calcium (Ca^{2+}) (potentiometry, "SINNOWA", China), parathyroid hormone (PTH) and *25*-hydroxyvitamin D (Vit D) (immune luminescent test "MAGLUMI", "SNIB", China), as well as genetic testing (qualitative real-time polymerase chain reaction (q RT-PCR, PCR)) for the detection of *AGTR1* (rs5186) and *VDR* (rs2228570) gene polymorphism was done. *AGTR1* gene genotyping was performed for 72 patients and 48 healthy individuals and *VDR* gene – for 100 patients and 60 healthy individuals.

The frequency of carbohydrate and 25-hydroxyvitamin D metabolism disorders, changes in parathyroid hormone and ionized calcium levels in hypertensive patients did not depend on polymorphic variants of genes AGTR1 (rs5186) and VDR (rs2228570). EAH associates with increased parathyroid hormone (>65,0 pg/ml) by 16,04% in *C*-allele carriers of *AGTR1* gene (rs5186) and decreased 25-hydroxyvitamin D (<30 ng/ml) regardless the genotypes *AGTR1* (rs5186) and *VDR* (rs2228570) genes. Reduced serum level of 25-hydroxyvitamin D escalates the risk of EAH almost threefold; fasting hyperglycemia leads to growth of EAH risk almost 15 times. Changes in parathyroid hormone and ionized calcium concentration do not influence the risk of EAH in the examined. *C*-allele of *AGTR1* gene increases the risk of EAH more than 2 times, *VDR* gene is not an additional risk factor of EAH in the examined.

Therefore, reduced serum level of 25-hydroxyvitamin D (<30 ng/ml) escalates the risk of EAH almost three times (p = 0,048), and fasting hyperglycemia (>6,1 mmol/l) leads to growth of the risk of EAH almost 15 times (p<0,001). An increase of parathyroid hormone (>65,0 pg/ml) and a decrease of ionized Ca^{2+} concentration (≤1,12 mmol/l) do not influence the risk of EAH in the examined patients (p>0,05).

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IMPACT OF CHRONIC PYELONEPHRITIS ON THE SURVIVAL OF PATIENTS WITH HEPATORENAL SYNDROME

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Hepatorenal syndrome (HRS) is a potentially reversible form of renal failure that occurs in patients with liver cirrhosis. The average life expectancy in untreated patients with HRS is about 2 weeks, and saving their lives is challenging. There are many instruments for assessing the severity of HRS in patients with cirrhosis, like hepatic failure scores, renal failure scores but their accuracy depends on the clinical situation. Recently, the concept of acute-on-chronic liver failure (ACLF) has become more recognized, i.e. development of the fulminant liver failure caused by secondary or extra hepatic causative factors - precipitating factors, such as infections and HRS in particular. In regards to this approach, the new score was developed to estimate the risk of short-term mortality in patients with sudden deterioration of the chronic liver disease – CLIF-C-ACLF score (Chronic Liver Failure Consortium of Acute-on-Chronic Liver Failure). However, this scale doesn't consider the pathophysiology of HRS type I and/or dynamics of the treatment. The aim of this study was to determine the most important predictors of the short-term mortality of patients with HRS using the CLIF-C-ACLF score, type of HRS and patients' response to the treatment.

The research enrolled 109 patients of Chernivtsi Oblast Narcology Dispensary admitted between January 2013 to August 2019. HRS was diagnosed based on criteria of EASL (European association for the study of the liver) Clinical Practice Guidelines for the management of patients with decompensated cirrhosis, 2018. All enrolled patients were prescribed 20% albumin intravenously (i/v) at the same dosage (1 g/kg per day on the first day of treatment and 20-40 g/day - in the next six days) and terlipressin (0,1mg/ml) in standard dosage by continuous intravenous administration for 7 days. They were distributed into 2 groups depending on the response to treatment: group 1 (n=57) - responders (decrease of sCr to ≤133 mmol/l), group 2 (n=52) - non-responders (decrease of sCr less than 50% of baseline). Statistical processing of the study results was carried out using the program package RStudio1.1.463.

