ADIPOKINES ACTIVITY AND CARDIOMETABOLIC RISK FACTORS IN PATIENTS WITH ARTERIAL HYPERTENSION

Kovalyova O. Zlyvka L.

KhNMU

Kharkiv City Clinical Hospital N11, Kharkiv, Ukraine

**Objective**. Adipocytes can synthesized and realized in systemic circulation adipokines, tumor necrosis factor-alpha (TNF-alpha), leptin are among them. It has been proposed that some adipokines can play pathogenic role in the development and progression of metabolic syndrome components: arterial hypertension, obesity, carbohydrates, lipid metabolism disorders.

The aim of our study was investigate relationships between circulating plasma TNF-alpha, leptin, glucometabolic parameters in the patients with arterial hypertension in relation with obesity.

**Design and methods**. 102 hypertensive patients and 20 healthy controls were examined by anthropometry (height, body mass; body mass index (BMI) was calculated). Plasma TNF-α, leptin, fasting insulin levels by ELISA was study. Fasting plasma glucose levels was detected and insulin resistance index HOMA-IR was calculated. Patients were divided into 2 group depend on BMI: 1sr group 30 hypertensives with normal body mass (BMI<25 kg/m2 ), 2nd group – 72 patients with overweight (BMI>25kg/m2).

**Results** of our clinical study showed elevated TNF-alpha plasma levels in 1st group (3.21±1.35 pg/ml), in 2nd group (7.32±0.39 pg/ml) as compared with control subjects (1.36±0.14 pg/ml; p<0.05 in all cases). Increased circulating leptin plasma levels were detected in 1st group of normal weight hypertensives (6.89±0.41 ng/ml in males; 7.37±0.13 ng/ml in females), and in 2nd group of overweight patients with hypertension (8.91±0.37 ng/ml in males; 11.93±1.02 ng/ml in females) vs healthy persons of control group (5.36±0.79 ng/ml in males; 6.72±0.91 ng/ml; p<0.05). Carbohydrates metabolism parameters of hypertensive patients characterized by elevated means of insulin (13.59±1.54 mkU/ml), HOMA-IR (3.75±0.94) in 1st group, fasting insulin (21.76±2.58 mkU/ml), HOMA-IR (4.82±2.47) in 2nd group in comparison with normotensive persons (insulin 8.03±1.36 mkU/ml), HOMA-IR (1.68±0.26; p<0.05). Relationships between TNF-alpha, leptin, insulin levels and BMI were determined in overweight hypertensives.

**Conclusion**. TNF-alpha and leptin levels were higher in hypertensives parallel to BMI elevation as compared with normotensives. Obtained results suggest that hyperactivity of adipokines: TNF-alpha, leptin can involve in carbohydrates metabolism disorders in the patients with arterial hypertension depend on obesity presence.