• 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

Marchenko V.I., Khukhlina O.S., Hryniuk O.Y.

Bukovinian State Medical University,

Chernivtsi-city, marchenko.vladyslav.mf1@bsmu.edu.ua

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.

Materials and methods. With the help of a search in various scientific and statistical databases and portals (Google Scholar, Springer Link, PubMed), a systematic analysis of articles and publications on the selected topic was carried out, followed by a synthesis of information, in accordance with the set goal and the formation of conclusions.

The results. In 2017, a retrospective study was conducted in Bangladesh, during which the data of 1252 patients with type II diabetes were collected and analyzed. The average age of the patients was 55 years. Hypertension was detected in 67% of participants, and 95.8% knew about it. Insulin is a pancreatic hormone that participates in metabolic and other regulatory processes of the body, such as: the exchange of lipids, proteins, and carbohydrates; neurohumoral regulation of the sympathetic nervous system, ion and amino acid transport, cell cycle processes and vascular function (effect on the endothelium).

As a result of impaired functioning of specific GLUT-4 receptors, insulin resistance occurs, which subsequently leads to the development of type II diabetes, and all the above-mentioned functions of insulin are impaired, resulting in a metabolic imbalance. The consequence of cell resistance to insulin is compensatory hyperinsulinemia, which is the immediate cause of the development of hypertension in this cohort. The role of insulin resistance in the activation of components of the renin-angiotensin-aldosterone system, which is locally located in adipose tissue, has been proven. Hyperglycemia, in turn, is involved in stimulating the production of angiotensin II, which causes the reabsorption of Na and is a powerful vasoconstrictor.

Angiotensin II, mediated through NADH, stimulates the production of reactive oxygen species in the endothelium of vessels, which leads to a decrease in the bioavailability of NO, and as a result, not only endothelium-dependent vasodilation is disturbed, but also vasoconstriction of small vessels occurs.

The role of compensatory hyperinsulinemia in the activation of the sympathetic nervous system, which led to the hyperproduction of norepinephrine, which acts as an activator on the juxtaglomerular apparatus of the kidneys and leads to an increase in renin secretion, was also scientifically substantiated.

Summary. In patients with type II diabetes, insulin resistance is the main etiopathogenetic link that leads to a cascade of pathophysiological reactions in the body with the subsequent development of arterial hypertension.

CLINICAL AND METABOLIC BACKGROUND IN PATIENTS WITH COMBINED COURSE OF NON-ALCOHOLIC STEATOHEPATITIS, OBESITY AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE

Hryniuk O.Y.

Bukovinian State Medical University, Chernivtsi-city,
olhahryniuk@bsmu.edu.ua

Introduction. The relevance of the problem of the combined course of non-alcoholic steatohepatitis (NASH) on the background of obesity with chronic