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DETERMINATION OF THE ETIOPATHOGENESIS AND RISK FACTORS OF OBESITY AMONG ADOLESCENTS

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Abstract: *The article covers the etiological factors causing obesity, the pathogenetic mechanism of occurrence, determination of body mass index, determination of the degree of obesity and risk factors, as well as the obesity treatment program.*

Key words: *Etiology, pathogenesis, clinical symptoms, metabolism, body mass index, diet, bariatrics.*

Abstract: *In this condition, the factors causing obesity, the pathogenetic mechanism, the level of obesity, determination of body mass index, and the obesity treatment program are discussed.*

The article discusses the factors that cause obesity, pathogenetic Obesity is the accumulation of unnecessary fat in the body. Obesity itself is a developing syndrome, sometimes it develops against the background of other diseases. Since the average life expectancy of overweight people is 40 years, they are not considered the object of any research. Currently, obesity is a disease recognized as a non-infectious "epidemic". The number of people suffering from this disease is growing at an alarming rate throughout the world. Obesity is significantly increasing not only among the adult population, but also among children. In 2019 alone, the number of adolescents suffering from obesity in the Russian Federation increased by 1.5 times (Dedov I.I., 2006, Vernigorova N.V. 2012, Malievsky O.A. 2013).

Obesity is one of the most common diseases on Earth. According to the World Health Organization, in the next few decades, the problem of excess weight

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may pose a serious threat to human health. By 2030, 45 percent of the world's population will probably be obese. Obesity poses a threat not only to the elderly, but also to the health of children and adolescents. The sad thing is that since 1975, the number of people suffering from obesity in the world has tripled. More than 340 million children aged 5 to 19 years suffer from this disease. The role of obesity in the pathogenesis of diseases such as atherosclerosis, hypertension and diabetes has now been proven. People with obesity are 1.5-3 times more likely to die from various diseases. This situation shows the importance of timely diagnosis and prevention of obesity. Obesity is the accumulation of fat in the subcutaneous fat layer and tissues as a result of metabolic disorders in the body. Obesity is a common disease that affects 50% of women, 30% of men and 10% of children. After 70 years, the average weight decreases. Factors that lead to obesity include: excessive food intake, especially carbohydrates and fatty foods, alcohol consumption, physical inactivity; Age over 40 includes genetic predisposition. The results of a study conducted by the World Obesity Federation published figures that can make the world's population think. According to the study: "By 2035, most of the world's population (51% or more than 4 billion people) will be overweight or obese." "By 2035, the rate of childhood obesity could more than double (compared to 2020 levels). This number is projected to double among boys to 208 million (an increase of 100 percent) and more than double to 175 million (an increase of 125 percent) among girls." The saddest thing is that the rates are growing faster among children than among adults.

The main pathogenetic mechanism leading to obesity is the imbalance of energy intake and expenditure in the body. Often, this condition is associated with poor nutrition: excess fats and carbohydrates in food, poor nutrition - taking most of the daily calorie intake in the evening. Adipose tissue is the main energy storage. Excess energy is stored in adipocytes in the form of triglycerides. Violation of energy expenditure is also of great importance in the development of obesity; this condition is associated with various enzymatic and metabolic defects, oxidative processes, and the state of sympathetic innervation. In healthy

individuals of normal body weight, overeating leads to an adaptive acceleration of metabolism and basal metabolism, i.e. the rate of basal metabolism, which maintains energy balance and stability of body weight when the amount of food consumed changes. In normal obesity, fat accumulates in the skin, subcutaneous fat, mesentery, prerenal and mediastinal fat tissue, epicardium, myocardium, liver, and pancreas. The following degrees of normal obesity are distinguished:

Level 1 (mild) – body weight is 10-29% more than the "ideal" weight;

Level 2 (medium) – more than 30-40%;

Level 3 – body weight is 100% or more of the "ideal" weight. Body mass index is the most adequate indicator of obesity. Body mass index (Quetelet index) is calculated using the following formula: BMI = body weight (kg) to height (in square meters). The body weight index is usually 20-24.9 kg/m2.

