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CARDIOVASCULAR RISK FACTORS. PHYSICAL ACTIVITY
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There is a decrease in physical activity worldwide. Every third adult is not physically active. However, the increase in physical activity in terms of a healthy environment benefits the health of people of all age groups. The WHO provides recommendations for optimal activity levels, but even minor physical activity is better than its lack. People who suffer from lack of exercise should start with a low level of physical activity and gradually increase the duration, frequency and intensity of training. Among the factors that form the basis promoting many diseases, including cardiovascular ones, there is lack of physical activity. Approximately 3.2 million annual deaths are related to physical inactivity. Physical activity is any body movement involving skeletal muscles with energy release. Physical inactivity (lack of physical activity) is an independent risk factor for occurring chronic diseases. Healthy people are recommended to maintain appropriate levels of physical activity throughout their life. At least 30 minutes of moderate-intensity physical activity 5 times a week reduces the risk of a number of non-communicable diseases among adults. Stronger physical activity brings more health benefits and may be required to control the body weight. Physical activity helps prevent heart attacks and cardiovascular diseases. The results of all available researches demonstrate that regular exercises in moderate amount are perhaps the most effective preventive measure of heart diseases and their complications. In case of coronary artery diseases, regular exercises help the body to form more auxiliary arteries, through which the blood can flow around the body and bypass occluded blood vessels. Aerobic exercises contribute to the decrease of blood pressure, the level of triglycerides and low-density cholesterol, at the same time increasing the level of high-density cholesterol and preventing blood clotting.

The results of a large-scale investigation during 8 years of more than 84 thousand nurses are significant. Those who regularly did a complex of physical exercises presented the risk of heart attack or stroke 54% less compared to those women who had sedentary lifestyle. Modification of lifestyle is a priority in the treatment of hypertensive patients according to the recommendations of the European Society of Hypertension (ESH) and the European Society of Cardiology (ESC). Clinical studies show that to reduce blood pressure changes in lifestyle can be equivalent to the efficacy of the drug alone and able to safely and effectively prevent the development of hypertension or delay the use of drug therapy; to prevent, if necessary, the use of it by patients with stage 1 hypertension. In addition to effecting blood pressure reduction, lifestyle changes contribute to the control of other factors of cardiovascular risk and clinical conditions. In the recommended approach to lifestyle changes regular exercise is recommended, for example, at least 30 minutes of moderate physical activity within 5 - 7 days a week. Moderate aerobic exercises are walking, jogging, cycling, and swimming.

Sem aniv M.M.
HORMONAL AND METABOLIC RISK FACTORS OF ESSENTIAL ARTERIAL HYPERTENSION DEPENDING ON POLYMORPHIC VARIANTS OF THE AGTR1 (RS5186) AND VDR (RS2228570) GENES
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The aim of this study was to establish the role of hormonal and metabolic risk factors of essential arterial hypertension (EAH) depending on *1166A>C* polymorphism of *AGTR1* gene (rs5186) and *A/G* polymorphism of *VDR* gene (rs2228570).

100 subjects with EAH and target-organ damaging (2nd stage), moderate, high, very high cardiovascular risk were involved in the case-control study. Among them, 70,84% females, 29,16% males of average age $57,86 \pm 7,81$. The control group consisted of 60 healthy individuals of relevant gender and age. All patients were observed by general physicians, cardiologists. Patients were tested for serum level of fasting glucose (enzymatic method, "CORMAY", Poland), ionized

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