KM-1311-004
Intensity of intravascular microcoagulation in chronic obstructive pulmonary disease with atherothrombosis and thrombophilia
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Abstract: The growing occurrence of thrombophilic conditions in recent years, the discovery of new forms of thrombophilia, the involvement of intravascular microcoagulation in the development of many diseases make their study of primary importance especially in patients with chronic obstructive pulmonary disease and atherothrombosis. Such investigations would facilitate a deeper understanding of the detailed mechanisms of thrombosis in these patients and thereby contribute to the optimization of their treatment and prevention.

Key words: intravascular microcoagulation; coagulation; thrombophilia; chronic obstructive pulmonary disease; atherothrombosis

KM-1311-008
Metabolic syndrome and melatonin
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Abstract: Metabolic syndrome (MS) is characterized by the following symptoms: obesity, AH, dyslipidemia, insulin resistance. Pathophysiologically, MS is underlain by disorders of many biochemical and physiological processes, such as elevated levels of low density lipoproteins, hyperstimulation of pancreatic b-cells, increased insulin secretion, substitution of lipid metabolism for carbohydrate one, overgrowth of adipose tissue, excess production of adiponectin, leptin and other signal molecules and a rise in their local intravascular concentration, weight gain. Endogenous and exogenous melatonin inhibits these pathophysiological mechanisms, normalizes metabolism, equilibrates insulin secretion, prevents pancreatic hyperfunction, phosphorylates insulin receptors, inactivates active oxygen and nitrogen species including those produced in LDLP metabolism. Melatonin has specific MT1 and MT2 receptors localized in all body cells. Due to this, it exerts combined preventive action in patients with MS. Recently, melatonin has been reported to have therapeutic effect in MS; it may be recommended to treat this condition.

Key words: melatonin; metabolic syndrome; insulin resistance; β-cells; dyslipidemia; obesity.

KM-1311-014
The role of necrosis and inflammation markers in prognostication of acute coronary heart disease
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Abstract: With the incessant growth of cardiovascular mortality, mainly due to myocardial infarction makes prognostication of acute coronary syndrome a principal goal of clinical practice. Biochemical markers (creatine phosphokinase-MB and troponins) are extensively used for diagnostics and prediction of acute coronary heart syndrome (ACS). However, drawbacks of necrosis markers necessitate the search for new ones identifiable at early stages of atherosclerotic plaque instability. Lately atherosclerosis has been considered as an immuno-inflammatory reaction involving cytokines, chemokines, C-reactive protein, natriuretic peptide, and tumor necrosis factor-alpha. Their prognostic value has been demonstrated in many clinical studies, but these data are contradictory and need to be confirmed.

Key words: acute coronary syndrome; prediction; interleukins; natriuretic peptide; C-reactive protein.

KM-1311-021
Assessment of the microcirculation system by laser Doppler flowmetry
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Abstract: Laser Doppler flowmetry (LDF) is extensively used to study microcirculatory disorders, a main problem facing modern medicine. A wealth of data have been obtained on microcirculation in diabetes mellitus, HD, venous insufficiency and other diseases. This review focuses on basic principles of the method for the assessment of microcirculatory disorders by LDF using the domestically produced equipment. The main elements of the microcirculation system, capillary hemodynamics, and mechanisms of its regulation are described. The main elements and terms of LDF are considered, such as microcirculation index, flux, and variation coefficient along with elements of analysis of the amplitude-frequency fluctuation spectrum and different types of tissue blood flow. Active factors of microcirculation control modulate the blood flow from the vascular wall; their action is mediated through its muscular component. Passive factors cause variations of blood flow outside the microcirculation system; they are the pulsed wave originating from arteries and the sucking action of the venous respiratory pump. Under normal conditions, the vasomotor rhythm driven by the pacemaker in the precapillary segment of the microcirculation bed predominates. The compensatory role of other regulatory mechanisms increases with decreasing contribution of vasomotion to the active modulation of microcirculation hemodynamics. A change in the low to high frequency rhythm ratio reflects the microcirculation index (MI). In case of well-balanced active vasomotor and passive compensatory modulations of tissue blood flow observed in normoemic type of microcirculation, MI amounts to 2.2±0.05. Enhancement of high-frequency and pulsed fluctuation spectra results in a decrease of MI to 1.73±0.04 (hyperemic type) and 1.86±0.053 (hypoemic type).

