

EXTERNAL BREATHING FUNCTION DISORDERS AND NITRIC OXIDE SYSTEM IN PATIENTS WITH ARTERIAL HYPERTENSION WITH OBESITY

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Objective: Recent evidence suggests close obesity and arterial hypertension association. Both pathological states are characterized by endothelium dysfunction present.

The aim of our research was study relationships between general nitric oxide, and their metabolites in blood serum concentrations and external breathing function disorders in hypertensive patients with obesity.

Design and Methods: 55 Patients with arterial hypertension (AH) were examined. Serum general nitric oxide, and their metabolites in blood serum levels were detected. All patients underwent anthropometry, office BP measurement, and spirometry. Patients were divided into 3 group depend on body mass and FEV1 means: 1 gr. – hypertensives with normal body mass; 2nd gr. – obesity-related hypertensives without bronchial obstruction (FEV1 >80%); 3rd gr. – obesity-related hypertensives with bronchial obstruction (FEV1 <80%).

Summary. 103 patients with arterial hypertension (AH) were examined, 20 patients with AH, and 83 patients with AH and overweight. Average age of patients was 55.5 ± 8.7 years. All patients were underwent spirometry. In analysis of spirometry data ventilation disorders in 32.4% patients with AH and overweight were diagnosed, 27.2% had ventilation disorders by obstructive (FEV1 $67.7 \pm 7.2\%$), 45.6% - by restrictive (FEV1 $66.22 \pm 2.64\%$) and in 26.2% by mixed type. More frequently respiratory pulmonary function disorders were detected in patients with AH and obesity. On the base of NO system state investigation gradual reduction of general nitric oxide, and their metabolites in blood serum were evaluated, those were lowest in patients with the signs of bronchial obstruction. Correlation analysis in the patients with AH and obesity suggest possible endothelium dysfunction participation in bronchoobstructive syndrome formation in this patients category.