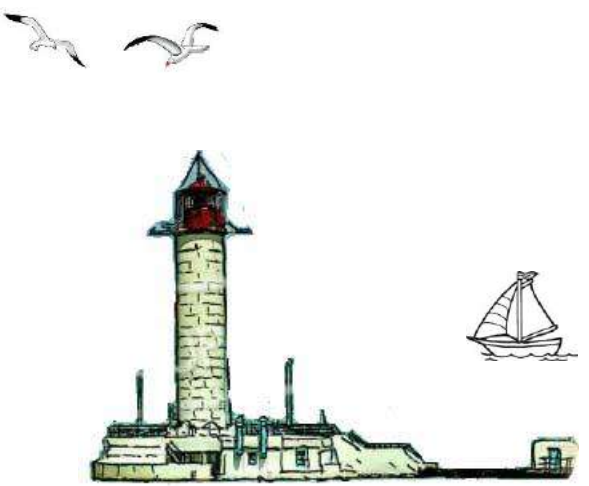
МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
ДП УКРАЇНСЬКИЙ НДІ МЕДИЦИНИ ТРАНСПОРТУ
МОЗ УКРАЇНИ
ОДЕСЬКИЙ НАЦІОНАЛЬНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ
НАУКОВЕ ТОВАРИСТВО ПАТОФІЗІОЛОГІВ УКРАЇНИ
УКРАЇНСЬКА АСОЦІАЦІЯ МЕДИЧНОЇ НАУКИ

БЮЛЕТЕНЬ XXIII ЧИТАНЬ ІМ. В. В. ПІДВИСОЦЬКОГО

16 – 17 травня 2024 року



ОДЕСА 2024

groups. Changes in the sodium-regulating function of the kidneys occurred due to a decrease in GF. Sodium clearance significantly decreased in patients with decompensated cirrhosis.

Conclusions. The disturbances in the water-electrolyte balance in patients with cirrhosis may be due to a decrease in GF with impaired excretion of sodium and water ions. These changes clearly manifest themselves against the background of salt load as the pathological process in the liver decompensates. They are functional in nature, as they occur in response to the administration of small volumes of fluid in a short period of time.

Key words: renal excretory function, liver cirrhosis, salt load.

Ключові слова: екскреторна функція нирок, цироз печінки, сольове навантаження.

UDK 616.61-008.6:616-018.74:616.36-004

THE RELATIONSHIP BETWEEN RENAL EXCRETORY FUNCTION AND THE ACTIVITY OF ENDOTHELIAL RELAXING FACTOR IN PATIENTS WITH LIVER CIRRHOSIS

ВЗАЄМОЗВ'ЯЗОК МІЖ ЕКСКРЕТОРНОЮ ФУНКЦІЄЮ НИРОК ТА АКТИВНІСТЮ ЕНДОТЕЛІАЛЬНОГО РЕЛАКСУЮЧОГО ФАКТОРУ У ПАЦІЄНТІВ З ЦИРОЗОМ ПЕЧІНКИ

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Introduction. An increase in the synthesis of the endothelial relaxing factor - nitrogen monoxide (NO) - plays a role in the development of a number of vascular and renal complications in liver cirrhosis (LC).

Purpose: to study changes in renal excretory function, NO activity and establish a possible relationship between these indicators in patients with decompensated LC.

Material and methods. We examined 19 patients with low-active decompensated cirrhosis of toxic origin aged from 32 to 56 years and 20

practically healthy individuals. The functional state of the kidneys was assessed using the clearance method under conditions of 12-hour spontaneous nocturnal and 2-hour induced water diuresis. The activity of endothelial relaxing factor was determined by the concentration of NO metabolites in the blood and urine using the Gries reagent.

Results. Renal dysfunction during spontaneous diuresis was manifested by a slight increase in blood creatinine concentration ($p<0.05$) with virtually unchanged glomerular filtration (GF) compared to the control group. At the same time, there is a normal level of NO metabolites in the blood and an increase in its concentration in the urine ($p<0.05$). A decrease in the adaptive reactions of the kidneys during water loading was revealed: a decrease in both total and relative diuresis ($p<0.05$), an increase in the concentration of plasma creatinine ($p<0.05$) with a decrease in GF by almost 3 times. The concentration of NO in the blood under water load conditions increased compared to control values ($p<0.05$), while its excretion in urine in general and when calculated per 100 ml of GF significantly decreased.

Conclusions. Impaired water balance in patients with decompensated cirrhosis may be due to functional changes in the kidneys, which is clearly manifested by a decrease in GF against the background of water load. Vascular mechanisms likely underlie this, as evidenced by decreased excretion of endothelial relaxing factor (NO) by active nephrons.

Key words: renal excretory function, liver cirrhosis, endothelial relaxing factor, nitric oxide, water load.

Ключові слова: екскреторна функція нирок, цироз печінки, ендотеліальний релаксуючий фактор, монооксид азоту, водне навантаження.