Key words: microcirculation; microvessels; capillary component; laser Doppler flowmetry.

KM-1311-027
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Abstract: Definitions of ulcerative colitis (UC) and Crohn's disease (CD) are given, related terminological problems are discussed, the prevalence of UC and CD in the population is considered along with their etiology, pathogenesis, clinical symptoms, complications and extraintestinal (systemic) lesions. Classification and diagnostics of UC and CD are discussed with special reference to current international recommendations on their diagnostics and differential treatment.

Key words: ulcerative colitis; Crohn's disease; etiology and pathogenesis; classification; diagnostics and treatment.

KM-1311-034
Serum markers of inflammation and lipid-releasing ability of leukocytes in patients with arterial hypertension and angina of effort
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Abstract: Detection of cardiovascular risk factors remains a challenging problem. The inflammatory mechanisms behind atherosclerosis imply active involvement of neutrophils and realization of lipid-releasing ability of leukocytes (LRAL) mediated through the synthesis of proatherogenic proteins with the formation of protein-lipid complexes accumulated around atherosclerotic lesions. Studies of compromised protein-synthesizing function and mechanisms regulating LRAL are currently underway. The aim of the present work was to investigate serum markers of inflammation and LRAL in arterial hypertension (AH) without coronary heart disease (CHD) or AH + angina of effort. One group comprised 20 patients with AH without CHD the other included 20 patients with AH and CHD. Control group consisted of 18 healthy subjects. LRAL was measured in vitro in addition to serum IL-6, IL-8, CRP, and TNF-a. Effect of TNF-a on LRAL was evaluated in vitro in CHD patients. It was shown that mean LRAL in healthy subjects and patients with AH without CHD were not significantly different whereas IL-8 and CRP levels were markedly elevated in AH patients. Patients with AH and CHD had maximum LRAL and IL-6, IL-8, CRP, TNF-a levels. The study showed the possibility of increase in LRAL under effect of proinflammatory cytokines. LRAL and inflammatory mechanisms contribute to the development of CHD and can be used for diagnostics of CHD in AH patients.

Key words: arterial hypertension; atherosclerosis; coronary heart disease; lipid-releasing ability of leukocytes; inflammation.
Simultaneous quantification of soluble fibrin and D-dimer in blood plasma for the assessment of the threat of thrombosis

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Abstract: Soluble fibrin and D-dimer are the most specific markers of blood coagulation cascade and the threat of thrombosis. Two immunoassay test systems were designed using the fibrin-specific and D-dimer-specific monoclonal antibodies. The clinical trials of the test systems were carried out in Ukraine. The high informative value of soluble fibrin quantification as a prognostic indicator of the threat of thrombosis associated with hip replacement and endoprosthetics of the abdominal aorta was shown. Independent D-dimer quantification is less informative. Simultaneous quantification of soluble fibrin and D-dimer before operation and at different time intervals after it is required for the prediction of postoperative thrombotic complications and monitoring the efficiency of antithrombotic therapy. Only in this case it is possible to get information about the state of the balance between blood coagulation and fibrinolytic systems, and determine the degree of the threat of thrombosis.

Key words: soluble fibrin; D-dimer; ELISA test systems; the threat of thrombosis.

Effect of dyssynchrony on myocardial remodeling in patients with chronic heart failure associated with type 2 diabetes mellitus

