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DEVELOPMENT OF METABOLIC SYNDROME DEPENDING ON GENDER AND AGE

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Annotatsion: Metabolic syndrome (MS) (synonyms: metabolic syndrome X, Reaven syndrome, insulin resistance syndrome) is an increase in visceral fat mass, a decrease in the sensitivity of peripheral tissues to insulin and hyperinsulinemia, which disrupt carbohydrate, lipid, purine metabolism, and also cause arterial hypertension. In 1981, M. Hanefeld and W. Leoonardt proposed to designate cases of a combination of various metabolic disorders with the term "metabolic syndrome" (MS). In 1988, Professor G. Reaven, in his Banting lecture, based on his own observations and generalization of research by other authors, put forward a hypothesis according to which insulin resistance, abdominal obesity, arterial hypertension (AH), atherogenic dyslipidemia and coronary heart disease (CHD) serve as a manifestation of a pathological condition, which he proposed to call "syndrome X". In 1989 D.

• insulin resistance with reduced carbohydrate tolerance and hyperinsulinemia;
• dyslipoproteinemia with hypertriglyceridemia and reduced levels of high-density lipoprotein cholesterol;
• tendency to thrombosis and increased plasma levels of plasminogen activator inhibitor;
• arterial hypertension against the background of increased activity of the sympathetic nervous system;
• generalized obesity with increased secretion of free fatty acids into the portal vein.

Key words: Metobolic sinrome, Decreased insulin,immune system, lipid profile, hypertension and cardiac ischemia.

Metabolic syndrome is a clinical and laboratory complex of symptoms that occurs due to metabolic disorders. The pathology is based on the insensitivity or resistance of cells and peripheral tissues to insulin. When sensitivity to the hormone responsible for the absorption of glucose is lost, all processes in the body begin to proceed abnormally. In patients, the metabolism of lipids, purines, and carbohydrates is disrupted. The level of glucose in the blood rises, and its deficiency occurs in the cells. The main cause of the syndrome is heredity. An unhealthy lifestyle, stress and hormonal imbalance play a significant role in the development of the disease. In hypodynamic individuals who prefer fatty and high-carbohydrate foods, the risk of developing pathology is very high. High-calorie foods, personal transport and sedentary work are exogenous causes of metabolic disorders in the majority of the population of developed countries. Currently, the prevalence of metabolic syndrome is compared to an epidemic or even a pandemic. The disease most often affects men 35-65 years old. This is due to the hormonal characteristics of the male body. In women, the disease develops after menopause, when estrogen production stops. Isolated cases of pathology are registered among children and youth, but recently there has been an increase in incidence in this age category. Individuals with the syndrome develop signs of several multifactorial diseases: diabetes mellitus, obesity, hypertension and cardiac ischemia. The key element in their development is insulin resistance. In patients, fat accumulates in the abdominal area, the tone of blood vessels often increases, shortness of breath, fatigue, headache, cardialgia, and a constant feeling of hunger occur. In women, the disease develops after menopause, when estrogen production stops. Isolated cases of

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The absorption of glucose by muscles deteriorates.

Diagnosis of the syndrome is based on data obtained during a general examination of the patient by an endocrinologist. Indicators of body mass index, waist circumference, lipid profile and blood glucose are important. Among the instrumental methods, the most informative are: ultrasound of the heart and blood pressure measurement. Metabolic syndrome is difficult to treat. Treatment consists of following a special diet to normalize body weight, as well as using medications that restore impaired metabolism. In the absence of timely and adequate therapy, life-threatening complications develop: atherosclerosis, stroke, heart attack, impotence, infertility, fatty hepatosis, gout. Metabolic syndrome is a pressing medical problem caused by the unhealthy lifestyle of the majority of the population. To avoid severe complications of the pathology, it is necessary to eat properly, normalize body weight, exercise, and give up alcoholic beverages and smoking. Currently, the disease cannot be completely cured, but most of the changes occurring in the patient's body are reversible. Competent therapy and a healthy lifestyle will help achieve lasting stabilization of the general condition. Metabolic syndrome is a polyetiological pathology that occurs under the influence

of various factors. Insulin resistance develops in individuals with a family history. This is the main cause of the syndrome. The gene encoding metabolism in the body

is located on chromosome 19. Its mutation leads to a change in the quantity and quality of insulin-sensitive receptors - there are few of them or they stop perceiving the hormone. The immune system synthesizes antibodies that block such receptor cells. Other factors that provoke metabolic disorders include:

· Poor nutrition with a predominance of fatty and carbohydrate foods in the diet, constant overeating, excess calorie consumption and insufficient consumption;

· Physical inactivity, lack of physical activity and other factors that slow down metabolism;

· Spasms of blood vessels and circulatory disorders caused by fluctuations in blood pressure and leading to persistent disruption of the blood supply to internal organs, especially the brain and myocardium; Psycho-emotional stress – frequent stress, outbursts of emotions, worries, conflict situations, grief of loss and other stresses that disrupt the neurohumoral regulation of organs and tissues;

· Hormonal imbalance, leading to metabolic disorders, deposition of abdominal fat and the formation of visceral-abdominal obesity;

· Short-term cessation of breathing during sleep, causing brain hypoxia and increasing the secretion of somatotropin, which reduces the sensitivity of cells to insulin; Inadequate treatment of diabetes mellitus with insulin, which further increases the amount of the hormone in the blood and contributes to the addiction of receptors with the gradual formation of insulin resistance.

Decreased insulin sensitivity is an evolutionary process that allows the body to survive in times of famine. Modern people, consuming high-calorie foods and having a genetic predisposition, are at risk of developing nutritional obesity and metabolic syndrome. Modern people, consuming high-calorie foods and having a

genetic predisposition, are at risk of developing nutritional obesity and metabolic syndrome. In children, the causes of the syndrome are feeding habits, low birth weight, and socio-economic living conditions. Teenagers suffer from pathology in
the absence of a balanced diet and sufficient physical activity. People at risk for metabolic syndrome include:
1. Those whose blood pressure often rises,
2. Overweight or obese
3. Leading a sedentary lifestyle,
4. Those who abuse fatty and carbohydrate foods,
5. Addicted to bad habits,
6. People suffering from type 2 diabetes mellitus, coronary artery disease, vascular diseases,
7. Having relatives with obesity, diabetes, heart disease.
Degrees of development of pathology, reflecting its pathogenesis:
1. Initial – dysglycemia, preservation of normal pancreatic function, absence of diabetes and heart disease;
2. Moderate – gradual development of glucose tolerance, pancreatic dysfunction, hyperglycemia;
3. Severe – presence of diabetes mellitus, severe pathology of the pancreas.
The pathology develops gradually and manifests itself with symptoms of diabetes mellitus, arterial hypertension and coronary artery disease.
Patients complain of:
· Prostration,
· Decreased performance,
· Apathy,
Sleep disorders
· Mood swings,
· Aggressiveness,
· Refusal of meat dishes and addiction to sweets,
Increased appetite
I'm thirsty
· Polyuria.
Common signs of asthenia in the body include pain in the heart, tachycardia, and shortness of breath. Changes in the digestive system occur, manifested by constipation, bloating, and colic. Eating sweet foods improves your mood in the short term. Persons with the syndrome have a pronounced layer of fat on the abdomen, chest, and shoulders. Their fat is deposited around their internal organs. This is the so-called visceral obesity, leading to dysfunction of the affected structures. Adipose tissue also performs an endocrine function. It produces substances that cause inflammation and change the rheological properties of the blood. The diagnosis of abdominal obesity is made when the waist size in men reaches 102 cm, and in women 88. An external sign of obesity are stretch marks - burgundy or bluish narrow wavy stripes of different widths on the skin of the abdomen and thighs. Red spots in the upper torso are a manifestation of hypertension. Patients experience nausea, throbbing and pressing headaches, dry mouth, hyperhidrosis at night, dizziness, tremors of the limbs, flashing “floaters” before the eyes, and incoordination of movements.
Prevention
Measures to prevent the development of metabolic syndrome:
· Proper nutrition,
· Full physical activity,
· Rejection of bad habits,

· Combating physical inactivity,
· Elimination of nervous tension, stress, emotional exhaustion,
· Taking medications prescribed by your doctor,
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Regular monitoring of blood pressure and periodic monitoring of cholesterol levels,
· Control of weight and body parameters,
· Clinical examination with constant supervision of an endocrinologist and periodic testing for hormones.

The prognosis of the pathology with timely initiation and correctly selected treatment is favorable in most cases. Late diagnosis and lack of adequate therapy are the causes of serious and life-threatening complications. Patients quickly develop persistent cardiac and renal dysfunction. Obesity, angina and hypertension cause premature death for millions of people. These pathologies occur against the background of metabolic syndrome. Currently, the majority of the world's inhabitants are overweight or obese. It must be remembered that more than 50% of people die from coronary insufficiency associated with metabolic disorders.

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