ОБРАЗОВАНИЕ НАУКА И ИННОВАЦИОННЫЕ ИДЕИ В МИРЕ



## UDK: 616-056.52:616.12-008.331 STUDY OF DIURNAL PROFILE OF ARTERIAL HYPERTENSION IN DIFFERENT PHENOTYPE OBESITY

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Annotation: Obesity is a chronic multifactorial disease, and today 2.5 billion people worldwide are diagnosed with obesity.

**The purpose of the study:** to evaluate the diurnal arterial blood pressure profile in patients with arterial hypertension in different phenotypes of obesity.

**Research materials and methods:** The study was conducted on 42 patients with arterial hypertension with obesity of different phenotypes. Patients were divided into 2 groups, "metabolically healthy" obese patients with arterial hypertension (mean age  $58.4 \pm 5.2$  years) - 1 group (n=22) and "metabolically unhealthy" obese patients (mean age  $60.2 \pm 5$ , 4 years) - . (n=20) - formed 2 groups. Patients in the study underwent clinical and laboratory examinations and daily monitoring of arterial blood pressure.

**Results of the study:** According to the results of the study, cardiometabolic risk factors were higher in the unhealthy metabolic group of obesity compared to the metabolically healthy obesity group, as well as the daily profile of blood pressure in obese patients with an unhealthy metabolic phenotype was higher in non-dipper by 20% and over-dipper by 3% compared to the metabolically healthy obesity group. found out..

**Keywords.** Metabolically healthy obesity, metabolically unhealthy obesity, arterial hypertension.

## STUDY OF DIURNAL PROFILE OF ARTERIAL HYPERTENSION IN DIFFERENT PHENOTYPE OBESITY

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**Abstract:** Obesity is a chronic multifactorial disease, 2.5 billion people worldwide are suffering from obesity, and it has become the most important medical and social problem. Today, the number of diseases caused by obesity is increasing, and according to the World Health Organization, 44-57% of people with problems with overweight and obesity have diabetes (type II), 17-23% have ischemic heart disease,



and 17% have arterial hypertension., 30% of gallstones, 14% of osteoarthritis, 11% of malignant tumors.

According to the 2014 International Scientific Congress of Endocrinologists (AASE) and the new WHO classification, 2 phenotypes are distinguished based on one or more clinical features of obese patients. Cardiometabolic factors play an important role in the development of "metabolically healthy obesity" and "metabolically unhealthy obesity" and a number of diseases associated with obesity, as well as cardiovascular diseases.

**The purpose of the study:** to evaluate the diurnal arterial blood pressure profile in patients with arterial hypertension of different phenotypes of obesity.

**Research materials and methods:** The study was conducted in the cardiology department of 42 patients with arterial hypertension with various phenotypes of obesity in planned treatment. Patients were divided into 2 groups, "metabolically healthy" obese patients with arterial hypertension (mean age  $58.4 \pm 5.2$  years) - 1 group (n=22) and "metabolically unhealthy" obese patients (mean age  $60.2 \pm 5$ , 4 years) (n=20) - formed 2 groups. Clinical and laboratory instrumental examinations of patients: waist circumference, body mass index according to Ketle formula: IMT=kg/m, lipid spectrum in blood biochemistry, blood insulin and sugar levels were determined. Diurnal blood pressure monitoring (DBPM) was assessed using a Contec ABPM50 device. Through the DBPM test, it is possible to determine changes in the patient's arterial pressure during 24 hours. DBPM daily maximum, average systolic arterial pressure and diastolic arterial pressure, minimum systolic and diastolic arterial pressure, day and night maximum and average arterial pressure were determined.

According to the results of the studies, cardiometabolic risk factors in the metabolically unhealthy obesity group compared to the metabolically healthy group: blood glucose  $5.2\pm0.4$  and  $5.6\pm0.6$  mmol/l, total cholesterol  $5.1\pm0.4$  and  $6.2\pm0.5$ mmol/l, insulin  $8.8\pm0.4$  and  $13.5\pm0.2$ Ed/l, NOMA-IR  $2.1\pm0.1$  and  $3.0\pm0.2$  were determined.

According to the results of daily blood pressure monitoring, the systolic blood pressure and diastolic blood pressure were 5.8% and 8.2% higher in the metabolically unhealthy obesity group compared to the metabolically healthy group, and when the metabolically unhealthy obesity group was divided into subgroups according to the components of the metabolic syndrome, there was a significant difference between them.

Diurnal monitoring of arterial blood pressure in patients with obesity of various phenotypes.

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Daily monitoring of arterial	Metabolic healthy	Metaboic unhealthy phenotype
blood pressure	phenotype obesity	obesity.
Systolic arterial pressure		
average diurnal	132.8±12	$140.6 \pm 13.5$
Systolic arterial pressure		
average diurnal	83±10	89±11.2
Systolic arterial pressure		
average night	118±10.4	128.2±15.6
Systolic arterial pressure		
average night	78.6±10	82.6±11.6
Mean pulse pressure	46.8±8	48.7±8.5

In the metabolic unhealthy obesity group, the systolic arterial pressure is  $130\pm4.5$  mm in 23 patients with 3 components of metabolic syndrome. diastolic arterial pressure is  $85\pm2.5$  mmHg..who. tied. In patients with 4 components of metabolic syndrome, the systolic arterial pressure is  $135\pm3.2$ , mmHg. diastolic arterial pressure  $86\pm2.2$ . mmHg. Systolic arterial pressure in patients with 5 or more components of metabolic syndrome is  $142\pm1.1$ , mmHg. diastolic arterial pressure  $89\pm1.1$ . mmHg.

**Conclusion.** Based on the results of the study conducted, it was found that in the unhealthy metabolic group of obesity, cardimetabolic risk factors were higher compared to the metabolically healthy obesity group, as well as in the Daily profile of blood pressure, with obesity of an unhealthy metabolic phenotype, patients were found to have a 20% over-Dipper 3% higher than the metabolically healthy obesity group.

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