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Abstract: The study included patients with chronic heart failure (CHF) associated with type 2 diabetes mellitus (DM). Dyssynchrony (DS) is a frequent cause of unfavourable prognosis in CHF patients. The relationship between DS and left ventricle (LV) geometry in patients with CHF and DM is virtually unexplored. Aim. To estimate effects of DS and left bundle branch block (LBBB) on LV geometry in patients with CHF and DM. Materials and methods. The study included 61 patients with CHF of ischemic etiology (NYHA II—IV FC) divided between 4 groups. Group 1: patients with CHF without type 2 DM, group 2: patients with CHF and type 2 DM, group 3: patients with CHF, type 2 DM, and DS, group 4: patients with CHF, type 2 DM, DS, and LBBB. Interventricular DS was determined by standard Doppler EchoCG in the pulsed-wave regime. Results and discussion. Remodeling in patients of group 1 and 2 was presented mainly by concentric heart hypertrophy (73.3% and 57.89% respectively, p<0.05) compared with 20 and 14.3% in groups 3 and 4 (p=0.05). Concentric remodeling occurred in 33.3 and 28.5% of the patients in groups 3 and 4 respectively. Eccentric hypertrophy was documented in all groups except group 1; it was more frequent in the presence of DS (46.6 and 57.14% in groups 3 and 4 respectively). Normal LV geometry and concentric hypertrophy was characteristic of patients with NYHA II FC CHF and eccentric hypertrophy in those with NYHA III-IV FC CHF. Conclusion. Myocardial remodeling associated with DM2 and DS is characterized by formation of different types of myocardial geometry. Structural and functional changes in LV myocardium represented by eccentric hypertrophy are especially well pronounced in patients with CHF, type 2 DM, DS, and LBBB.

Key words: remodeling; dyssynchrony; chronic heart failure; type 2 diabetes mellitus.
development of stage II of the disease. Risk factor for the formation of III-IV stages of chronic lymphocytic leukemia is a genetic variant -703T IL-5 (OR = 1.95).

**Key words:** chronic lymphocytic leukemia; polymorphism; interleukin-1A; interleukin-4; interleukin-5; interleukin-8.

**KM-1311-053**
**Treatment of hepatic insufficiency in benign mechanical jaundice**
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**Abstract:** The aim of this work was to estimate hepatic dysfunction and improve treatment of benign mechanical jaundice using an injection hepatoprotector. The study included 124 patients of whom 74 were given remaxol. 50 control subjects received basal therapy. The patients were randomized by the random sampling method. Severity of cholestasis was evaluated from the total and fractional bilirubin content and y-glutamyl transpeptidase (GGT) level; AST and ALT activities were used to detect cytolysis. Liver synthetic function was estimated from prothrombin index (PTI) and coagulation function from fibrinogen level, PTI and APTT. Endogenous intoxication during biliary tract decompression was assessed by calculating the leukocyte intoxication index from the Kalf-Kalif formula. It was shown that remaxol suppresses cytolysis, reduces total and fractional bilirubin levels, improves bilirubin excretion in bile and decreases activity of hepatocyte excretory enzymes.

**Key words:** benign mechanical jaundice; cytolysis; cholestasis; remaxol

**KM-1311-057**
**Challenges and advances in diagnostics, prevention and treatment of hepatorenal syndrome**
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**Abstract:** Hepatorenal syndrome (HRS) is an exclusion diagnosis in patients with decompensated liver cirrhosis. True hepatic functional insufficiency is sometimes unobvious. Differential diagnostics of HRS encounters difficulty despite new diagnostic criteria. HRS can be prevented by the correct treatment of portal hypertension and hepatic insufficiency under careful monitoring. Effective conservative therapy may significantly change the short-term prognosis and facilitate remission in selected patients. Terlipressin is the agent of choice for HRS therapy aimed at the promotion of intrahospital survival for the subsequent referral of the patient to liver transplantation.

**Key words:** decompensated liver cirrhosis; hepatorenal syndrome; terlipressin; renal insufficiency hepatorenal syndrome.

**KM-1311-063**
**Chronic autoimmune thyroiditis as a predictor and precursor of metaplasia**
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**Abstract:** In recent years an increase in the incidence of chronic autoimmune thyroiditis (CAT) and its transformation into thyroid cancer (TC) and thyroid lymphoma (TL) have been recorded. The article discusses etiologic and pathogenetic relationships between CAT, TC, TL, PDS and MEN syndromes. Clinical, laboratory, intrascopic and morphological diagnostics of CAT and comorbidities is considered. The algorithm for the choice of the treatment is presented.

**Key words:** autoimmune thyroiditis; thyroid and non-endocrine metaplasia.

**KM-1311-068**
**Hemorrhagic fever with abdominal syndrome disguised as acute appendicitis**
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Abstract: A case of hemorrhagic fever with renal and abdominal syndromes in the form of appendicitis is reported.

Key words: hemorrhagic fever with renal syndrome; appendicitis; abdominal cavity organs.