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БУКОВИНСЬКИЙ ДЕРЖАВНИЙ МЕДИЧНИЙ УНІВЕРСИТЕТ»

М А Т Е Р І А Л И

105-ї підсумкової науково-практичної конференції
з міжнародною участю
професорсько-викладацького персоналу
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Матеріали підсумкової 105-ї науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) – Чернівці: Медуніверситет, 2024. – 477 с. іл.

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У збірнику представлені матеріали 105-ї підсумкової науково-практичної конференції з міжнародною участю професорсько-викладацького персоналу Буковинського державного медичного університету, присвяченої 80-річчю БДМУ (м. Чернівці, 05, 07, 12 лютого 2024 р.) із стилістикою та орфографією у авторській редакції. Публікації присвячені актуальним проблемам фундаментальної, теоретичної та клінічної медицини.

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The aim of the study. The purpose of this review is to summarize the latest evidence on the importance of microbiota investigation and to explore possible future areas of research.

Material and methods. We performed bibliometric analysis for relevant publications in English and Ukrainian languages published after 2020 in Pubmed, Web of Science Core Collection and GoogleScholar. Altogether, around 600 articles on our topic were published within the mentioned period, of which 190 were analysed.

Results. Over time, dysbiosis has been reconsidered as a possible cofactor of multiple acute and chronic human diseases.The vicious cycles between gut dysbiosis and the GI tract diseases progression include impaired gut barrier, enrichment of circulating microbiota, toxicities of microbiota metabolites, a cascade of pro-inflammatory chemokines or cytokines, and augmentation in the generation of reactive oxygen species. Persistent oxidative stress, LPS infiltration and hepatocyte damage through the enterohepatic circulation may lead to hepatic stellate cell activation and hepatic fibrosis. Dysregulation of the gut flora is one of the factors connected to the onset of fatty liver disease. The pro- or anti-tumor effects of specific bacterial strains or gut microbiota-related metabolites, such as bile acids and short-chain fatty acids, have been highlighted in many human and animal studies. Dietary choices may alter constitution of the microbiome and cause gut microbiome dysbiosis, particularly due to the intake of food high in fructose sugars, animal products, and saturated fats.COVID-19 contributed to alcohol intake increase in some countries (folk medicine, social isolation), was accompanied by polypharmacy with using hepatotoxic drugs; medicamentous resistance; hypodynamia, decrease of physical activity and obesity frequency increase. Remarkable fact is that the problem is actual worldwide, and countries from all continents contributed the core collection of publications on this topic.

Preclinical and clinical studies have demonstrated that modulation of the gut microbiota can ameliorate liver function, reduce inflammation in liver and other portions of GI tract, underscoring the potential of this approach to improve HCC outcomes.Probiotics, prebiotics, synbiotics, fecal microbial transplantation (FMT), bioengineered bacteria, gut-restricted FXR agonists and others are promising therapeutic approaches that can alter gut microbiota composition.

Conclusions. The fine balance between symbiotic and potentially opportunistic and/or pathogenic microorganisms can undergo quantitative and qualitative alterations. A lot of economical, social, cultural factors are influencing microbiota of the gut. They are dynamic, depend on lifestyle of the individual and the population worldwide.

Voroniuk K.O.

ASSOCIATION OF GEOMETRIC MODELS OF LEFT VENTRICULAR HYPERTROPHY WITH CLINICAL, METABOLIC-HORMONAL PARAMETERS AND MINERAL METABOLISM IN HYPERTENSIVE PATIENTS

Department of Family Medicine
Bukovinian State Medical University

Introduction. Hypertension is the leading cause of cardiovascular disease and premature death worldwide. Owing to widespread use of antihypertensive medications, global mean blood pressure (BP) has remained constant or decreased slightly over the past four decades. By contrast, the prevalence of hypertension has increased, especially in low and middle-income countries (LMICs). Estimates suggest that in 2010, 31.1% of adults (1.39 billion) worldwide had hypertension. The prevalence of hypertension among adults was higher in LMICs (31.5%, 1.04 billion people) than in high-income countries (HICs; 28.5%, 349 million people). Variations in the levels of risk factors for hypertension, such as high sodium intake, low potassium intake, obesity, alcohol consumption, physical inactivity and unhealthy diet, may explain some of the regional heterogeneity in hypertension prevalence. Despite the increasing prevalence, the proportions of hypertension awareness, treatment and BP control are low, particularly in LMICs, and few comprehensive assessments of the economic impact of hypertension exist. Future studies are warranted to test implementation strategies for hypertension prevention and control, especially in

low-income populations, and to accurately assess the prevalence and financial burden of hypertension worldwide.