The patients were 29 to 60 years old at the time of inclusion in the study. The average duration of the alcoholic liver cirrhosis (ALC) was (3.5 ± 1.54) years; average history of alcohol

abuse - (8.42 ± 3.53) years; gender distribution was: 77.9 % (n = 85) males and 22.1 % (n = 24) - females. HRS in both groups was mostly represented with the type 1: group 1 – 89.5 %; group 2 – 90.4% (p > 0.05) and had the initial scoring by CLIF-C-ACLF scale. The estimates of the probability of survival for each of the group members were found using Kaplan Meyer's procedure. That is, for group 1, the average risk of death was 0.153 ± 0.026, and it was 0.958 ± 0.034 for group 2. Risk in group 2 increased 6.26 times compared to group 1. For the multivariate analysis, we chose those clinical and laboratory parameters which have revealed a significant correlation with the short-term mortality: age, gender, response to treatment in the first 24 hours, chronic pyelonephritis, type I of HRS and CLIF-C-ACLF score. Type 1 of HRS, response to the treatment and the high baseline score by CLIF-C-ACLF scale were identified as the predictors of the short-term mortality. Improvement in renal function during treatment was observed in most patients in group 1: a decrease of the level of serum creatinine in patients with a response ranged from 323.2±91.1 to 121.6±30.0 mmol/l). There were no significant differences between the two groups in terms of the treatment duration (8.2±4.4 days in group 1 versus 9.1±5.0 days in group 2; p>0.05). Type 2 of HRS is more favorable for survival prognosis, as it develops more slowly and gives more time for adequate treatment measures. However, we had a very less number of such patients in our study – 10.5% of group 1 and 9.5% of group 2, as HRS type 2 is much rarer, than type 1.

The results of the study indicate that type 1 of HRS, the response to treatment in the first 24 hours, chronic pyelonephritis and high CLIF-C-ACLF score are the most important predictors of survival in patients with HRS. Monitoring of these indicators allows to identify the group of patients with the worst prognosis and to put them in priority to the liver transplantation list.

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ALDOSTERONE SYNTHASE CYP11B2 (-344C/T) GENE POLYMORPHISM INFLUENCE RISK OF CHRONIC KIDNEY DISEASE IN PATIENTS WITH ARTERIAL HYPERTENSION

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Renin-angiotensin aldosterone system (RAAS) plays a major role in blood pressure regulation. Aldosterone, synthesized in the adrenal cortex by aldosterone synthase is encoded by the cytochrome 11B2 aldosterone synthase gene (CYP11B2).

The aim of the study was to analyze the association of aldosterone synthase gene (CYP11B2) biallelic polymorphism in the promoter at position -344 (-344C/T) with Chronic Kidney Disease (CKD) in patients with essential arterial hypertension (EAH) in West-Ukrainian population. One hundred patients with EAH and target-organ damaging (2^{nd} stage), moderate, high or very high cardiovascular risk were involved in the case-control study. Among them 79.0% (79) women and 21.0% (21) men. Their average age is 59.87±8.02; disease duration from 6 to 25 years. Chronic Kidney Disease (CKD) was diagnosed in 29 people according to the National Kidney Foundation recommendations (2012) after glomerular filtration rate (GFR) decline <60 ml/min/1,73m^2 for ≥3 months (measured by CKD-EPI equations). All enrolled /examined patients signed the Informed Consent to participate in the research. Control group included 48 practically healthy individuals of relevant age. Gene's nucleotide polymorphism CYP11B2 (-344C/T) was examined by polymerase chain reaction.

The probability of EAH in observed people increased 1.49 times in *T*-allele carriers of CYP11B2 gene, but only in women [OR=1.90; 95%CI:1.02-3.54; p=0.029], with contrary decreasing risk in *C*-allele women (p=0.041). No relevant dependences were observed in hypertensive men. Also *T*-allele increased probability of CKD (GFR<60 ml/min/1,73m^2) in hypertensive population 1.48 times [OR=1.86; 95%CI:1.01-3.58; p=0.049], especially in *T*-allele women 1.53 times [OR=6.51; 95%CI:1.39-30.60; p=0.007] with low CKD risk in *T*-allele men [OR=0.15; 95%CI:0.03-0.72; p=0.009], respectively. Some predictors like DM2, the 2^{nd} and 3^{rd} grades of Obesity, and the 3^{rd} grade level of Blood Pressure elevation escalated the risk of CKD 2.4, 2.08-2.32 and 2.91 times as much, accordingly (p<0.05).