

HEART DISEASES AND MEASURES TO PREVENT THEM

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Annotation. Cardiovascular diseases (CVD) of atherosclerotic origin, especially coronary heart disease (CHD), remain the leading cause of premature death worldwide. According to epidemiological studies, the prevention of CVD is highly effective. A 50% reduction in mortality from coronary artery disease is associated with interventions on risk factors and only 40% with improved treatment. Prevention of CVD is a coordinated effort at the community and individual levels aimed at eliminating or minimizing the impact of CVD and associated disability. Preventive measures should be carried out throughout life, from birth to old age.

Keywords: heart defects, biological effects, septic endocarditis, circulatory system, blood, alcohol, smoking, coronary artery.

Introduction. Heart defects — persistent defects, deficiencies and changes in the anatomical structure of the heart; interferes with normal blood flow. Congenital and acquired heart defects are distinguished. Congenital heart defects occur as a result of improper formation of the fetal heart and large vessels of the heart during embryonic development. In the early period of pregnancy, the mother's body is poisoned, suffering from some diseases, biological effects of ionizing rays, hereditary diseases, etc. During infancy (up to 1 year), incomplete development of the cardiovascular system (for example, open arterial passages or incomplete completion of the foramen ovale) is also included in heart defects. Common types of congenital heart defects: large and small circulation Abnormal paths of various combinations between the circles, as well as narrowed or blocked areas in the large vessels of the heart (for example, the pulmonary artery and aorta), or the wrong location of these vessels; mixed vices; defects related to the number and structure of heart chambers. Depending on the degree of mixing of arterial and venous blood, some congenital heart defects occur with cyanosis (blue defects) and some without cyanosis (white defects). It depends on the direction in which the blood flows through the inappropriate holes connecting the large and small circulation circles (the direction of the shunt), the level of pressure increase in the pulmonary artery, and the condition of the heart muscles. A child's physical maldevelopment, paleness or blueness, shortness of breath, changes in the size and position of the heart, heart murmurs, etc. are typical signs of congenital heart defects. Acquired heart disease occurs during life as a result of heart disease, mostly rheumatic carditis, sometimes atherosclerosis, septic endocarditis, wounds, etc. Acquired heart defects:

non-tight closing of the heart valves (at the time of closing); narrowing (stenosis) of the hole between the ventricles (right and left ventricles) or the outlet of the main vessels; these defects are mixed, there is a defect in one or more valves, etc. There are mitral (opening between the left ventricle and the ventricle and bicuspid valve), aortic, mitral-aortal and other heart defects. In heart defects, due to valve defects, blood partially flows back or as a result of straining through a narrowed hole, the muscular wall of the heart thickens (hypertrophy), then the force of contraction weakens, and its spaces expand (dilatation). As a result, blood circulation is derailed - blood circulation failure occurs. Acquired heart disease can occur quickly or slowly over a long period of time.

In Europe, about 3 million people die every year from cardiovascular diseases (CVD), in the USA - 1 million, 1/4 of those who die from CVD are people under the age of 65 years. In Russia, mortality rates from diseases of the circulatory system account for about 55% of the total mortality of the population and are currently the highest in the world. In our country, approximately 90% of deaths from CVD are caused by coronary heart disease (CHD) and stroke. Mortality rates in Russia exceed mortality rates in economically developed countries by 3 or more times. Unfortunately, in Russia people of working age suffer from cardiovascular diseases, which affects economic and social condition of our country. In such a situation, it is necessary to activate the disease prevention system both at the state level and at the level of practical health care services. The greatest clinical significance in terms of prevalence, impact on health, life expectancy and working ability of the population among cardiovascular diseases are hypertension, angina pectoris, myocardial infarction, stroke, and cardiac arrhythmias. These diseases develop gradually, due to the influence of certain factors on the human body. As a result, the concept of risk factors is identified. Risk factors are features of a person's life that contribute to the development, progression and manifestation of the disease. All risk factors can be divided into removable (or modifiable) and irreducible (non-modifiable). Avoidable are risk factors that can be eliminated or dealt with in one way or another.

These include: excessive alcohol consumption, smoking, poor nutrition, psychosocial stress, and low physical activity. They influence the development of arterial hypertension, dyslipidemia, and obesity. Fatal are risk factors that cannot be eliminated. These include: age, gender, hereditary predisposition.

