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METABOLIC SYNDROME: PREVALENCE, DIAGNOSIS CRITERIA

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This article presents a review of the literature and analyzes scientific research on the metabolic syndrome and diagnostic criteria. The authors conducted a scientific search using the relevant keywords in the PubMed and Google Scholar search engines, in the Scopus, Web of Science, MedLine, The Cochrane Library, EMBASE, Global Health, CyberLeninka, RSCI and others databases.

Keywords: *metabolic syndrome; obesity; overweight; complications; body mass index, prevention*

Metabolic syndrome (MS) is an actual problem of modern medicine. Metabolic syndrome – an increase in the mass of visceral fat, a decrease in the sensitivity of peripheral tissues to insulin and hyperinsulinemia, which cause the development of disorders of all types of metabolism (carbohydrate, lipid, purine metabolism) and arterial hypertension.

In Russia, MS occurs in 41.3%-50.0% of the population [4, 6, 15, 16]. The lowest prevalence of MS in China is 15.2%-21.1%; according to new data, there is an upward trend [1, 2, 17]. It is known that the prevalence of MS varies depending on the criteria used to determine it.

Currently, 7 MS criteria are known: WHOWorld Health Organization; EGIR-European Group for the Study of Insulin Resistance; NCEPATP III-National Cholesterol Education Program-Adult Treatment Panel III; AACE-American Association of Clinical Endocrinologists; IDF-International Diabetes Federation; International Institute of Metabolic Syndrome, "Recommendations for the diagnosis and treatment of metabolic syndrome GFCF" [4, 6,19].

It is necessary to adapt the existing diagnostic criteria for MS in Russia, because it is necessary to take into account ethnic and genetic differences, national nutritional characteristics in the Russian population, lifestyle and economic opportunities of our state.

According to the literature data: "MS is more common among older and middle-aged patients 20.0%-41.0%" [4, 7, 9].

It should be noted that the main criterion for MS is the central (abdominal) type of obesity.

Additional criteria include: 1) blood pressure >140 mm. Hg and 90 mm Hg or treatment of hypertension with drugs; 2) increased levels of triglycerides (≥ 1.7 mmol/l); 3) decrease in the level of HDL cholesterol (3.0 mmol/l); impaired glucose tolerance (IGT) – an elevated plasma glucose level 2 hours after loading 75 g of anhydrous glucose with OGTT ≥ 7.8 and < 11.1 mmol / l, provided that the fasting plasma glucose level is less than 7.0 mmol / l; 4) impaired fasting glycemia (IGN) – elevated fasting plasma glucose ≥ 6.1 and < 7.0 mmol / l, provided that plasma glucose after 2 hours with OGTT is less than 7.8 mmol / l; 5) combined violation of NGN/NTH – elevated fasting plasma glucose ≥ 6.1 and < 7.0 mmol/l in combination with plasma glucose after 2 hours with OGTT ≥ 7.8 and < 11.1 mmol/l.

MS is considered reliable in the presence of 3 criteria: 1 main and 2 additional.

It should be noted that the development of MS is gradual, with no clinical symptoms for a long time.

It is known that the development of MS is based on a genetic predisposition and external factors (low physical activity, malnutrition). It is believed that the disruption of the functioning of adipose tissue and the development of insulin resistance play a leading role.

In a number of studies (Ginzburg M.M., Kozupitsa G.S. et al. 1996, Hashimoto N., Saito Y., 2000; Marchesini G., Forlani G., Cerrelli F. et al. 2004) it is noted that when complications are much more often observed in abdominal obesity [8, 10, 11, 12].

Diagnosis of obesity is simple and fast and consists in measuring body weight.

The most commonly used classification of obesity according to the degree of severity is determining the body mass index (BMI, kg / m2).

Classification of obesity according to BMI: 1) underweight – BMI <18.5 kg/m2; 2) normal body weight – BMI 18.5-24.9 kg/m2; 3) overweight – BMI 25.0-29.9 kg/m2; 4) obesity of the 1st degree – BMI 30.0-34.9 kg/m2; 5) obesity II degree – BMI 35.0-39.9 kg/m2; 6) obesity of the III degree – BMI 40 kg/m2 and above.

Also, the presence of MS is confirmed by impaired carbohydrate metabolism, dyslipidemia, arterial hypertension [3, 5], the development of type 2 diabetes mellitus and cardiovascular diseases [4, 6, 18].

The findings of many studies indicate that the effect on one of the components of MS can achieve a visible improvement in the general condition of patients by compensating for changes in other parts of its pathogenesis [11,12, 13, 14].

Thus, metabolic syndrome is a serious medical, social and economic problem. Various scholars differ in their approach to the definition of the main

MC factor and combinations of its components. Timely diagnosis of MS, therapy and prevention will help to effectively reduce the risk of cardiovascular complications.

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