KL-1302-003
The high content of palmitinic fatty acid in food as a major cause of increase of concentration of cholesterol and low density lipoproteins and nodular sclerosis of arteries' intima
V.N. Titov
Abstract: The positioning of individual triglycerides of blood serum in palmitinic and oleic lipoproteins of very low density in the order of increase of the rate constant of their hydrolysis under action of post-heparin lipoprotein follows to the sequence as follows: palmitoil-palmitoil-palmitate→palmitoil-palmitoilt-oleate→palmitoil-oleil-palmitate→oleil-palmitoil-palmitate→oleil-palmitoil-palmitate→oleil-oleil-palmitate. The shift to the left is discerned with this spectrum of isoforms of triglycerides. The shift to the left into direction of palmitinic triglycerides occurs in case of eating of animal food (i.e. beef and foodstuff of fat saw milk) when the content of palmitinic saturated fatty acid supersedes 15% of fatty acids total and under the development of endogenic syndrome of insulin resistance. The content of low density lipoproteins cholesterol is high in blood. The shift to the right with prevalence of oleinic triglycerides occurs in case of low content of beef and foodstuff of fat saw milk in food, fish eating, seafood and olive oil. The physiologic levels of carbohydrates in food and insulin function are present too. The shift to the right initiates the action of insulin, ω-3 essential polyenic fatty acids, glytazones and fibrates. They increase the activity of 99-stearil-KoA-desaturase-2 and the transformation of palmitine saturated fatty acid into mono unsaturated oleinic fatty acid. The shift to the left forms the palmitine alternative of metabolism of substrate to supply cells with energy. The shift to the right is a more effective oleinic alternative.
Key words: fatty acids, triglycerides, insulin resistance, 99-stearil-KoA-desaturase-2

KL-1302-010
The dynamics of endogenic intoxication in patients with extensive burns
S.B. Matveyev, S.V. Smirnov, Ye.V. Tazina, M.V. Shakhlamov, M.A. Godkov, V.S. Borisov
Abstract: The sampling consisted of 22 patients with extensive burns with total affected area from 20% to 84% of body surface and with deep burns area from 10% to 40%. The supplicative complications in the form of sepsis were diagnosed in 10 and the transitory bacteremia in 12 victims. The total and effective concentration of albumin, the content of medium molecular peptides in dynamics at 1-3, 7, 14 and 21 days from the moment of trauma were detected to objectively evaluate the endogenic intoxication. The degree of intensity of endogenic intoxication was studied using such integral indicator as effective utilization factor. In patients with extensive burns the endogenic intoxication was diagnosed on the basis of total and effective concentration of albumin and increase of content of medium molecular peptides. However, the detection of endogenic intoxication of the basis of effective utilization factor is a more informative as compared with the analysis of these indicators separately and, hence, it promote the prescription of more appropriate disintoxication therapy its effectiveness evaluation including.
Key words: severe burn, endogenic intoxication, endogenic intoxication factor

KL-1302-012
The detection of leptin and metabolic markers of insulin resistance in patients with cardiac infarction
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Abstract: The shortage of data concerning the character of changes of leptin concentration and its role in formation of insulin resistance under development of acute coronary events determined the appropriateness of the present study. The cardiac infarction patients with and without diabetes type II were examined. The identified hyperleptinemia, its relationship with basal and post-prandial hyperglycemia and with increase of C-peptide concentration and free fatty acids made possible to consider leptin both as one of the important components in the series of carbohydrate and lipid metabolism disorders and the additional marker of development of insulin resistance under cardiac infarction. These study results can be applied to patients with diabetes anamnesis and to patients without this concomitant pathology. The study results can be used as a foundation for new diagnostic and therapy tactics of metabolic disorders correction in patients with acute coronary vascular pathology.
Key words: leptin, insulin resistance, cardiac infarction

KL-1302-016
The evaluation of changes in concentration of ghrelin, somatotropin, insulin-like growth factor-1, insulin, leptin and thyroid hormones in mother and umbilical blood in case of physiologic pregnancy with normosomia and macrosomia of fetus
A.S. Shulga, Ye.V. Butenko, A.A. Aleksandrova, L.V. Gutnikova, A.A. Rymashevskiy, A.V. Shestopalov, T.P. Shkurat
Abstract: The sample of women with physiologic pregnancy consisting of 40 females with fetus normosomia and 8 females with fetus macrosomia were examined. The examination covered the evaluation of changes in concentration of ghrelin, somatotropin, insulin-like growth factor-1, insulin, leptin and thyroid hormones in mother and umbilical blood. In females with fetus macrosomia the changes in concentration of hormones regulating trophism, energy balance and anabolic processes in organisms of mother and fetus were detected.

