

## **POSSIBILITIES OF MODERN THERAPY OF LIVER CIRRHOSIS AND TYPE 2 HEPATORENAL SYNDROME**

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**Introduction.** Hepatorenal syndrome (HRS) is a severe complication that occurs in patients with cirrhosis of the liver (LC), characterized by clinical manifestations of renal failure (RF). Type 2 HRS is observed in patients with severe ascites that are refractory to diuretics. The average survival time of patients with type 2 HRS is 6 months. The laboratory criteria for type 2 HRS are the level of creatinine in the blood serum (above 150 mmol/l), characterized by a high plasma content of renin, aldosterone and antidiuretic hormone. Kidney failure develops slowly .

HRS is based on hemodynamic disorders leading to decreased renal blood flow, activation of the sympathetic nervous system, and increased synthesis of humoral and renal vasoactive mediators. Currently, HRS is considered as a functional disorder of kidney function, since there is no specific morphological substrate for it.

Depending on the intensity of the manifestation of RF and the prognosis, two types of HRS are distinguished. Type 1 HRS is observed against the background of acute hepatitis, spontaneous bacterial peritonitis, gastrointestinal bleeding (GCC) or after volumetric paracentesis without administration of albumin. With type 1 HRS, the prognosis is poor, and mortality is 80% within two weeks.

Other predisposing factors of HRS in 10% of patients with LC are bleeding from varicose veins of the esophagus and stomach, as well as the intensive use of diuretic drugs that lead to a decrease in circulating blood volume, the use of aminoglycosides, nonsteroidal anti-inflammatory drugs that inhibit the formation of prostaglandins and worsen the excretion of sodium ions.

It was of interest to study the effectiveness of a set of therapeutic measures in patients with LC and type 2 HRS admitted to the gastroenterology department of the hospital.

**The aim of the study** was to evaluate the results of treatment of patients with LC and type 2 HRS in order to optimize it and improve their quality of life.

**Materials and methods.** In the period from 2021 to 2023, 98 patients with LC were hospitalized at the clinic (57 in the gastroenterology department and 41 in the intensive care unit with bleeding from varicose veins), aged 20 to 68 years. The study included 39 patients with LC and type 2 HRS. Men – 34 (89.2%), women – 5 (10.8%), under

the age of 40 – 5 patients, 50-60 years – 22 and over 60 years – 12 people. All patients with LC had clinical and laboratory signs of chronic liver failure and type 2 HRS.

**Results.** The complex of therapeutic measures included conventional drug therapy according to hospital protocols. All patients underwent intensive conservative treatment, including infusion-transfusion therapy according to the standards and principles adopted in the clinic, which are published and well-known [2]. Due to severe ascites and severe respiratory failure, 13 (34.9%) patients (10 in the gastroenterology department and 3 in the intensive care unit) underwent laparocentesis, 5 of them for emergency indications. We remove 5-10 liters of ascitic fluid once every 2-3 weeks, while removing 2-5 liters in the first 2 hours, and the rest of the volume in the next 6-8 hours. 4-6 liters were removed to alleviate the patient's condition. If there are indications for the evacuation of 8-10 liters of liquid, then 6-8 g of albumin must be injected for each liter of liquid to be removed. Since 2010, hemodiafiltration has been performed in the hospital, applied in 4 patients with LC and type 2 HRS as the method of choice for this pathology. Laparocentesis is not performed with bilirubin above 170 mmol/L, thrombocytopenia below 40,000 in 1 mm<sup>3</sup>, and a prothrombin index below 40%. The treatment was accompanied by an improvement in the condition of patients, a decrease in the content of urea, creatinine and potassium in blood plasma, an increase in sodium concentration, and an increase in systolic blood pressure. In the analyzed group, 8 patients died, and the mortality rate was 21.7%.

**Conclusion.** In patients with LC and type 2 HRS, hemodiafiltration and plasmapheresis help to reduce the severity of renal failure and improve liver function, which to some extent facilitates the condition and improves the quality of life of this particularly severe category of patients.