SERUM LEVEL OF ICAM-1, VCAM-1 AND E-SELECTIN IN HYPERTENSIVE PATIENTS WITH TYPE 2 DIABETES AND OBESITY

Mogylnytska L.A., MD, PHD.

Khmelnytsky regional hospital, 1, Pilotska str., Khmelnytsky, Ukraine

Actuality. Endothelial dysfunction – is common features of arterial hypertension, diabetes, obesity, which underlies the development of atherosclerosis. ICAM-1, VCAM-1 and E-selectin are important markers of endothelial dysfunction that have been demonstrated to play important roles in the development of CVD.

The aim. Was to investigate serum levels of ICAM-1, VCAM-1 and E-selectin in hypertensive patients.

Methods and materials. Were examined 41 hypertensive patient with type 2 diabetes, 18 obese hypertensive patients, 9 – non-obese hypertensive patients, 18 – control. Serum levels of ICAM-1, VCAM-1 and E-selectin were determined by immunoenzyme assay. Statistical analysis was performed by use Mann-Whitney U-test and Person's. The data were presented as means±SD.

Results and discussion. Were found an increased serum level of ICAM-1 in hypertensive patients with type 2 diabetes compared to control (253,11±51,09 and 147,48±6,06 ng/ml respectively, $p<0,01$), in hypertensive patients with obesity compared to control (213,85±30,6 and 147,48±6,06 ng/ml respectively, $p<0,01$), and in non-obese hypertensive patients compared to control (177,06±27,59 and 147,48±6,06 ng/ml respectively, $p<0,01$). Serum level of VCAM-1 was higher in hypertensive patients with type 2 diabetes compared to control (736,53±100,87 and 437,33±37,69 ng/ml respectively, $p<0,01$), in hypertensive patients with obesity compared to control (662,71±89,63 and 437,33±37,69 ng/ml respectively, $p<0,01$), and in non-obese hypertensive patients compared to control (518,3±70,32 and 437,33±37,69 ng/ml respectively, $p<0,01$). There was an elevation of serum level of E-selectin in the

same groups compared to control patients (23,49±4,72 ng/ml, 19,02±3,53 ng/ml, 15,92±3,46 ng/ml and 14,07±1,87 ng/ml respectively, $p<0,01$).

Conclusions and prospects for further research. Also, the level of ICAM-1, VCAM-1 and E-selectin correlated with the serum levels of HbA1c, blood glucose, insulin, HOMA, key markers of lipid metabolism, body mass index. The revealed change could reflect an endothelial dysfunction in this pathological state. Hyperglycemia, dyslipidemia, insulin resistance, obesity appears to be significant factor to contributing elevation of ICAM-1, VCAM-1 and E-selectin.