Materials and methods. The DAM level was measured by the classical thiobarbituric acid method, described by Vladimirov Iu. (1972), in the hepatic homogenate and erythrocytes of white laboratory rats subjected to muscle ischemia (240 min) and reperfusion (90 min) compared to control (240 min. ischemia) and healthy animals.
Results. Prolonged ischemia (240 min) induced an insignificant ($p > 0.05$) increase in the level of DAM in both the hepatic homogenate (+7%) and in the erythrocyte hemolysate (+9%) in the experimental animals compared to the healthy ones. Removal of the causal factor and reperfusion (90 min) of the compressed muscle tissue did not change the DAM values in the hepatic homogenate, but produced a statistically significant decrease, up to values below those found in the control animals, in erythrocytes (-25%, $p<0.01$). Thus, long-lasting ischemia is associated with an insignificant increase in the end product of lipid peroxidation, which possible confirms the sufficient antioxidant capacity of the liver and erythrocytes, which in the case of blood cells is surpassed by the oxidative explosion conditioned by the reperfusion and the entry of oxygen.
Conclusions. Statistically insignificant changes of DAM content in the liver and erythrocytes of animals with oxidative stress triggered by ischemia/reperfusion attest minor value of DAM as a marker of oxidative stress at late stages of the pathological process.
Key words: malonic dialdehyde, oxidative stress, ischemia/reperfusion, crush syndrome

299. NON-INVASIVE DIAGNOSIS OF HEPATIC FIBROSIS

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Introduction. Hepatic fibrosis is a worldwide health issue, whose prognosis; management and potential treatment depend on establishing the accurate diagnosis according to the progression of the disease. Modern medicine studies efficient, safe and non-invasive methods for the assessment of hepatic fibrosis, such as serum biomarkers and imaging techniques: FibroScan elastometry, MRI, ARFI.
Aim of the study. Identification and study of the non-invasive methods for the diagnosis of hepatic fibrosis
Materials and methods. A bibliographic study of scientific literature from 2009-2020 based on Biomed Central, Bio Predictive, ACS Publications data bases was done, with the following search words – hepatic fibrosis, non-invasive diagnosis, fibrotest, biomarker of fibrosis.
Results. Serum biomarkers, used for the assessment of hepatic fibrosis, are classified in: direct biomarkers – Procollagen type I carboxy-terminal peptide (PICP), Procollagen type III amino-terminal peptide (PIIINP), matrix metalloproteinases (MMPs), tissue inhibitors of matrix metalloproteinases (TIMPs), hyaluronic acid (HA), transforming growth factor β1 (TGFβ1), laminin, connective tissue growth factor (CTGF); and indirect biomarkers – AST/ALT ratio, coagulation factors, platelet count, γ2-macroglobulin, γ2-globulin, γ-globulin, apolipoprotein A1, GGT, total bilirubin. These serum biomarkers are combined in non-invasive scores such as APRI, FibroTest, FIB-4. Transient Ultrasound Elastography or FibroScan measures liver stiffness (elasticity) and allows determining the stage of hepatic fibrosis according to METAVIR score: F1, F2, F3, and F4. MRI can be used to measure hepatic stiffness, and at the same time other associated pathologies.

Conclusions. Management and individualized treatment of hepatic fibrosis depend on establishing an accurate stage diagnosis. Non-invasive methods, serum biomarkers and imaging techniques allow to determine a correct diagnosis and at the same time to minimize the complications. FibroTest, FibroScan and APRI score are methods that showed the highest clinical efficiency. However, recent studies are focused on identifying the correlation between tissue modifications, the results of serum biomarkers and FibroTest, FibroScan and APRI score.

Key words: hepatic fibrosis, non-invasive methods, FibroTest, FibroScan, APRI, biomarker of fibrosis.

300. FAMILY OF COLECISTOKINETIC PEPTIDES

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Introduction. Cholecystokinin (CCK) is a peptide hormone that, together with secretin and gastrin, forms the triad of intestinal hormones. Due to the receptors, which are expressed in different tissues, and to the diversity of the subgroups of the cholecystokinin family peptides that activates them, CCK acts on different organs and systems.

Aim of the study. Identification and study of the biochemical and physiological effects of the subgroups of the CCK peptides family and of their role in maintaining homeostasis and viability of the human organism.

Materials and methods. A bibliographic study of the specialized literature present in the databases PubMed, MeSH, Internet Archive, IUPHAR/BPS, from 2010-2020 was performed, using the search words cholecystokinin, CCK receptors, expression of CCK receptors, cholecystokinin-like peptides, physiology of the Gastrointestinal Tract.

Results. There are two types of CCK receptors: CCK-A (CCK1 "Alimentary") and CCK-B (CCK2 "Brain"). CCK-A receptors are located in the gall bladder where stimulates its contractions, in the intestinal parietal mucosa where via somatostatin inhibits gastric acid secretion, in the nervous system where directly or indirectly, through dopaminergic processes, it modulates the behavior in general and eating behavior in particular. CCK-B receptors are predominantly in the CNS where they modulate anxiety, analgesia and neuroleptic activities. CCK-B receptors also have been identified in the pancreas where they stimulate the secretion of enzymes. It has been shown that pancreas-responsible neurons release CCK-8 and CCK-5, which subsequently produce effects. Moreover, CCK via acetylcholine activates parasympathetic neurons, therefore increasing blood supply to the stomach and increasing motility. At the thyroid level, CCK-8 stimulates normal growth and C-cell proliferation.

Conclusions. The expression of CCK at the level of different organs determines a wide range of various effects, involved in normal metabolic and physiological processes, which ensures the maintenance of homeostasis and viability of organs and tissues. Knowledge of the pleiotropic effects of the CCK family peptides and the receptors involved in their development opens new possibilities for addressing the nutritional disorders and functional diseases of the gastrointestinal tract, as well as of intervention in some processes in the nervous system associated with chronic pain, anxiety and depression.

Key words: cholecystokinin, cholecystokinin family peptides, CCK-A CCK-B receptors