equal BMI result allows to understand the degree of deviation of weight from the norm:

If BMI is less than 18.5 – underweight;

BMI from 18.5 to 24.9 – normal weight;

BMI from 250 to 29.9 – overweight;

BMI from 30 to 34.9 – obesity of the 1st degree;

BMI from 35 to 39.9 – obesity of the 2nd degree;

BMI from 40 to 50 – obesity of the 3rd degree;

BMI above 50 – obesity of the 4th degree, severe obesity

At the 4th degree of obesity, the amount of sodium in the blood increases, and the excretion of sodium in the urine decreases. The level of aldosterone and renin in the blood is normal at the 1st and 2nd degree of obesity, but increases at the 3rd and 4th degree (secondary aldosteronism).

The aim of the study: to determine the etiopathogenesis and risk factors of obesity among adolescents.

Object of control and methods of control.

As an object of examination, we included a group of 80 children suffering from obesity and overweight among adolescents of different ages studying in schools. Below are the methods of verification:

Objective vision and collection of anamnesis.

Determination of anthropometric indicators.

Determination of blood sugar.

Determination of the lipid spectrum of blood

During the examination, groups of children with obesity and overweight were selected from children in different schools during a medical examination. When collecting anamnesis, these conditions were noted in close relatives in the family, sleep time, dietary habits and diet, energy consumption during the day. They were asked whether they were involved in various sports, whether they had other concomitant diseases, whether they had any clinical symptoms or complaints. During an objective examination, they find out whether girls have various rashes on the face and skin, the presence of stretch marks on the skin, signs of hirsutism, the duration and how the menstrual cycle goes, whether boys have gynecomastia of the testicles and external genitalia. The development was tested. Palpation of the thyroid gland was performed. The degree of obesity was determined based on the results of the anthropometric examination. Blood samples were taken and sent for laboratory tests. Diagnosis of obesity.

In cases of obesity, the patient's medical history, genetic predisposition, long duration of the disease, lifestyle and diet are taken into account to diagnose the patient. The body mass index and the amount of fat on the hips and waist are measured. To clarify the diagnosis, UTT (ultrasound), X-ray densitometry and other studies are carried out to determine the location and volume of fat deposits. In addition, a consultation with a psychotherapist, nutritionist, endocrinologist is necessary. Pathologies caused by obesity can be determined as follows: measuring AQB (blood pressure), checking glucose tolerance; Checking the amount of cholesterol, triglycerides and lipoproteins; A biochemical blood test is required.

Research results and analysis. When summarizing the results of the study, 34 out of 80 adolescent children were overweight, 1 had grade 3 obesity, 11 had grade 2 obesity, and 24 had grade 1 obesity. According to anamnestic data, more than 60% of these children have a violation of the diet and eating regimen, i.e. alimentary obesity and non-compliance with the sleep regimen, 30% have a genetic predisposition, about 5% of children have various diseases, and the remaining percent have adynamia for various reasons, which appeared as a result of the constant use of gadgets and other reasons. Complex treatment of obesity is not only cosmetically effective, but also improves health and quality of life. At the beginning of treatment, a special diet and exercise are prescribed. The amount of foods rich in fats and carbohydrates is reduced, and calories are reduced, foods rich in protein and fiber are recommended. If the patient is in hospital treatment in the last stages of obesity, he will be treated with fasting for a certain period of time. Physical exercises begin with simple walking, i.e. the patient is asked to walk at least 10,000 steps per day. Physical exercises are strictly prescribed by a specialist. After all, cardio can be observed, for example, during such exercises as swimming, running, cycling. Physical exercises should be performed 3-5 times a week for 30-40 minutes a day. In the fight against obesity, maintaining a healthy lifestyle is of great importance. Over time, such a lifestyle becomes a habit and can become the basis for not getting fat again. Some people, after getting rid of obesity, again return to poor nutrition and a sedentary lifestyle, and they quickly become obese.

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