Key words: ghrelin, somatotropin, insulin-like growth factor-1, insulin, thyrotropin, thyroxin, fetus macrosomia

The test of benzamide derivative neuroleptics using the technique of thin-layer chromatography
R.A. Kaliyokin

Abstract: The article presents the data concerning the application of technique of thin-layer chromatography in the conditions of laboratory diagnostics to identify benzamide derivative neuroleptics (amisupride, sulpiride, tiapride) in derivate from human biologic fluids and tissues with the possibility to separate the analyzed tissues from soextractive tissues.

Key words: neuroleptics, amisupride, sulpiride, tiapride, thin-layer chromatography

The relationship between concentrations of pepsinogens in blood serum and pathohystologic parameters of adenomas and adenocarcinomas of stomach

Abstract: The article demonstrates that in patients with adenomas of stomach the concentration of pepsinogen I in blood serum and the rate between pepsinogen I and pepsinogen II is decreased. In case of adenomas and adenocarcinomas of stomach the concentration of pepsinogen I and the rate between pepsinogen I and pepsinogen II are in inverse correlation relationship with indicators of proliferative activity of epithelial cells and tumor cells correspondingly. The threshold level wa the rate between pepsinogen I and pepsinogen II can be used as criteria of intensity of proliferative activity of epithelial cells of adenomas and cells of adenocarcinomas of stomach.

Key words: pepsinogen, adenoma, adenocarcinoma, stomach, proliferation

The diagnostic role of chemokines and their receptors under chronic hepatitis C
K.A. Sysoyev, A.B. Tchukhlov, A.A. Totolyan

Abstract: The chronic hepatitis C is characterized by the increase of inflammatory disorders and progression of fibrosis of liver. The corresponding immunologic mechanisms of hepatic lesions are still undiscovered. The actual review presents the analysis of scientific publications and genuine research data concerning the role of chemokines in pathogenesis of chronic hepatitis C. The chemokines are small cationic proteins enhancing transit and precipitation of migrating cells (leucocytes mainly) in tissues and organs. The significant role of chemokines in tissue homeostasis, in case of inflammation, wound healing and cell proliferation is demonstrated. The particular kinds of chemokines are produced by different types of cells and impact target cells through their specific receptors. According the data of various studies, chemokines and chemokine receptors of CC-families and CXC-families are involved in fibrosing processes and anti-inflammatory activation of hepatic-biliary system under chronic hepatitis C. The diversity of producers and targets of chemokines in liver is very pronounced: hepatocytes, stellar cells, endothelium cells, macrophages (Kupffer cells), dendritic cells, lymphocytes and monocytes. The review considers pathogenesis of chronic hepatitis C from the standpoint of participation of chemokines and chemokine receptors at different stages of cellular transit. The most important cell populations involved into pathologic changes under chronic hepatitis C are characterized. The decrease of expression of such gens as CCR1, CCR2, CCR3, and CCR5 in blood leucocytes deserves additional studies to establish their diagnostic values as a marker of disorders of immune system in patients with chronic hepatitis C.

Key words: chemokines, chemokine receptors, chronic hepatitis C

The interpretation of results of immune phenotyping during diagnostic of lymphatic proliferative disease accounting the immune phenotyping count
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The Kirov research institute of hematology and blood transfusion of the Federal medical biological agency, Kirov
Abstract: The article considers immune phenotyping heterogeneity of chronic lymphatic leukemia detected using basic diagnostic markers of cell. The results of analysis of immune phenotypes of 108 patients with B-cell lymphatic proliferative diseases made it possible to establish that the atypical is related most rarely to indicators of expression of monotypic immunoglobulines and CD5 and most frequently to CD23, FMC7, CD22 and CS79b. During the present observation, the immune phenotyping count made up "3" or "2" points and the atypical alternative was registered among 10% of all examined patients with chronic lymphatic leukemia. It is demonstrated that patients with chronic lymphatic leukemia and with lower immune phenotyping count are characterized by major intensity of tumor substrate.

Key words: immune phenotyping, immune phenotyping count, chronic lymphatic leukemia

KL-1302-033

The diagnostic and prognostic value of increase of concentration of proinflammatory and antiinflammatory cytokines in blood under chronic lymphatic leukemia

T.N. Jevak, N.P. Tchesnokova, T.V. Shelekhova

Abstract: The article presents the results of study of cytokine profile of blood of patients with B-cell lymphatic leukemia. It is established that at different stages of disease the regular characteristic of changes in cytokine status is the increase of concentration of interleukin 4 (IL-4) and tumor necrosis factor. This fact can be considered as one of leading pathogenic factors leading to disturbances of intercellular interaction in lymphoid tissue and to development of systemic metabolic and functional disorders. The parallelism between progressing increase of concentration of interleukin 4 and α-tumor necrosis factor, character of qualitative and quantitative alterations of cell structure of peripheral blood, severity of clinical manifestations of disease are established. The indicators of concentration of interleukin 4 and α-tumor necrosis factor in blood are the objective diagnostic and prognostic criteria of pathology development. They can complement the classification attributes of staging of the course of chronic lymphatic leukemia.

