**Vegetative-vascular disorders in patients with metabolic syndrome**

**Kharkiv National Medical University**

**Olga Kovalyova**

Metabolic syndrome is a cluster of carbohydrate, lipid and energetic disturbances, vascular tone dysbalance that leads to arterial hypertension. Important role in the function of regulatory organs (that in response to metabolic and cardiovascular homeostasis) plays vegetative nervous system that cats I close correlation with endocrine system.

Intensive accumulation of adipose tissues promotes excess synthesis of leptin, insulin and other humoral agents that affect vegetative nervous system, first of all sympathoadrenal system (SAS). Existing methods of SAS investigation includes assessment of plasma and urine catheholamines, local muscular-nervous activity investigation, functional tests for evaluating cardiac and arterial pressure response, statistical and spectral analysis of cardiac rhythm variability.

**Aim of the study:** estimation of functional regulation of cardiac activity in patients with metabolic syndrome.

**Materials and methods:** 43 patients with metabolic syndrome (according to IDF classification) were examined. They were divided into 3 groups: 1st – 13 patients with abdominal obesity (AO), arterial hypertension (AH), dyslipidemia, and hyperglycemia; 2nd – 14 patients with AO, AH, dyslipidemia; 3rd – 16 patients with AO ad AH. ECG registration with cardiac rhythm variability in two positions was provided, using “Cardiolab 2000” system. Neurovegetative system activity was evaluated using Vein questionnaire, orthoclinostathic test, and psychosomatic orientation questionnaire.

**Results:** cardiovascular vegetative disturbances were present in patients with metabolic syndrome. Analysis of results shows that in patients with metabolic syndrome the activation of sympathic vegetative system was estimated in 62,79±5,2 %, parasympathic – 23,30±6,2%. In 6 patients (13,95%) balance in vegetative state was revealed. Maximal activation of SAS was detected in 3rd group. Less pronounced disturbances were revealed in 1st group. Orthoclinostatic test revealed disturbances in 75,63% patients. Exceed vegetative state had 51,30% patients and insufficient in 24,33% that is a sign cardiovascular of compensatory mechanisms disturbances. In 5,37% patients with full metabolic syndrome significant disturbances in vegetative state were revealed with controversial changes of arterial pressure and cardiac rhythm. Such disturbances were detected in 4,37% patients of 2nd group and 3,28% of patients 3rd group. According to Vein questionnaire the 65,03% of patients with full metabolic syndrome and 59,41% of not full components of MS complain of palpitation, feeling of cardiac arrest or bradycardia. Fillings of inadequate breathing disturbed 46,04% patients of 1st group and 45,3% of 2and 3 groups. Results of psychosomatic questionnaire show that patients gave confirmative answers on more than 6 questions, that includes felling of fatigue, nerving, apathy.

Conclusion: in patients with arterial hypertension that is associated with such components of metabolic syndrome as obesity, dyslipidemia, disturbances of neurovegetative regulation of cardiovascular system were detected that includes symphatotonia, vegetative reactivity, multidirectional dynamic of vegetative tone and dysfunction. According to psychometric scale anxiety and depressive disorders were found.