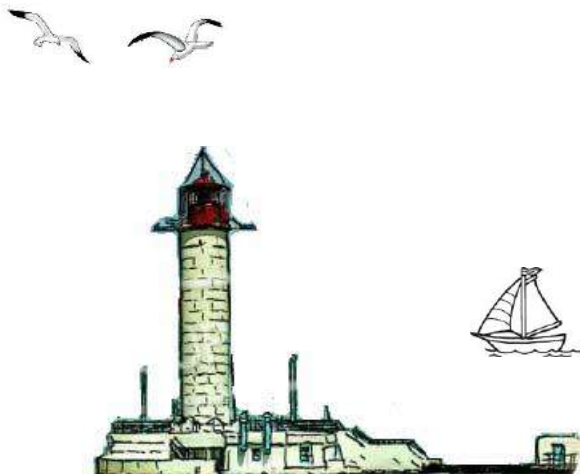


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Ключові слова: шур, підшлункова залоза, морфофункціональний стан, переїдання.

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VASCULAR MECHANISMS OF RENAL DYSFUNCTION IN OBESE PATIENTS

СУДИННІ МЕХАНІЗМИ НИРКОВОЇ ДИСФУНКЦІЇ У ХВОРИХ З ОЖИРІННЯМ

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Introduction. The urgency of the problem of kidney damage in obese patients is due to an increase in the frequency of nephropathies associated with metabolic disorders, a tendency to progressive course and the need to optimize their early diagnosis. In recent studies, a direct damaging effect on the structure of renal tissue, renal vascular endothelial of hypercholesterolemia, atherogenic lipid fractions, prostaglandins, cytokines produced by adipose tissue - leptin, TNF- α , IL-1,6,8 was found. Determination of markers of endothelial dysfunction is currently relevant in many diseases, including kidney disease. Endothelial dysfunction in patients with chronic kidney disease is considered as an imbalance between vasoconstrictors and relaxing factors, between anti- and procoagulants, growth factors and their inhibitors. The connection between endothelial dysfunction and kidney damage seems to be logical, but insufficiently studied.

Purpose: to study urokinase activity of urine (UA), excretion of nitric oxide (NO), as an endothelial-relaxing factor, and their relationship with changes in renal excretory function in patients with grade I obesity.

Material and methods. 19 patients with obesity of the 1st degree (BMI = 30-34.9 m²) at the age from 32 to 56 years old and 20 practically healthy persons were examined. Visceral obesity was also assessed by waist circumference: more 102 cm in men, 88 cm in women. The functional state of the kidneys was assessed using the clearance method under conditions of 12-hour spontaneous nocturnal and 2-hour induced

diuresis. The UA of urine and the activity of NO were determined by the concentration of its metabolites in the blood and urine.

Results. In patients with grade I obesity, impaired renal function during spontaneous diuresis was manifested by a decrease in the level of glomerular filtration (GF) by 1.33 times ($p<0.05$) against the background of a slight decrease in water reabsorption and practically unchanged daily diuresis. Normal levels of NO metabolites were determined in the blood with their increased excretion in the urine ($p<0.05$), and the UA of urine increased by 37% compared to the control ($p<0.001$). When carrying out water load, a decrease in adaptive reactions of the kidneys was revealed: a decrease in both total and relative urine output by 1.7 times ($p<0.05$) against the background of a decrease in GF by almost 3 times ($p<0.01$). The concentration of NO in the blood during water load increased 2.43 times compared with the control values ($p<0.05$), and the excretion of NO significantly decreased 2.18 times, while the UA of urine also decreased ($p<0.05$).

Thus, obese patients I degree have impaired renal function in the form of a decrease in excretory function, which increases with water load, which indicates the functional nature of the changes. A significant role in their development belongs to the vascular component, since under conditions of water load, the excretion of metabolites of NO and UA in urine decreases.

Key words: renal function, endothelial-relaxing factor, urokinase activity, obesity.

Ключові слова: ренальна функція, ендотелій релаксуючий фактор, урокіназна активність, ожиріння.