Key words: chronic lymphatic leukemia, lymphocytes, cytokines, proliferation, apoptosis

KL-1302-036

The ability of diphtheria causative agent to form biofilm


Abstract: The article deals with results of studying diphtheria causative agent capacities to form biofilm as one of mechanisms of persistence in human organism. The study object was strain of C.diphtheriae gravis tox+ obtained from nasopharynx of patient aged 19 in municipal hospital №1 of town of Gukovo of Rostov oblast in 2011. The patient had diagnosis of "diphtheria of nasopharynx, typical filmy, localized, mild severity, even course". The control was implemented using the museum strain C.diphtheriae gravis tox+ № 665 from the L.A. Tarasevitch state research institute of standardization and biologic preparations control. It is established that diphtheria causative agent as an ability to form biofilm. The intensity of process of formation of exopolysaccharide is higher on glass that on plastic surfaces. The differences in degree of intensity of formation of biofilm are revealed between the strain circulation in population and museum strains C.diphtheriae gravis tox+. The vital capacity of biofilm forming microorganisms is related with adaptation possibilities of strains.

Key words: diphtheria agent, biofilm

KL-1302-038

The development of complex technique of evaluation of virulence of parahemolytic vibrio


Abstract: The article deals with results of studying parahemolytic vibrio separated from different sources according their phenotype and genotype attributes associated with virulence. In certain cases the mismatch of results of Kanagava tests and polymerase chain reaction test of gene tdh was established. The need in virulence complex evaluation is substantiated. This complex has to include detection of hemolytic activity in Kanagava test and urease activity on the Kristensen medium and polymerase chain reaction detection of genes tdh and trh. The developed complex technique is described. The formula of pathogenic strains is established. Three alternatives of virulent parahemolytic vibrio are given. The test-strains Vibrio parahaemolyticus are proposed as control in testing phenotype and genotype strains according virulence signs.

Key words: parahemolytic vibrio, Kanagava phenomenon, urease activity, genes of thermostable direct hemolysin (TDH) and TDH-related hemolysin (TRH)
The metrological support of medical laboratory activity
A.V. Emanuel, V.I. Suvorov, O.V. Yevseyenko,

Abstract: The article discusses the methodological approaches in implementing of regulations of the Federal law FZ-102 "On the support of unity of measurements in the area of laboratory medicine" from the positions of GOST K ISO 9001-2008 "The systems of quality management. Requirements" and GOST K ISO 15189-2009 "medical laboratories. The particular requirements to quality and competence". The application of GOST K ISO 18113.1-5 "The medicine items for diagnostic in vitro. Information provided by manufacturer (marking)" neatly assigns the responsibility for support of metrological correctness of laboratory measurements.

Key words: metrology, laboratory measurements

The analysis of dosage inaccuracy and its minimization modes
S.B. Pavlov, M.V. Kumetchko, L.V. Tchernikh, N.M. Babenko

Abstract: The article deals with the analysis of factors impacting dosage inaccuracy and input of this inaccuracy into total inaccuracy of analysis. The total dosage inaccuracy includes both the value of inaccuracy mentioned in the technical passport of dosage device and inaccuracy values occurring at all stages of dosage during implementation of technique. The characteristics of dosage devices and their merits and shortcomings are taken into account. The article substantiates the choice of types of dosage devices to be implemented in the laboratory research. The modes of errors elimination and inaccuracy minimization were analyzed against the perfectly calibrated and totally corresponded to passport data device of air transfer dosage.

Key words: dosage, inaccuracy, dosage device, air transfer dosage device, quality control, laboratory research

The roadmap of harmonization of clinical laboratory measurement techniques

Abstract: The results of implementation of different clinical laboratory techniques are to be equal in clinically significant limits to be optimally applied in diagnostics of diseases and treatment of patients. When the results of laboratory tests are not standardized and harmonized for the very same clinical assay the results can be expressed by unmatched numbers. Unfortunately, in some handbooks the values are presented based on the results of application of specific laboratory techniques without considering possibility or likelihood of differences between various techniques. When this is a case, accumulation of data of different clinical research studies and working out of clinical handbooks on this basis will be inconsistent. Inadequate understanding of issue that the results of laboratory tests are not standardized and harmonized can lead to incorrect clinical, financial, managerial or technical decisions. The standardization of clinical laboratory techniques was applied to many measurands related to primary referent techniques (standard specimen of pure substance) or/and developed referent measurement techniques. However, harmonization of clinical laboratory techniques for those measurands which are not related any developed measurement techniques is quite problematic due to inadequate determination of measurand, its inadequate analytical specificity, insufficient attention to commutability of referent materials and poor systematic approach to harmonization. To overcome these issues an infrastructure is to be developed to support systematic approach to identification and prioritization of measurands which are to be harmonized on the basis of clinical importance and technical applicability. The management of technical implementation harmonization process for specific measurands.

Key words: harmonization, clinical laboratory measurement techniques, commutability of referent materials, referent measurement techniques, infrastructure of systemic identification and prioritization of measurands, management of implementation of harmonization of measurands