FREQUENCY OF HEMATOLOGIC DISORDERS IN PATIENTS WITH CHRONIC HEPATITIS C RECEIVING ANTIVIRAL THERAPY

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During antiviral therapy patients with chronic hepatitis C of the most important side effects are hematological disorders.

The purpose of the study: were evaluate hematological disorders in patients with chronic hepatitis C during antiviral therapy.

Material and methods. 26 patients with chronic hepatitis C who received standard antiviral treatment with pegylated interferon alpha and ribavirin we examined.Among them 16 men (61.5%), 8 women (38.5%). The average age was 31,2±2,9 years. HCV genotype 1 was detected in 14 patients (53.8%) patients, HCV genotype 2 or 3 was detected in 12 patients (46.2%). The level of hepatic fibrosis F0-F2 detected in 17 (65.4%) patients, F3-F4 – in 9 patients (34.6%). We used usual clinical, biochemical, virological and instrumental methods. Fibrosis and the level of activity were determined by FibroTest (Biopredictive, France) in the system METAVIR.

The results. Hematologic abnormalities were detected in 20 (76.9%) patients during antiviral therapy, among them anemia in 8 (38.5%) patients, neutropenia - in 20 (76.9%), thrombocytopenia - in 12 (46.1%).Combined cytopeniadetected in 14 (53.8%) patients. More severe hematologic abnormalities were detected in all patients with fibrosis F3-F4.

Conclusions. Haematological disorders during chronic hepatitis C antiviral treatment registered in 20 (76.9%) patients and were more marked in patients with advanced fibrosis that requires careful monitoring and correction.

THE CLINICAL SIGNIFICANCE OF DIFFERENT TYPES OF LIVER ELASTOGRAPHY

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Objective: To determine the optimal modes of different types of liver elastography using. During 2007 - 2013 years 7005 transit elastography were conducted (Fibroscan F - 504 , France), during 2012 - 2013 - 47 compression elastographywith endosonography were conducted (Hitachi Prerius-Pentax); in 2013 23 trials with shear wave elastography were conducted (AngiodinSono - M Ultra, Russia).

Materials and Methods. Elastography was performed in patients with diffuse liver disease: chronic viral hepatitis B, C - 6201 patients, alcoholic steatohepatitis (ASN) - 243 patients , nonalcoholic steatogeaptit (NASN) - 537 patients with cirrhosis of liver - 178 patients. Reference method was a needle biopsy under ultrasound control.

Results. Segments were evaluated:maximum efficiencyof transitelastography (Fibroscan) – is noted in VII, VI segments (r=0,83); moderate efficiency – in IV, III segments (r=0,67); minimum efficiency - in V and II (r=0,44) . During compression elastography atendosonography maximum efficiency was observed in I, II, III segments (r=0,91); moderate data were marked in segments IV, V (r=0,72); minimally informative data in the segments VIII , VII, VI (r=0,57). In elastography shear wave maximum efficacy was observed in VIII, VII, VI, V, IV segment (r=0,94); good results in marked segments I, II, III (r=0,84).

Conclusions: Elastograph «card» of liver segments in diffuse liver disease was developed, which defines an optimal diagnostic effectiveness of various types of elastography in comparing with liver biopsy data: for transit elastometry - VII, VI segments , for compression elastographyat endosonography - I, II, III segments. Shear wave elastography - a method of optimal choice, because its performance, expressed in kPa , have a maximum correlation with the histology data of liver biopsy.

THE IMPACT OF POLYMPRPHISM OF CPX4 (718C/T) AND GSTP1 (Ile105Val) GENES ON COURSE OF CHRONIC HEPATITIS C

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Aims: to evaluate impact of polymorphic variants of glutathione peroxidase CPX4 (718C/T) and glutathione-S-transferase GSTP1 (Ile105Val) on course of chronic hepatitis C (CHC).

