Materials and methods: The study involved 50 patients with chronic hepatitis and liver cirrhosis.

A/C DIO1 gene polymorphism and Pro197Leu - GPX1 gene were studied by means of extraction of genomic DNA from peripheral blood leukocytes with subsequent amplification of polymorphic sites by PCR with the programmable amplificator «Amply-4L» («Biocom», Moscow) with individual temperature program for each gene primer.

DNA extraction was carried out using reagent "DNA - sorbets - B" option 100 (Russia) according to instructions. Samples were prepared for PCR using a set of «АмплиСенс – 200 - 1» (Russia). For discrimination of alleles of the DIO1 gene endonuclease restriction Bcl I was used ("СибЭнзим", Russia).

Depending on the distribution of A / C DIO1 gene polymorphism patients were divided into three groups: AA-genotype carriers (17 patients), AC-genotype carriers (24 patients) and AS-genotype carriers (8 patients).

Features of thyroid homeostasis were studied by determining serum free thyroxine (T4), free triiodothyronine (T3) and thyroid - stimulating hormone (TSH) and calculating the coefficient of the peripheral conversion of free thyroid hormones (T3/T4).

Results and discussion: The level of TSH in serum of patients with HDLD was not significantly changed depending on the DIO1 gene polymorphism.

A higher level of T3 was found in carriers of the CC-genotype: in 46.6% ($P < 0.001$) comparing with AA-genotype and 31.6% ($P < 0.01$) comparing with AC-genotype.

Content of serum T4 in patients with homozygous A-allele carrier DIO1 gene significantly exceeded the corresponding parameters in patients with CC-genotype (31.3%, $P < 0.05$).

T3/T4 coefficient was also significantly changed depending on the DIO1 gene polymorphism. In the group of patients with CC-genotype it was 1.5 times higher ($P < 0.05$) than in patients with AA-genotype and 1.3 ($P < 0.05$) times than in patients with AC-genotype.

Conclusion: Carriage of the C-allele of DIO1 gene is associated with increase of DIO1 function, which shows growth of T3/T4 coefficient and T3 level, reduction of T4 level. A-allele of the DIO1 gene is associated with a decrease in T3/T4 coefficient, T3 level, an increase in T4 level in blood of patients with HDLD.

CATALYTIC PROPERTIES OF ANTIBODIES IgG IN PATIENTS WITH MULTIPLE SCLEROSIS

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Introduction: The research of multiple sclerosis (MS) pathogenesis is one of the most serious problems of modern medicine. MS is a clinically heterogeneous chronic demyelinating disease of the nervous system of unknown etiology. In MS, increased concentrations of IgG, which are found in the specific antibody (Ab) against the various components of myelin, antibodies to DNA, antibodies to other structures and tissues are present. Studies of the last decade have led to the discovery of the ability of antibodies to catalyze many different chemical reactions. Such antibodies possessing a catalytic activity have been termed abzymes. In patients with autoimmune diseases a high DNA hydrolyzing activity of AT has been revealed.

Purpose: To study the DNA-ase and catalase activity of IgG, isolated from the blood plasma of patients with multiple sclerosis.

Materials and Methods: Peripheral blood serum of patients with MS was used in the study. IgG was isolated by affinity chromatography on columns of Protein G-Sepharose. DNA-ase activity was determined by the degree of conversion of supercoiled form of pBluescript plasmid DNA into the ring, relaxed and linear forms. The reaction mixture volume of 15 ml contained: 20 mMtris-HCl, pH 7.5, 5 mM $MgCl_2$, 10-20 mg / ml pBluescript DNA, and 0.1 - 0.2 mg / ml of antibody. After incubation for 2 hours at 35°C the reaction mixture was added 5 ml buffer solution of 4X, containing 1% SDS, 30% glycerol, 30 mM EDTA, 0.1% bromophenol blue. Electrophoresis was performed in 1.2% agarose gel. DNA in the gel was stained with ethidium bromide solution (0.5 mg / ml). Determination of catalase activity was performed spectrophotometrically (λ = 240 nm.) On a spectrophotometer Specord. The reaction mixture consisted of 30 mM H_2O_2 solution at 50 mM phosphate buffer (pH = 7.0) of 1600 ml and 70 ml of a solution containing IgG in potassium phosphate buffer (pH 7.0).

Results and conclusions: The study of the catalytic activity of IgG in multiple sclerosis patients revealed a high percentage of hydrolysis of DNA, reaching 100% in some patients. Hydrolysis of DNA Ig G, isolated from blood of healthy individuals does not exceed 1-2%.

The ability of antibodies in multiple sclerosis patients to split hydrogen peroxide was first discovered. IgG, isolated from blood of healthy individuals did not have this ability. All studied antibodies were tested for homogeneity. The study of the catalytic properties of AT patients with multiple sclerosis will contribute to understanding the mechanism of pathogenesis of this disease.

CYTOKINE GENE POLYMORPHISMS AND ASTHMA SUSCEPTIBILITY, SEVERITY AND ASSOCIATED ALLERGIC MANIFESTATIONS IN MOLDOVAN CHILDREN

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Introduction: Asthma is a complex inflammatory disease, caused by the interaction of genetic and environmental factors, and its management requires understanding of its various pathogenesis and control mechanisms. Cytokines and other inflammatory mediators are important factors in asthma pathophysiology. The reported racial and/or ethnic differences in asthma-related loci define the importance of the candidate gene research in ethnically diverse populations. The study was aimed to investigate the association between cytokine gene polymorphisms asthma in a sample of Moldovan patients and controls.

Methods: The sample comprised 90 individuals with asthma, aged from 5 to 17 years (mean ±SEM age of 10,9±0,4 years), 51 males and 39 females, who were randomly selected from a group of asthmatic children referred to the Allergy Clinic of the Research Institute for Maternal and Child Healthcare, Chisinau, Moldova, during the years 2009-2010. The control group included 90 healthy children, matched by sex and age with patients' group (mean age 13,5±0,2), without respiratory symptoms or history of asthma and allergy. Asthma was defined according to the criteria of the Global Initiative for Asthma (GINA). A complete clinical history, physical examination, and pulmonary function test (PFT) in a standard fashion were performed for all the subjects. TNF-α G-308A, IL-4 C-590T and IL-4Rα Arg551Gln polymorphisms were evaluated by polymerase chain reaction.