treatment courses typically lasted for 15 days each month and were repeated during all warm months of the year. In some cases, iodine was administered in combination with

ascorbic acid. The therapeutic effect of such treatment was attributed to the action of free iodine. This therapy was found to influence cholesterol metabolism, leading to a reduction in serum cholesterol levels [1]. In essence, this approach can be regarded as a form of **hypothyroxinemia therapy**. However, in the presence of autonomous thyroid alterations (most often observed after the age of 45–50), there is a risk of developing **iodine-induced thyrotoxicosis**, which may adversely affect cardiac function.

In the treatment and prevention of cardiovascular diseases (CVD), **iodine-bromine mineral waters** are widely used. It has been established that during the intake of such baths, iodine is absorbed through the skin and participates in several biological reactions, including the activation of the **peroxidase enzyme** and the reduction of the electrical resistance of **bilayer lipid membranes**, which in turn influences thyroid gland function [2]. However, there is no available evidence in the literature regarding the effectiveness of iodine-bromine waters for **primary prevention** of cardiovascular diseases in conditions of iodine deficiency.

The summarized data indicate that **iodine-containing agents** may exert beneficial effects in the treatment of cardiologic patients. Nevertheless, research aimed at correcting iodine deficiency from the perspective of **primary prevention** has been almost entirely lacking.

The fact that **ischemic heart disease (IHD)** — the main clinical form of atherosclerosis — develops insidiously at early stages, combined with its **high primary incidence** and the **significant mortality rate** resulting from complications such as **myocardial infarction and stroke**, underscores the urgent need for continued scientific research focused on the **prevention and treatment** of this pathology. Advancements in **experimental and clinical cardiology** have confirmed that the formation of atherosclerosis involves a complex network of **multiple pathogenetic mechanisms**. This multifactorial nature contributes to the **diversity of its clinical manifestations** and significantly complicates both **preventive** and **therapeutic** strategies [2, 3, 4]. At the same time, the issue of **iodine deficiency** remains a relevant **predictive factor** in the development of **cardiovascular diseases (CVDs)**. Particularly, the **systematic modeling** of the alterations occurring in the body under iodine-deficient conditions requires detailed analysis of **structural and functional interrelations** between metabolic and endocrine pathways. Moreover, considering the fact that **men are predisposed to the earlier onset of atherosclerosis**, it is essential to further investigate the **impact of iodine deficiency on the development of cardiovascular diseases in men**, especially at a young age. Such studies are of great importance for identifying **pathophysiological mechanisms**, refining **risk prediction models**, and developing more **targeted preventive interventions** aimed at reducing the global burden of cardiovascular disease

References:

1.Kushakovsky, M.S. Heart Arrhythmias. — St. Petersburg: Foliant, 2002. — pp. 97–104.

2.Knyazeva, T.A., Titova, G.A., & Gusarov, I.I. Justification for the Use of Iodobromine Baths Containing Molecular Iodine in Patients with Hypertension and Atherosclerosis of the Lower Extremity Vessels. // Questions of Balneology, Physiotherapy, and Therapeutic Physical Culture. — 2005. — No. 1. — pp. 16–19.

3.Arzamastseva, I.V. The Degree of Coronary Artery Stenosis and the Risk Factor Profile of Coronary Heart Disease in Men Over 60 Years Old with Postinfarction Cardiosclerosis. // From Research to Treatment Standards: Abstracts of the Russian National Cardiology Congress. — Moscow, 2003. — p. 19.
4.Borisov, I.A., Popov, L.V., Berezovets, I.G., & Stonogin, A.V. Features of Surgical Treatment of Young Patients with Coronary Heart Disease. // Cardiology. — 2004. — No. 1. — pp. 21–26.
5.Gaman, S.A., Sinitsin, V.E., & Balakhonova, T.V. Multifocal Atherosclerotic Changes in the Arteries of Patients with Coronary Heart Disease. // Regional Blood Circulation and Microcirculation. — 2004. — No. 2(3). — pp. 11–19.
6.Son, J. M. M. (2025). ATHEROSCLEROSIS: RECENT ADVANCES. Web of Medicine: Journal of Medicine, Practice and Nursing, 3(3), 497-510.
7.Son, Jurayev Muhammadkarim Mirzamomin. "ATHEROSCLEROSIS: RECENT ADVANCES." Web of Medicine: Journal of Medicine, Practice and Nursing 3.3 (2025): 497-510.
8.Muhammadkarim, Jo'rayev. "IODINE DEFICIENCY AND CARDIOVASCULAR DISEASES: A DEEP ANALYSIS." Web of Medicine: Journal of Medicine, Practice and Nursing 3.1 (2025): 100-107.
9.Muhammadkarim, J. R. (2025). IODINE DEFICIENCY AND CARDIOVASCULAR DISEASES: A DEEP ANALYSIS. Web of Medicine: Journal of Medicine, Practice and Nursing, 3(1), 100-107.
10.Sadikov, U. T., M. M. Jurayev, and N. Solijonova. "FARG'ONA SHAHAR AHOLISI ORASIDA SURUNKALI NOINFEKTSION KASALLIKLAR VA XAVFLI OMILLARNING TARQALISHIDA KO 'CHA TAOMLARINING O 'RNINI O 'RGANISH LOYIHASI." FORMATION OF PSYCHOLOGY AND PEDAGOGY AS INTERDISCIPLINARY SCIENCES 3.30 (2024): 294-296.
11.Sadikov, U. T., Jurayev, M. M., & Solijonova, N. (2024). FARG'ONA SHAHAR AHOLISI ORASIDA SURUNKALI NOINFEKTSION KASALLIKLAR VA XAVFLI OMILLARNING TARQALISHIDA KO 'CHA TAOMLARINING O 'RNINI O 'RGANISH LOYIHASI. FORMATION OF PSYCHOLOGY AND PEDAGOGY AS INTERDISCIPLINARY SCIENCES, 3(30), 294-296.
12.Jurayev Mirzamo'min o'g, Muhammadkarim. "REVMATIZM KASALLIGINI DAVOLASHNING YANGICHA USLUBLARI." Новости образования: исследование в XXI веке 3.31 (2025): 572-575.
13.Jurayev Mirzamo'min o'g, M. (2025). REVMATIZM KASALLIGINI DAVOLASHNING YANGICHA USLUBLARI. Новости образования: исследование в XXI веке, 3(31), 572-575.