МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
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
БУКОВИНСЬКОГО ДЕРЖАВНОГО МЕДИЧНОГО УНІВЕРСИТЕТУ
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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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Results. Different approaches were used by various investigators for studying season-related aspects in patients with OA. Main effective strategies included: number of OA hospitalizations or visits to outpatient clinics; Google search query volumes related to direct factors: disease, treatment; and indirect ones (orthopaedic footwear etc); patient internet surveys, questionnaires for self-assessments, seasonal tabulations of symptom onset as stated by persons admitted to hospital departments, grave incidents by enrolees in medical trials.

Data about seasonal influence upon onset and symptoms of OA are rather controversial. Agricultural workers have a higher incidence of OA during farming season which occurs in mid- to late-winter for ranchers. Significant seasonal changes in the articular cartilage of basketball players and other sportsmen were detected during play-off seasons or exactly after their termination suggesting that intensive exercise may increase the risk of the disease. Similarly, participants with multiple and fast races have an increased risk of subsequent arthroplasty of knee and hip due to osteoarthritis. In some countries, the spring season has the highest number of OA hospitalizations, possibly due to changing weather. Particulate matter and other types of pollution are important factors for the onset of OA in China and are season-dependent.

Possible pathogenetic factors included seasonal variation in the average serum 25(OH)D level but relationships with reported vitamin D supplementation were weaker. Prevalence of hip OA was significantly higher in those patients born in winter; this seasonal trend in hip osteoarthritis might be due to the winter prevalence of congenital dislocation of the hip in childhood. Level of collagen turnover marker – urinary CTX-II – depended not only on OA severity but on glomerular filtration rate and food intake (regimen and content) that are season-dependent. In a north European country, the circadian rhythm of serum concentrations of melatonin and TNF-α may be significantly higher in winter time than in matched controls from a south Europe country. Individual perception of symptoms and global state may be also influenced by depression, anxiety that may increase in a number of months.

Conclusions. Definitely, there is dependence between OA occurrence and season. Exact epidemiological factors may vary for different types of population, counties etc. Pathogenetic factors are poorly understood and require further investigation.

Okipniak I.V.

PARAMETERS OF THE CARDIOVASCULAR SYSTEM IN PATIENTS WITH CHRONIC CORONARY SYNDROME, DISEASES OF THE BRONCHOPULMONARY SYSTEM AND THEIR COMBIDITY

Department of Propedeutics of Internal Medicine
Bukovinian State Medical University

Introduction. Studies indicate a high risk of cardiovascular complications in patients with chronic coronary syndrome (CCS) and diseases of the bronchopulmonary system. The main mechanism connecting these conditions is endothelial dysfunction caused by inflammation and oxidative stress. It contributes to the development of pulmonary hypertension, which is a key cause of increased mortality in these diseases. Changes in the endothelium and pulmonary hypertension appear in the early stages of the disease. Analysis of hemodynamics and myocardial function in patients with CCS and respiratory system diseases, individually and in combination, is critical for understanding the mechanisms of their interaction and impact on the cardiovascular system. Echocardiography is a key tool for noninvasive assessment of the heart structure and function, providing detailed information about valves, arteries, and other parameters of cardiac function.

The aim of the study. To study and analyze echocardiogram indicators in patients with isolated and combined course of CCS and bronchopulmonary diseases.

Material and methods. 90 patients with CCS and bronchopulmonary diseases participated in the study. They were divided into 3 groups - patients with a combined course of both nosologies, patients with CCS and patients with respiratory system diseases (chronic obstructive pulmonary disease, bronchial asthma, emphysema). The control group consisted of 20 practically healthy people. Echocardiography (EchoCG) was performed in patients using an Ultrasonix OP ultrasound

system (calibrated and certified), equipped with software for automatic cardiological calculations in M and B modes. During the study, such parameters as the size of the aorta, left atrium (LA) and right atrium (RA), left (LV) and right ventricle (LV), thickness of the interventricular membrane (VT), volume and ejection fraction (EF) of the left ventricle were taken into consideration.

Results. Pronounced changes in the size of the heart (which differ from the other groups of patients and the control group) were found in patients with a combined disease of the respiratory system and chronic coronary syndrome (CCS). A significantly larger size of the right ventricle (RV) and the right atrium (RA) indicates the formation of a syndrome of mutual encumbrance of RD and CCS, which causes the development of the pulmonary heart. Evaluation of the right heart sections taking into account pulmonary complications indicates a significantly greater size of RA in patients with pulmonary emphysema compared to those without this disease — by 47.9% for RA and 51.9% for RA. The analysis of the left sections of the heart shows significantly larger dimensions of the LV and the annular component of the LV compared to the RD, CCS and the control group. Larger sizes of the interventricular septum and LV were also noted. This may indicate a negative impact of the combined disease on the functional remodelling of the left heart and the development of LV diastolic dysfunction. With the combined course, a larger size of the annular area of the LV region and a smaller value of the ejection fraction (EF) were noted, and this may indicate a reduced pumping function of the heart in the interaction of diseases.

Conclusions. Pronounced changes in the size of the heart were found in patients with a combined course of RD and CCS. These findings indicate a mutual aggravation of both. Analysis of the left and right parts of the heart allows to detect pathological changes that can affect the functional remodeling and pumping function of the heart in this category of patients. These results emphasize the importance of a comprehensive approach to the evaluation and treatment of patients with comorbidities.

Repchuk Yu.V.

THE ROLE OF THE ANGIOTENSINOGEN (rs699) AND VITAMIN D RECEPTOR (rs2228570) GENES IN THE DEVELOPMENT AND COURSE OF ESSENTIAL ARTERIAL HYPERTENSION

Department of Family Medicine
Bukovinian State Medical University

Introduction. Arterial hypertension is one of the most common cardiovascular diseases (CVD), which is characterized by high blood pressure (BP). The overall prevalence of hypertension in adults in 2015 was approximately 30-45% with a standardized global prevalence of 24 and 20% in men and women, respectively. Considering a heavy social burden of the disease and a high mortality rate, it is important to improve the effectiveness of predicting the severity of essential arterial hypertension (EAH) and early diagnosis of metabolic disorders for the purpose of secondary prevention and correction of treatment.

The aim of the study: to analyse the role of angiotensinogen (AGT, rs699) and vitamin D receptor (VDR, rs2228570) genes in the development and course of EAH.

Materials and methods.100 patients with stage II EAH, 1-3 degrees of blood pressure elevation, high and very high cardiovascular risk, including 21% (21) men, 79% (79) women were involved into the case-control study. An average age of the patients was 56.86±5.52 years. The control group consisted of 60 practically healthy individuals, comparable in age and gender distribution. To study the polymorphism of the AGT (rs699) and VDR (rs2228570) genes, qualitative real-time polymerase chain reaction (PCR) was performed.

Results. Relative frequency of hypertensive patients with obesity (body mass index (BMI) >30.0 kg/m2) was greater in T-allele carriers of the AGT gene (rs699) and the A-allele carriers of the VDR gene (rs2228570) than in controls - by 33.33% and 8.67%, respectively. With a smaller number of people with a normal BMI (≤24.9 kg/m2): for the T-allele of the AGT gene (rs699) – by 20.83%, for the A-allele of the VDR gene (rs2228570) – by 14.0% and 15.67% ($p<0.001$), respectively.