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CLINICAL AND EPIDEMIOLOGICAL FEATURES OF LONG-LIVED PATIENTS WITH ISCHEMIC HEART DISEASE AND STRATEGIES FOR IMPROVING DIAGNOSIS AND PREVENTION

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Resume: Aging is an important risk factor for coronary heart disease (CHD) because the likelihood of cardiovascular disease increases with age. Increasing life expectancy, especially among the elderly, is associated with an increased incidence of CHD. The main risk factors include heredity, climatic conditions, as well as high cholesterol, diabetes mellitus, smoking and overweight. Long-term survivors often have chronic diseases, weakened immune system and digestive system disorders. Research on the epidemiology and prevention of IBS in the elderly remains a poorly reported topic.

Key words: diabetes mellitus, smoking, overweight, stress, cholesterol, hyperlipidemia, angina pectoris.

Introduction:Most researchers agree that aging is a significant risk factor for the development of ischemic heart disease (IHD), as the likelihood of cardiovascular conditions increases with age. The growing life expectancy, particularly among elderly individuals, has been associated with a higher incidence of IHD. The main risk factors include heredity, climatic conditions, high cholesterol levels, diabetes mellitus, smoking, and excess body weight. Long-lived individuals often suffer from chronic diseases, weakened immune systems, and impaired digestive function. This underscores the need for a more in-depth investigation of the clinical and epidemiological characteristics of IHD and the optimization of methods for early diagnosis, prognosis, and prevention in older age groups.

Objective of the Study: To determine the prevalence of obesity, arterial hypertension, and small intestinal bacterial overgrowth syndrome (SIBO) among patients with low cardiovascular risk according to the SCORE scale.

Materials and Methods: The study included patients without signs of atherosclerosis, classified as having low cardiovascular risk based on the SCORE scale. Abdominal obesity was defined according to the IDF 2023 criteria. All participants underwent a comprehensive clinical examination, including lipid profile analysis and glycemic level assessment. SIBO was diagnosed using the hydrogen breath test with lactulose.

Results: Recent studies emphasize the significant role of both internal and external risk factors, as well as climate-geophysical and atmospheric processes, in the development of ischemic heart disease (IHD). Older adults and long-lived individuals exhibit specific

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physiological characteristics: they are more prone to chronic diseases, weakened immune function, reduced metabolic rate, and digestive system disturbances. Common health issues among long-livers include immune suppression, cardiovascular and neurological disorders, and impairments in digestion and sleep. The most prevalent cardiovascular diseases in this population are hyperlipidemia, angina pectoris, myocardial infarction, hypertension, and stroke. Major risk factors for the development of IHD include high cholesterol, diabetes mellitus, smoking, excess body weight, and stress. Despite the increasing number of long-livers, the epidemiology and prevention of IHD in this group remain insufficiently studied and underreported. Ongoing preventive and therapeutic interventions for cardiovascular diseases have contributed to changes in the age structure of the population.

According to forecasts, by 2030 the proportion of individuals above working age in the Russian Federation will increase to 29.1% of the total population. Consequently, the prevalence of ischemic heart disease (IHD) is expected to rise. In this context, one of the most important areas of focus becomes the assessment of the contribution of risk factors (RFs) to IHD morbidity and mortality among the elderly population. A distinct feature of this age group is the simultaneous presence of multiple RFs, which tend to amplify each other's effects. Nevertheless, the prevalence of arterial hypertension and obesity increases with age, whereas the proportion of smokers and individuals with hypercholesterolemia tends to decline. Additionally, the correlation between certain RFs and mortality weakens with age, which is attributed to the "survivor effect"—the early mortality of individuals with a poor prognosis. These specific features of IHD progression in the elderly highlight the necessity of developing an integrated methodological approach to the organization of medical care. [1]

The study included 45 patients (mean age 91 ± 9 years; BMI 27 ± 5 kg/m²; 47% women). The mean lipid profile values were: total cholesterol (TC) 5.4 (1) mmol/L, LDL cholesterol 3.8 (1) mmol/L, HDL cholesterol 0.98 (0.3) mmol/L, triglycerides (TG) 2.5 (0.5) mmol/L, and glycemia 5.3 (0.2) mmol/L. Abdominal obesity was observed in 27 patients (60%), among whom 11 (41%) were overweight and 12 (44%) were obese. The mean waist circumference (WC) in the group with abdominal obesity was 91.5 (7) cm for women and 103.8 (9) cm for men. Small intestinal bacterial overgrowth (SIBO) was diagnosed in 13 patients (29%), 7 of whom also had signs of abdominal obesity. Stage 1–2 arterial hypertension was identified in 45% of participants. Correlation analysis revealed that the presence of SIBO was associated with elevated high-sensitivity C-reactive protein (hsCRP) levels ($r = 0.3$; $p < 0.05$), while abdominal obesity was significantly associated with arterial hypertension ($r = 0.6$; $p < 0.05$), myocardial hypertrophy ($r = 0.5$; $p < 0.05$), dyslipidemia ($r = 0.4$; $p < 0.05$), and elevated hsCRP levels ($r = 0.4$; $p < 0.05$).

Most researchers agree that aging can be considered a significant risk factor, as there is a direct correlation between the incidence of ischemic heart disease (IHD) and the age of the population. The observed increase in life expectancy is largely attributed to a decline in mortality rates among older age groups, primarily from IHD [2]. There are more than a hundred theories explaining the causes of aging, with heredity and environmental factors being the most widely accepted. The hereditary theory posits that aging is an intrinsic property of the organism: over time, the biological processes of regression — growth, development, maturity, aging, and death — are inevitable outcomes. In recent years, the observed increase in life expectancy and aging of the population — including in Uzbekistan

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— has been accompanied by a rise in cardiovascular diseases, particularly a growing prevalence of IHD. As a result, the study of the modern clinical and epidemiological characteristics of IHD, as well as the development of effective approaches for early diagnosis, prediction, and prevention in elderly populations, has become increasingly relevant.

Recent studies emphasize the significant role of internal and external risk factors, including climatic, geophysical, and atmospheric processes, in the development of ischemic heart disease (IHD). Elderly individuals and long-livers exhibit specific physiological characteristics: they are prone to chronic diseases, a decline in immune system function, reduced metabolic rate, and alterations in digestive system function [3].

In other words, the main health issues among long-livers include weakened immune function, diseases of the cardiovascular and central nervous systems, digestive disorders, and sleep disturbances.

The most common cardiovascular conditions affecting long-livers are hyperlipidemia, angina pectoris, myocardial infarction, hypertension, and cerebral infarction. These conditions are characterized by high prevalence, significant disability rates, substantial healthcare costs, and a notable decrease in quality of life. Key risk factors for the development of IHD in long-lived individuals include elevated cholesterol levels, diabetes mellitus, smoking, overweight, and stress.

Despite the steadily growing population of long-livers, the epidemiology and prevention of ischemic heart disease (IHD) in these groups remains a relatively underexplored and underreported area of study. Prevention of IHD is typically categorized into primary and secondary prevention strategies [3].

Primary prevention aims to prevent the development of atherosclerosis and IHD by eliminating or mitigating modifiable risk factors. The main reversible risk factors include smoking, arterial hypertension, and hyperlipidemia (elevated cholesterol levels).

Conclusion.The group classified as having low cardiovascular risk according to the SCORE scale is heterogeneous. Abdominal obesity and its associated markers of inflammation and atherogenesis are significant indicators of this heterogeneity. The identification of non-traditional risk factors among asymptomatic patients highlights a higher-than-expected risk of cardiovascular disease within this population.

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