

hypertension and a long history of type 2 DM). The glycemic profile had tendency to improvement in 7 patients (RI and glucose intolerance decreased), in patients with DM, the effectiveness of hypoglycemic therapy increased. Necessity of increase the doses of hypoglycemic drugs was not occurred. During the three-week observation, there was a tendency to reduce the dyslipidemia (unreliable decrease in the level of TG and LDL). Microalbuminuria also decreased by average $17\pm 3.2\%$. Adverse reactions were noted in 5 patients: peripheral edema - in 2, a feeling of heat ("hot flashes") - in 2, a feeling of rapid heartbeat - in 1, headache - in 1 patient. Their severity was insignificant and did not require discontinuation of the treatment. Clinically, there was an improvement in the general condition of patients, increase tolerance to physical activity. All patients were discharged with improvement and recommendations to continue the use of complex treatment with amlodipine at the individually adjusted dose under BP control.

Conclusion. Thus, the use of amlodipine in the complex treatment of AH in patients with MS at a dose of 5-10 mg is effective and safe for the glycemic and lipid profile of patients.

The use of amlodipine contributes to the effective decrease in SBP, DBP, the level of microalbuminuria by improving the function of the glomeruli of renal nephrons, favorably affects the levels of glycemia and lipidemia, reduces blood plasma atherogenicity, does not have a stimulating effect on sympathetic activity, improves the quality of life of the patient, helping to reduce coronary risk.

THE IMPACT OF STRESS ON THE CARDIOVASCULAR SYSTEM OF THE HUMAN BODY

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Every day a person is exposed to stressful factors that directly affect both his emotional and physical health.

Stress is a nonspecific reaction of the body to the suprathreshold effect of a stimulus, as well as the response of our nervous system. Conventionally, it can be divided into good - eustress, bad - distress, and short-term and chronic stress.

As for the short-term, it is believed that it has positive effects on the body, namely, it increases resistance to irritants, trains the nervous system, and helps to bear negative emotions more easily, allows concentration and mobilization of forces. Chronic stress has a detrimental effect on the body, affecting both one and several organ systems. One of the most sensitive to the influence of a stress factor is the cardiovascular system, which contributes to the further development of such diseases as arrhythmias, atherosclerosis, coronary heart disease, myocardial infarction, and others.

Goal consists in conducting an analysis of the impact of stress on the cardiovascular system and the risk of developing diseases on the side of the heart at any age of a person.

Severe stress affects both physiological and neurohumoral reactions of the body. The autonomic nervous system is directly affected, the parasympathetic system is suppressed and the sympathetic system is activated. Under the predominance of the influence of the sympathetic system, there are changes in the hormonal fund, the so-called increase in the release of "stress" hormones, namely ACTH, adrenaline, norepinephrine, and cortisol.

There is also an increase in the amount of catecholamines in the blood, activation of alpha1- and beta-adrenoceptors, and an increase in the concentration of renin, which leads to an increase in the tone of arterioles, an increase in heart rate and blood pressure.

Thus, we can highlight the main prerequisites for changes in cardiac activity, namely:

- Changes in blood pressure and heart rhythm. Against the background of stress, the heart rate increases, sometimes a person can feel an attack of his own heartbeat. Vessels are also affected, there is a decrease in the elasticity of the walls of the arteries, which leads to a violation of their functions. An additional unfavorable factor is the presence of atherosclerotic deposits in the lumen of vessels, which leads to their spasm, disruption of blood flow and a feeling of lack of oxygen.

- Condition of blood vessels. The constant impact of stress on the body leads to an increase in the level of cytokines, mediators of inflammation, which affect cardiomyocytes and are capable of damaging and destroying heart tissue. The mechanism of damage is similar to ischemic damage to the heart muscle, but greater destruction occurs in vessels. Due to the constant overexcitation of the nervous system and the dominance of the sympathetic link due to stress factors, there is a long-term narrowing of all microvessels, which leads to an immune response, immune cells begin to react, due to which the spasm of blood vessels increases even more, and this leads to arterial hypertension.

- Increasing the level of calcium and its accumulation. From the first minutes of stress, the cells of the myocardium begin to accumulate calcium, to which the body reacts by accumulating proteins, the growth and renewal of cellular structures, and the strengthening of contraction of muscle fibers. But an excessive concentration of calcium leads to cell death, which can cause a cardiotoxic effect.

It is also worth noting that in addition to the occurrence of arrhythmias, coronary heart disease, atherosclerosis, stress directly affects the development of a heart attack at any age.

It is believed that an important role in the emergence of the "stress-heart attack" connection is played by the excessive dominance of the sympathetic nervous system, which causes the following changes:

- An imbalance between the supply of oxygen to the heart and its consumption.

- Changes in blood coagulation indicators, namely increased coagulation (increased number of platelets), and a decrease in the body's resistance to this phenomenon.

- Changes in blood pressure and heart rhythm, development of arrhythmias.

Not so long ago, Swiss scientists conducted research on the "broken heart syndrome". According to them, chronic psychological stress can cause acute dysfunction of the left ventricle, which is not long-term, but transient.

Triggers for the development of the syndrome are negative, sharp emotions, and excessive positive and joyful moments. British scientists believe that the development of the syndrome is also associated with an increase in stress hormones, namely adrenaline. The first signs of the syndrome are an attack of chest pain and the development of heart failure. The observed changes on the ECG are the same as in myocardial infarction of the anterior wall of the LV.

From an ordinary heart attack, "broken heart syndrome" differs in blocking the flow of blood due to the presence of a blood clot in the coronary arteries. As for the symptoms, they are extremely similar, there is difficulty breathing and pain in the chest area. The syndrome can be a temporary phenomenon, that is, after a few days, weeks or months, the heart muscle recovers its function, but there are cases when the development of the syndrome leads to death.

Conclusion. Stress is an integral part of our life, which definitely affects our body and well-being. One of the most sensitive systems is the cardiovascular system, which is why such diseases as arrhythmias, atherosclerosis, coronary artery disease, acute myocardial infarction, and others can develop.

We cannot eliminate stress from our lives, because a person is constantly exposed to negative or positive emotions, but we can control our own perception of certain situations and protect our mental health.

INSULIN RESISTANCE AS AN ETIOPATHOGENETIC LINK OF ARTERIAL HYPERTENSION IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

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Introduction. Type 2 diabetes and hypertension belong to the disease-causing civilization, and have an annual tendency to progress and increase in the population, as evidenced by various scientific sources. In 2018, a group of scientists from the USA using a dynamic Markov model came to the conclusion that by 2060, the number of diabetes patients in the country will increase from 22.3 million to 60 million. As you know, arterial hypertension and type II diabetes are interrelated, and the number of registered hypertension diseases is also increasing.

Goal. To study, research and scientifically substantiate insulin resistance as the main link in the development of arterial hypertension in patients with type II diabetes.