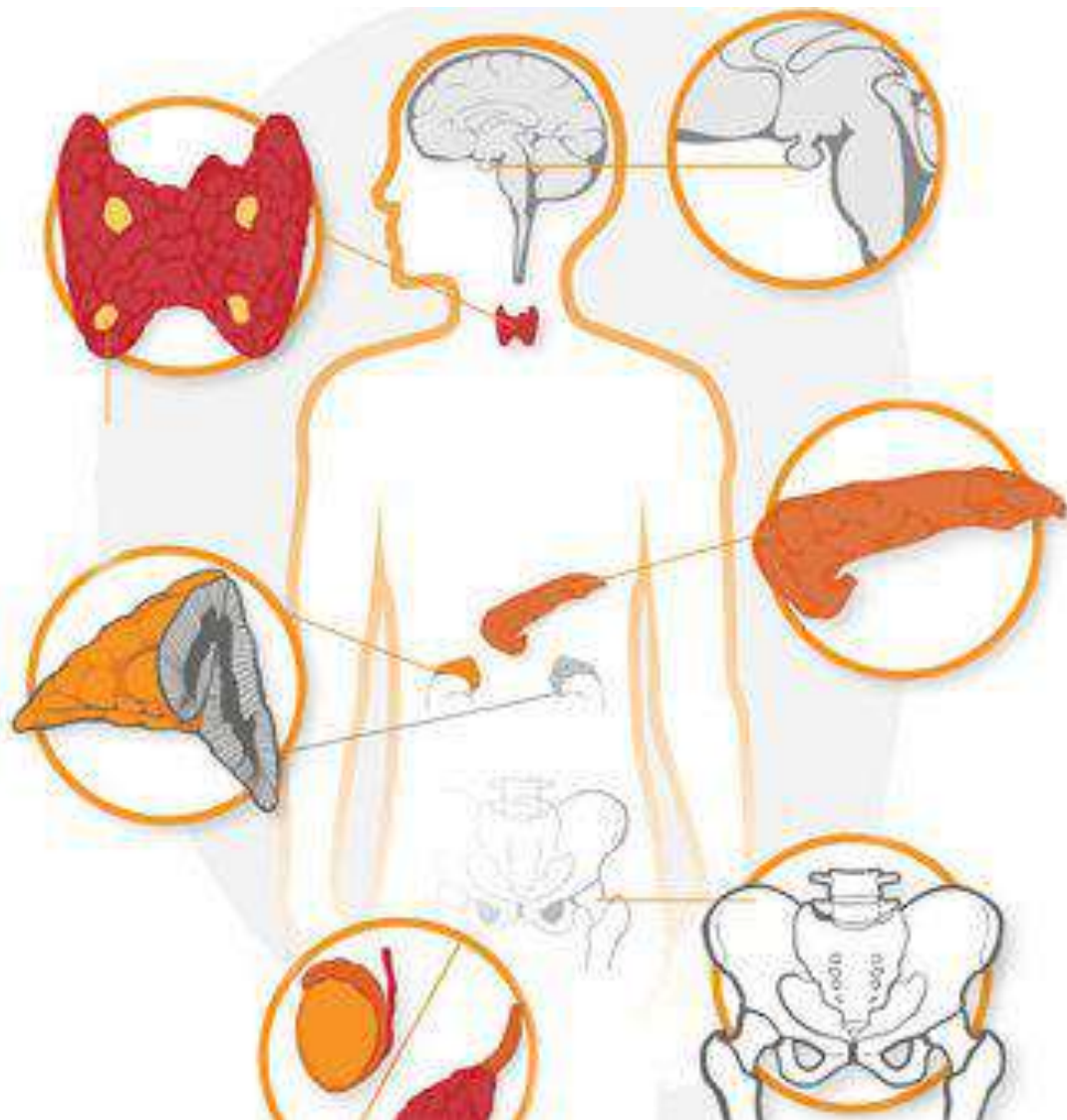


**МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ  
БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ**

**КАФЕДРА КЛІНІЧНОЇ ІМУНОЛОГІЇ, АЛЕРГОЛОГІЇ  
ТА ЕНДОКРИНОЛОГІЇ**

**ПРОБЛЕМНІ ПИТАННЯ ЕНДОКРИНОЛОГІЇ**  
Матеріали науково-практичної інтернет-конференції  
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# RELATIONSHIP BETWEEN UROKINASE ACTIVITY OF URINE, ENDOTHELIUM-RELAXING FACTOR AND EXCRETORY KIDNEY FUNCTION IN PATIENTS WITH OBESITY

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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 endothelium of hypercholesterolemia, atherogenic lipid fractions, prostaglandins, cytokines produced by adipose tissue – leptin, TNF- $\alpha$ , 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.

**Objecives** – to study urokinase activity (UA) of urine, excretion of nitric oxide (NO), as an endothelium-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 m<sup>2</sup>) 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 than 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 2,4 times compared with the control values ( $p<0,05$ ), and the excretion of NO significantly decreased 2,2 times, while the UA of urine also decreased ( $p<0,05$ ).



**Conclusions.** 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 nitric oxide and urokinase activity in urine decreases.

## **THE INFLUENCE OF STRESS FACTORS ON THE CARDIOVASCULAR SYSTEM OF ARTERIAL PRESSURE DISORDERS IN PATIENTS WITH STABLE ANGINA PECTORIS IN THE BACKGROUND OF THE METABOLIC SYNDROME**

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**Introduction.** The decrease of the life expectancy of the Ukrainian population is largely due to the high mortality from diseases of the circulatory system (DCS). According to statistics, DCS growth rates for the previous and recent years have doubled (from 21 to 41%). The first places in terms of the incidence rate are arterial hypertension (AH) and coronary heart disease (CHD), the increase of which was in the last 5 years, respectively, 69,8 and 48,1%, the prevalence of AH and CHD increased by 27,2 and 29,1%. Since the end of the 70s of the XX century, the subject of the debate is the hypothesis that people with an increased reaction to stress in the form of increased blood pressure (BP), an accession in heart rate and other cardiovascular reactions have an increased risk of developing of chronic AH.

**Objective of research** – to study changes in the physiological parameters of blood pressure under the influence of physical and psychoemotional loads, depending on the age.

**Materials and methods.** We examined 60 patients with stable angina pectoris and the metabolic mature and elderly syndrome. The dynamics of blood pressure was studied with the help of round-the-clock monitoring of blood pressure by the AVRМ-04 apparatus (Hungary). The patients were divided into three groups: group I – patients with a significant increase of blood pressure mainly under the influence of physical activity; group II – patients with a significant increase of blood pressure, mainly under the influence of psychoemotional load; group III – patients in whom blood pressure was not significantly changed under the influence of physical or psychoemotional load.

**Results.** A detailed analysis showed that in the first group the ratio of elderly and mature persons is 1:2, and in the second group, on the contrary, 2:1, in the third group the number of persons of mature and elderly age was almost the same.