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### **OBESITY PANDEMIC OF THE 21ST CENTURY**

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**Abstract.** Obesity is one of the so-called "diseases of civilization", which also include cardiovascular diseases, malignant tumors, neuropsychiatric disorders, injuries, metabolic diseases (diabetes, gout). Thus, obesity is currently the scourge of developed and developing countries.

Keywords: obesity, epidemiology, body mass index, steroids, insulin

### ПАНДЕМИЯ ОЖИРЕНИЯ ХХІ ВЕКА

Аннотация. Ожирение — одна из так называемых «болезней цивилизации», к которым также относятся сердечно-сосудистые заболевания, злокачественные опухоли, нервно-психические расстройства, травмы, болезни обмена веществ (сахарный диабет, подагра). Таким образом, ожирение в настоящее время является бичом развитых и развивающихся стран.

Ключевые слова: ожирение, эпидемиология, индекс массы тела, стероиды, инсулин.

Obesity is a chronic disease characterized by excess accumulation of body fat, which poses a health risk and is also a major risk factor for a number of other chronic conditions that make up metabolic syndrome. Obesity increases the risk of developing atherosclerotic changes in blood vessels, hypertension, heart attacks and strokes, diabetes, cancer, as well as disability in general and even death.

Excess weight has long ceased to be just an aesthetic problem. Today, obesity is recognized by the World Health Organization as a non-communicable epidemic of the 21st century. According to statistics, 2.2 billion people on the planet suffer from obesity - this is almost  $\frac{1}{3}$  of the entire population.

**Causes of Obesity** Whatever the prerequisites for the occurrence of excess body weight, almost always the basis is an imbalance between the amount of food entering the body and its expenditure on energy and anabolic processes. The body always tries to put extra calories "in reserve" so that, if necessary, they can be used to maintain vital functions.

The fat cell depot is located in the subcutaneous fat tissue and internal organs of the abdominal cavity. Only 5% of obesity cases are caused by metabolic disorders, all other cases

occur due to overeating with low physical activity. Obesity can develop for a number of reasons or a combination of them:

Overeating, especially fatty and carbohydrate foods. Irregular eating habits: rare and large meals, snacks before bed. Hereditary disorders of the activity of lipolysis and lipogenesis enzymes.

Diseases of the endocrine glands (hypothyroidism, polycystic ovary disease, pancreatic tumors, Itsenko-Cushing's disease, etc.).

Low physical activity. Excessive food consumption against the background of psychoemotional disorders. Taking hormonal drugs (steroids, estrogens, progesterone, insulin).

**Degrees of obesity** Currently, there are many classifications of obesity that doctors around the world use in their practice. The most common way to find out about the presence of obesity is to calculate the body mass index (BMI). It is applicable to people from 18 to 65 years old:

BMI <18.5 (low) - indicates underweight;

BMI from 18.5 to 24.9 (normal) - is considered optimal.

BMI from 25.0 to 29.9 (high) - indicates excess body weight and the presence of predisposition to obesity.

BMI from 30.0 to 34.9 (high) - grade I obesity.

BMI from 35.0 to 39.9 (very high) - grade II obesity.

BMI from 40 and above (excessively high) - grade III obesity (super obesity).

## Types of obesity

According to the location of fat deposits in the body, one can talk about the type of obesity:

Abdominal (upper or android) - typical for the male part of the population and is called "apple-shaped". It is considered the most dangerous type, because with it, excess fat deposits occur mainly in the visceral, vital organs, which can lead to damage to the cardiovascular, respiratory and digestive tracts.

Femorogluteal (lower) - typical for the female part of the population and is called "pearshaped". With this type, excess fat is deposited in the gluteal and femoral parts. Not as dangerous as abdominal, but can lead to the development of arthrosis of the lower extremities, dysfunction of the spine and lead to venous insufficiency.

Intermediate (mixed) - fat deposits are evenly distributed throughout the body.

## **Diagnostics for excess weight includes:**

Anthropometry — measuring height, chest circumference, waist, hips, and other body parameters. Helps calculate the body obesity index.

1383

Bioimpedancemetry — assessing the electrical resistance of body tissues. This is a more accurate method for calculating the proportion of fat in the body.

Blood tests - general, sugar, biochemistry, hormones. Allows you to evaluate the work of internal organs, the functions of the endocrine system.

ECG (electrocardiography), blood pressure measurement - to assess the state of the cardiovascular system.

**Treatment**: The following methods are used to correct weight: Diet therapy is the first stage of treatment. A diet for obesity is created by a nutritionist taking into account the energy expenditure of the patient's body. It is important to create a diet so that there is a calorie deficit, but the body receives enough proteins, fats and carbohydrates, as well as vitamins and minerals.

Drug therapy for obesity treatment Treatment of obesity with drugs is an extreme measure and is aimed at suppressing the feeling of hunger, accelerating the appearance of a feeling of satiety. In the presence of psychoemotional disorders, appropriate medications that affect eating behavior may be prescribed. Often, drugs that prevent the body from absorbing fats and carbohydrates are used. Drug therapy is administered to patients whose body mass index is greater than 30, and diet and exercise do not produce visible results within 3-4 months.

Surgical treatment of obesity Bariatric (metabolic) surgery has been recognized by doctors and patients in the fight against excess weight for many decades. The methods of surgical treatment of obesity are varied and allow the doctor to choose an individual approach to treatment for each person.

The following are surgical procedures for the treatment of obesity: Intragastric balloon placement,

gastric bypass,

longitudinal gastrectomy,

gastric bypass,

biliopancreatic bypass.

All these methods of treating obesity have proven themselves to be safe and effective. Each of them has its own indications and contraindications.

Indications for surgery are a BMI of more than 40 kg/m2 in the absence of an effect from conservative treatment, as well as the presence of type 2 diabetes mellitus (DM) in combination with obesity (as directed by an endocrinologist), even if the BMI is 35 kg/m2 or slightly lower.

**Preventive measures** Prevention of excess weight is aimed at eliminating the factors that provoke fat deposition. It is important to change your lifestyle so that the body receives as much energy as it spends. General recommendations are as follows: Lead an active lifestyle - at least once a day walk in the fresh air, do light sports. If the patient has a sedentary job, take a break

1384

every hour for 5 minutes to stretch, do light gymnastics - this will prevent not only obesity, but also diseases of the joints and spine.

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1385



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