Arterial hypertension. Arterial hypertension is one of the main risk factors for the development of CVD. Approximately 25% of the adult population suffers from hypertension; in the older age group, this number is continuously increasing due to lack of adherence to treatment, non-compliance - the patient's voluntary adherence to the prescribed regimen. A quarter of patients do not know about the disease they have, and 15% are treated ineffectively. A quarter of the patients did not consult a specialist and never took antihypertensive drugs, although they often noted an increase in blood pressure. In 60% of patients there is a moderate increase in blood pressure, 3/4 of them have symptoms of this disease: headache in the occipital region, tinnitus, dizziness, 1/4 have no complaints at all.

Increased cholesterol levels. In the development of CVD, an important point is the presence of atherosclerosis in the patient. Atherosclerosis is a pathological process in which cholesterol and its fractions are deposited on the walls of blood vessels. Atherosclerosis is caused by an increase in the level of total cholesterol in the blood, as well as LDL. This occurs due to malnutrition, poor diet, and disturbances in protein and lipid metabolism [1, p. 20].

Cholesterol accumulates in blood vessels and is deposited on its walls, which leads to the formation of atherosclerotic plaques.

Primary prevention includes a rational regime of work and rest, increasing physical activity, limiting table salt, giving up alcohol and smoking, reducing caloric intake and body weight. In fact, it is primary prevention that allows one to maintain rational conditions for human life. In essence, primary prevention of CVD includes a population strategy and a high-risk strategy.

Secondary (drug and non-drug) prevention is carried out differentiatedly with groups of patients with verified CVD in order to prevent relapses of diseases, the development of complications in people with realized risk factors, reduce morbidity and mortality from these diseases, and improve the quality of life of patients. According to WHO, three main risk factors make the greatest contribution to the risk of sudden death: hypertension, hypercholesterolemia (dyslipidemia) and smoking.

10 Essential Measures to Prevent Cardiovascular Diseases

Healthy eating. It implies a reduction in the daily diet of fatty and fried foods, confectionery fats, caffeine, salt, sugar, chicken eggs, and the introduction of sea fish, lean poultry (without skin), legumes, and whole grain cereals. It is important to increase the amount of vegetables, fruits and berries in your diet in an amount of at least 500 grams daily.

Fighting excess weight. All people should monitor their weight; if it increases, they must follow a low-calorie diet and exercise. It is important to know your body mass index (BMI), which according to the World Health Organization (WHO) classification should normally be 18.5 – 25 weight in kg/height in m

Fighting physical inactivity. Walking in the fresh air (for at least 30 minutes daily), playing sports and physical exercise with adequate exercise, avoiding frequent use of a car or elevator - all this reduces the risk of developing pathologies of the heart and blood vessels.

Rejection of bad habits. It involves independently quitting smoking, alcohol, drugs, or getting rid of these harmful addictions with the help of special treatment.

Fighting stress. The ability to adequately respond to minor troubles, pleasant communication with like-minded people and practicing hobbies, proper work and rest hours, normal sleep, music therapy - all these measures will help reduce the number of stressful situations.

Self-monitoring of blood pressure and its timely reduction. This involves regularly measuring blood pressure according to the recommendations of the European Society of Cardiology or, if alarming symptoms occur, systematically taking medications prescribed by a doctor. Normally, blood pressure should not exceed 140/90 mm Hg. Art.

Systematic preventive examination. People who are at risk for developing pathologies of the heart and blood vessels or who notice an increase in blood pressure when measuring it independently, need to visit a doctor in a timely manner, follow his recommendations and conduct preventive examinations (measurement of blood pressure, pulse, ECG, Echo-CG, blood tests, etc. .).

Regular monitoring of blood cholesterol levels. All people over 30 years old should have their blood cholesterol levels tested annually. The maximum permissible level of cholesterol in the blood is 5 mmol/l.

Regular monitoring of blood sugar levels. People over 40-45 years old should have their blood tested for sugar annually. The maximum permissible blood sugar level is 6.1 mmol/l.

Taking medications. It involves taking medications prescribed by a cardiologist for those people who are at risk for developing pathologies of the heart and blood vessels.

Conclusion. The daily tasks of doctors include not only the effective treatment of patients with existing pathology, which ensures the prevention of complications, but also the early identification of “healthy patients” who have risk factors and planning preventive measures on this basis. An integral part of measures to prevent cardiovascular complications should be increasing the educational level of patients.

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