The aim of the study. To analyze the association of hypertrophic geometric models of the left ventricle (LV) with changes in clinical, anthropometric and metabolic-hormonal parameters and of mineral metabolism data in patients with essential arterial hypertension (EAH).

Materials and methods. The case-control study involved 100 patients with EAH stage II, 1-3 degrees of BP value, high and very high cardiovascular risk. Among the patients there were 21% men, 79% women, the average age was 59.86±6.22 years. The control group consisted of 60 practically healthy individuals, relevant in age (49.13±6.28y.o.) and gender distribution (63% - women, 37% - men). The lipid panel parameters, such as: TC (Total cholesterol), TG (Triglycerides), LDL-C (Low-density lipoprotein cholesterol), HDL-C (High-density lipoprotein cholesterol) were investigated in blood plasma. All the involved individuals were tested for serum levels of fasting glucose, ionized calcium(Ca^{2+}), parathyroid hormone (PTH), 25-hydroxyvitamin D (Vit D). LV hypertrophy (LVH) and LVH models were assessed by echocardiography.

Results. Eccentric LVH (ELVH) in EAH patients is associated with higher blood pressure than Concentric LVH (CLVH): Systolic blood pressure and Diastolic blood pressure are higher by 3.29% and 3.95% ($p \leq 0,05$-$0,04$). ELHV associates with higher body mass index and waist circumference in women - by 7.80% and 7.40% ($p \leq 0.05$-0.048), respectively. In addition, the ELVH was characterized by a lower ionized Ca^{2+} level in the blood than CLVH by 2.54% ($p=0.021$) with a compensatory higher concentration of PTH by 23.86% ($p=0.047$), which indicates the calcium homeostasis intensity in EAH patients. The lipids and glucose serum concentration as well as Vit D level do not associate with any of hypertrophic models of myocardium.

Conclusions. Lipid profile, blood glucose and Vit D concentration do not determine the development of any type of the LVH. ELVH is associated with lower Ca^{2+} level of and consequently with elevated PTH value.

Yurkiv O.I.

DIAGNOSTIC ASPECTS OF FUNCTIONAL DISORDERS OF THE DIGESTIVE SYSTEM OF NEWBORNS FROM THE PERINATAL RISK GROUP

Department of Patient Care and Higher Nursing Education
Bukovinian State Medical University

Introduction. A prerequisite for the development of inflammatory bowel diseases in infants is a violation of the composition and function of the microflora of the colon of newborns, which occur under the influence of perinatal factors. Clinical manifestations of disorders of the functional state of the intestines in newborns against the background of perinatal pathology are nonspecific, their severity depends on the duration and severity of the disorders, the presence or absence of background conditions.

The aim of the study. Increase the effectiveness of treatment of functional disorders of the digestive system of newborns.

Material and methods. Diagnosis of the intestinal disorders is carried out by a detailed study of the anamnesis in order to identify possible causes and pathogenesis of the development of the pathological process, on the basis of a clinical examination of the child with the identification of local (intestinal) and systemic (extra intestinal) manifestations of the disease, as well as in-depth laboratory and instrumental research. The first research group consisted of 30 newborns with perinatal pathology of varying degrees of severity. The second group included 30 newborns with the physiological course of the early neonatal period. The diagnostic complex included determination of secretory immunoglobulin A, alpha-1-antitrypsin and albumin in stools.

Results. As a result of intrauterine hypoxia, a complex of vegetative-visceral disorders occurs in newborns, the component of which changes the functional state of the digestive system. On the 6-7th day, a significant increase in the level of alpha-1-antitrypsin 1125.7±56.25 mg/g was noted in the newborns of the first group compared to the second group 96.5±1.83 mg/g, $p>0.05$ which marks an interstitial protein loss and indicates an increase in the permeability of the intestinal