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MODERN CLINICAL FEATURES OF THE DEVELOPMENT OF ISCHEMIC HEART DISEASE IN PATIENTS WITH DIABETES MELLITUS

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Relevance

Diabetes mellitus is one of the most significant public health problems worldwide and remains a major risk factor for cardiovascular diseases, particularly ischemic heart disease. The prevalence of ischemic heart disease among patients with diabetes mellitus is substantially higher than in the general population, contributing to increased morbidity and mortality rates.

Metabolic disturbances associated with diabetes, including chronic hyperglycemia, dyslipidemia, oxidative stress, and endothelial dysfunction, accelerate the development of atherosclerotic lesions in the coronary arteries. In addition, ischemic heart disease in patients with diabetes often presents with atypical or silent clinical manifestations, which complicates early diagnosis and timely intervention.

Therefore, understanding the modern clinical features of ischemic heart disease development in patients with diabetes mellitus is essential for improving early detection, risk stratification, and the implementation of effective preventive and therapeutic strategies.

Purpose of the Study. The purpose of this study is to investigate the modern clinical features of ischemic heart disease development in patients with diabetes mellitus, to identify key risk factors and patterns of disease progression, and to

provide recommendations for early diagnosis and effective preventive and therapeutic strategies.

Materials and Methods. The study included patients diagnosed with diabetes mellitus who were evaluated for the presence and progression of ischemic heart disease. Patients were examined at Central Asian Medical University, Fergana.
Clinical assessment included a detailed patient history, evaluation of cardiovascular risk factors, and physical examination.
Laboratory investigations comprised assessment of blood glucose, glycated hemoglobin (HbA1c), lipid profile, and other relevant biochemical parameters.
Instrumental diagnostic methods included electrocardiography (ECG) to detect myocardial ischemia and rhythm disturbances, echocardiography to assess cardiac structure and function, and, when indicated, stress testing or coronary imaging.
The collected data were statistically analyzed to determine the prevalence, clinical manifestations, and pathophysiological characteristics of ischemic heart disease in patients with diabetes mellitus, as well as to identify key factors contributing to disease progression.

Results. The study of patients with diabetes mellitus revealed a significantly higher prevalence of ischemic heart disease compared to the general population. Clinical evaluation showed that ischemic heart disease in these patients often manifests with atypical or less pronounced symptoms. Unlike classic angina pectoris, many patients reported mild chest discomfort, fatigue, shortness of breath, palpitations, and reduced exercise tolerance**.** In several cases, ischemic changes were detected during instrumental examinations even in the absence of

clear clinical symptoms, indicating the occurrence of silent or subclinical myocardial ischemia**.**

Laboratory findings highlighted persistent metabolic disturbances. Elevated glycated hemoglobin (HbA1c) levels and dyslipidemia, including increased total cholesterol, low-density lipoprotein (LDL), and triglycerides, were commonly observed. These abnormalities were closely associated with the severity of coronary artery involvement and the progression of ischemic heart disease. The data suggest that chronic hyperglycemia and lipid metabolism disorders accelerate atherosclerotic processes in the coronary arteries, contributing to earlier onset and more complex clinical presentations.

Instrumental examinations provided further insight into the pathophysiological changes. Electrocardiographic assessments frequently revealed ST-segment changes, signs of myocardial ischemia, and occasional rhythm disturbances. Echocardiography demonstrated structural and functional alterations, including left ventricular hypertrophy, reduced myocardial contractility, and diastolic dysfunction, which are indicative of long-term metabolic and vascular damage. In some patients, stress testing or coronary imaging confirmed the presence of coronary artery stenosis, even when symptoms were minimal.

Overall, the results indicate that ischemic heart disease in patients with diabetes mellitus exhibits specific clinical and pathophysiological patterns. The combination of metabolic disorders, endothelial dysfunction, and accelerated atherosclerosis leads to earlier disease onset, atypical symptom presentation, and increased risk of complications**.** These findings underscore the necessity for comprehensive cardiovascular evaluation and proactive management in diabetic patients, even in the absence of classical symptoms.

Conclusion

The study demonstrates that diabetes mellitus significantly influences the development, clinical presentation, and pathophysiological mechanisms of ischemic heart disease. Patients with diabetes frequently exhibit atypical or silent symptoms, which complicates early diagnosis and timely intervention.

Metabolic disturbances, including chronic hyperglycemia and dyslipidemia, along with endothelial dysfunction, accelerate atherosclerotic changes in the coronary arteries. These pathophysiological alterations contribute to earlier onset, more severe progression, and increased risk of cardiovascular complications in diabetic patients.

Therefore, comprehensive clinical evaluation, early detection of cardiovascular risk factors, and regular monitoring are essential for the prevention and management of ischemic heart disease in this population. Proactive therapeutic and preventive strategies tailored to the specific clinical and pathophysiological features of diabetic patients can significantly reduce morbidity and improve long-term cardiovascular outcomes.