Materials and methods: 180 residents in Perm were surveyed (80 healthy (control group) and 100 patients with CHC). The enzyme activity of serum glutathione peroxidase (GlPer) as a marker of free radical oxidation (FRO) was evaluated by the rate of oxidation of reduced glutathione using photometer (wavelength 340 nm). Polymorphism of CPX4 (718C/T) and GSTP1 (Ile105Val) genes was investigated by analysis of melting curves obtained by PCR. The distribution of genotypes was tested for compliance with the Hardy-Weinberg equilibrium using the χ^2 criterion.

Results. Reduced blood saturation with GlPer enzyme occurred in CHC group compared with the control group (n=26) (8,88±3,95 and 24,91±6,62 mmol/l respectively, p<0.0001). The overall prevalence of genotypes and alleles of CPX4 (718C/T) in CHC patients did not differ from the control group (χ^2=0,1; p=0.76). But the minor T allele of the CPX4 (718C/T) gene in patients with CHC showed an inverse relationship with GlPer activity (p=0.04). Restructuring of the promoter region of the gene leads to a deficiency of GlPer gproduction, activation of FRO, accumulation of toxic free radicals in the liver and progression of CHC. Analysis of polymorphism of gene GSTP1 (Ile105Val) showed a higher prevalence of heterozygous AG in CHC patients (41% vs 31% in control group, (χ^2 = 4,05; p = 0.03)). The frequency of the minor allele G in GSTP1 (Ile105Val) gene was 31% and 24 % in CHC and control groups respectively (χ^2 = 1,75; p = 0.19).

Conclusions. Polymorphic variants of CPX4 (718C/T) and GSTP1 (Ile105Val) genes may serve as a hereditary risk factors for FRO process in the liver and progression of CHC.

HBV AND HCV INFECTION AND FREQUENCY OF AUTOANTIBODIES TO PANCREATIC β-CELLS IN PATIENTS WITH TYPE 2 DIABETES MELLITUS

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Background and aims. In patients with chronic viral hepatitises the high prevalence of diabetes mellitus (DM) is observed. Hepatitis viruses B and C (HBV and HCV) are considered as triggers in the development of autoimmune reactions in diabetic patients. The goal was to study the frequency of autoantibodies to pancreatic β-cells in patients with type 2 DM, infected and uninfected by HBV and HCV.

Materials and methods: 221 patients with type 2 DM (62 male – 28%; middle age 59.8±0.6 year, average DM duration 9.1±1.4 years) were surveyed. Patients were distributed into five groups: first group (n=19) – diabetic patients with HBV infection in replicative phase; second (n=75) – HBV infected in nonreplicative phase; third (n=32) – HCV infected in replicative phase; fourth (n=24) – HCV in-fected in nonreplicative phase; fifth (n=71) – noninfected type 2 diabetic patients. Markers of a viral hepatites B and C, glutamic acid decarboxilase antibodies (GADA) and islet cells antibodies (ICA) were studied by immune-enzyme assay, viral DNA and RNA – by polymerase chain reaction. Statistical data processing is carried out using Yates corrected Chi-square test.

Results. GADA was revealed more often in HBV and HCV infected type 2 DM patients in comparison with noninfected: in group 1 – 57.9% (χ^2=15.21; p<0.001); in 2 – 37.3% (χ^2=10.45; p=0.0012); in 3 – 37.5% (χ^2=6.91; p=0.009); in 4 – 54.2% (χ^2=15.1; p<0.001) vs. group 5 – 12.7%. ICA in infected patients also met more often, than in noninfected: in group 1 – 31.6% (χ^2=11.97; p=0.0005); in 2 – 28.0% (χ^2=15.58; p=0.0001); in 3 – 18.8% (χ^2=5.75; p=0.017); in 4 – 20.8% (χ^2=6.09; p=0.014) vs group 5 – 2.8%. GADA and ICA revealing frequency did not depend on a virus replication. In 18.2% HBV- and HCV-infected patients both kinds of antibodies were determined. In noninfected patients simultaneously ICA and GADA didn't revealed.

Conclusion. In type 2 diabetic HBV and HCV infected patients antibodies to pancreatic β-cells are found out statistically significantly more often, than in non-in-fected DM patients.