

# CARDIOVASCULAR DISEASES: PREVENTION, CAUSES AND METHODS OF TREATMENT

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## Abstract

This article considers the significance, etiology, clinical symptoms, diagnosis and treatment methods of cardiovascular diseases in the modern healthcare system. risk factors of diseases such as ischemic heart disease, myocardial infarction and hypertension, including modifiable and non-modifiable factors, are analyzed in detail. illuminates the role of atherosclerosis and pathophysiological processes in the development of cardiovascular diseases. the importance of laboratory tests used in the diagnosis of diseases is also emphasized. the article pays special attention to preventive measures, explains the importance of following a healthy lifestyle and controlling risk factors. The research shows the need for a comprehensive approach to effectively manage cardiovascular diseases.

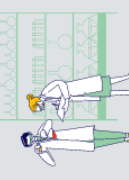
**Keywords:** Ischemic heart disease, myocardial infarction, heart attack, hypertension, pathophysiology, diagnosis, modification and prevention.

## Introduction

Cardiovascular diseases occupy a large place in the global health system. According to the World Health Organization, 17.9 million people die of this disease every year. This group of diseases includes pathologies associated with heart and blood vessel disorders, including: - Ischemic heart disease -Myocardial infarction -Infarction -Hypertension, etc.

Ischemic heart disease is characterized by myocardial ischemia and coronary circulation disorders. Ischemic heart disease is mainly caused by the lack of blood circulation in the heart muscles as a result of atherosclerosis of the coronary (coronary) arteries, and because of this, the heart does not receive blood. Ischemic diseases of the heart include stenocardia (initial, stable, unstable), myocardial infarction, post-infarction cardiosclerosis, arrhythmic type and heart failure. Ischemic heart disease. is a serious heart disease that develops regularly. As the age increases, the occurrence of the disease increases.

Myocardial infarction is a necrosis (local death) of the heart muscle layer as a result of blockage of the coronary arteries by a thrombus or their compression, as a result of a violation of blood supply to the heart muscle layer. This disease affects people aged 45-60. Men suffer from myocardial infarction more often than women, men aged 40-50 are five times more sick. In recent years, the incidence of myocardial infarction is increasing. Myocardial infarction is especially common among people aged 45-60. Men suffer from myocardial infarction more often than women. Men aged 40-50 are sick five times more often. On average, women get sick 10-15 years later than men. There are also many people who have suffered myocardial



infarction among young people under the age of 40. Myocardial infarction is more common in patients with atherosclerosis, hypertension, and diabetes.

Infarction (Latin: *infarcire* "to fill, clog") is tissue death (necrosis) due to insufficient blood supply to the affected area. This can be caused by arterial blockages, rupture, mechanical compression or vasoconstriction, embolism, long-term spasms of arteries, and functional overload of the organ in conditions of hypoxia. The resulting lesion is called an infarct.

Hypertension-arterial hypertension, idiopathic arterial hypertension is a common (up to 75%) increase in arterial blood pressure in humans. Reasons: various acute or chronic mental (emotional) disorders, hereditary or professional factors, non-compliance with the diet, etc.

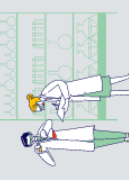
G.k. depending on the clinical course, it is of two types: 1) silent, lasting for a long time, 2) severe, rapidly developing form that causes brain, kidney failure, and a sharp decrease in vision in a short period of time.

The classification of G.k. adopted by the World Health Organization in 1978 consists of the following stages: Stage I, the blood pressure indicator is higher than 140/90 mmHg (for example, 150-180/90-105) central nervous system, cardiovascular and without signs of damage to the kidney system, it does not last long and after the patient recovers from the suffering and the blood after drinking antihypertensive and sedative drugs and giving the body a certain period of rest, its condition will improve and the arterial pressure indicators will soon moderate.

In stage II, the systolic value of arterial pressure can be equal to 160-179 mm Hg, and the diastolic value can be equal to 100-109 mm Hg and even higher. At this stage, the pathological change is determined mainly by the hypertrophy of the left ventricle of the heart, as well as diffuse or focal narrowing of retinal vessels, microalbuminuria, i.e., a partial increase in the concentration of protein in the urine and keratin in the blood plasma (1.2-2.0 mg/dl). Atherosclerotic changes (platelets) can be detected by ultrasound examination or angiography (carried out in femoral arteries, aorta, iliac and femoral arteries). Clinical complaints often consist of headaches, dizziness (hypertensive crises), pain in the heart area, discomfort.

In the III stage, blood pressure indicators in patients are higher (systolic-180-209 mm, and diastolic equal to and higher than 110-119 mm Hg) and constant. The clinical picture of this stage is diverse, pathological changes are observed not only in the cardiovascular system (angina, myocardial infarction), but also in the blood vessels of the brain (hemorrhagic stroke, encephalopathy), kidney failure (nephroangiosclerosis), and retinal hemorrhage. When such severe complications occur, blood pressure can decrease or even normalize.

The correct diagnosis of GK depends on the elimination of the causes of secondary arterial hypertension in the patient. G.C. treatment is a complex and long, continuous process, which requires the patient to strictly follow the doctor's instructions. First of all, the patient should change his life activities, diet, work and rest regimes, for example, stop drinking alcohol and smoking, eat less salty and fatty foods, avoid obesity, drink less liquid, do light physical exercises: walk a little, jogging slowly (pulse is measured), skiing, using an exercise bike, spending productive days off (out of town go out, breathe fresh air, sleep well), engage in self-



training, try to stay away from various nervous and mental emotions. Psychotherapy, hyperbaric oxygenation, electrosleep, acupuncture and massage methods should also be used. Treatment with drugs is carried out based on the instructions of a family doctor or a cardiologist. Now. There are many types and numbers of drugs that lower blood pressure. Taking into account the stage of G.k., the attending physician recommends one or more hypotensive drugs for a certain period of time, taking into account the patient's condition, and regularly monitors the results of the treatment.

Etiology and risk factors. The following factors can cause the development of cardiovascular diseases:

1. Modifiable risk factors: Smoking, poor diet (increased consumption of fatty and sweet foods), inactivity, overweight or obesity
2. Non-modifiable risk factors: age (the risk increases in those over 50, gender (more common in men), genetic predisposition

Pathophysiology. CHD is usually associated with the process of atherosclerosis, in which cholesterol and other substances accumulate on the walls of blood vessels. This leads to a violation of blood circulation, increased oxidative stress and inflammatory processes.

Clinical symptoms: chest pain or tightness (angina), increased blood pressure, shortness of breath, heart rhythm disturbances.

### **Diagnostics:**

1. Laboratory tests: Determination of blood lipid levels (LDL, HDL, triglycerides).
2. Instrumental investigations: electrocardiography (ECG), coronary angiography, echocardiography

Treatment

1. Medicines: antihypertensive drugs (beta-blockers, ACE inhibitors), statins (to lower cholesterol levels)

Anticoagulants (to prevent blood clots)

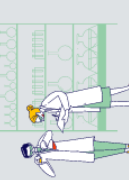
2. Surgical methods: Coronary bypass surgery, stent installation
3. Changing lifestyle: Healthy eating, increasing physical activity

Prevention: giving up unhealthy habits (smoking and drinking), maintaining a normal weight, having a cardiologist examination at least once a year

To control and prevent cardiovascular diseases, it is important to promote a healthy lifestyle, strengthen preventive measures and use quality treatment methods. Management of these diseases is important not only for individuals, but also for the global health system.

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