

HOMOCYSTEINE LEVEL IN PATIENTS WITH CHRONIC HEPATITIS C BEFORE AND AFTER ANTIVIRAL TREATMENT

Konstantinov D.Yu., Konstantinova E.A., Syzdaltsev A.A., Popova L.L.,
Novikova A.F.

Samara State Medical University, Samara, Russia

Purpose: to estimate total homocysteine (THC) level in venous blood in patients with chronic hepatitis C (CHC) before and after antiviral treatment.

Methods: We recruited 244 patients with CHC (HCV RNA+), with mean age 37.2±3.9 years. Among them 137 were men and 107 were women. After anti-viral treatment all patients were randomized into following groups: group I (n=134) – patients with sustained virological response, group II (n=77) – patients with virological relapse, group III (n=33) – patients with nonresponse. THC level was measured by enzyme immunoassay method using AxSYM analyzer (Abbot Laboratories S.A., Norway), with reference value from 5 to 15 mkmol/l. 52 donors were included in the control group.

Results: Serum THC level in patients with CHC (HCV RNA+) before anti-viral treatment was 20.02±2.41 mkmol/l (vs 9.01±1.29 in controls, p<0.001). In group I patients THC level reached 15.03±1.23, in group II – 23.47±1.66, in group III – 22.34±1.75 mkmol/l.

Using statistical significance analysis by Mann–Whitney U test and Wald–Wolfowitz test we determined significant difference in THC level between all groups (p<0.01).

Conclusion: Before antiviral treatment serum THC level was significantly higher in patients with CHC (HCV RNA+) compared to healthy donors. THC level lowering was observed in patients with sustained virological response. A high THC level was registered in patients with virological relapse.

IS AVT WITH THE USE OF INTERFERONE EFFECTIVE FOR PATIENTS WITH CHC AND ATTENDANT PSORIASIS?

Serov N.A.

USMU, Yekaterinburg, Rissa.

Psoriasis is one of the relatives contraindication for antivirus therapy (AVT) with interferon for patients with Chronic Hepatitis C (CHC). We present case report of the patient with CHC (F-4- cirrhosis of liver Child A) forming SVR with long time of full remission of psoriasis.

Patient B, male of 65 was having a heavy skin form of psoriasis during more than 25 year. aHCV were registered in 2002, but AVT has not been used because of psoriasis.

Lately diagnosis of HCV-associated cirrhosis with splenomegaly and hypersplenism has been established. (Child A) Elastography of liver- M-53,2 kPa (F-4), genotype 3a. Virus load 10⁴ U/ml, ALT-156 IU, AST 122 IU, albumin, INR, total bilirubin within normal limits. The patient was being treated since 07.2012 till 12.2012 by standart course of AVT (Peginterferon a2b 120 mkgl/week+ ribavirin 800mg per day during 24 weeks). In the duration of course of AVT RVR, EVR and SVR were received. Modification of AVT doses was not present. Psoriasis dermatitis was a bit increased during the period of therapy.

In the duration of such therapy and after that ALT, AST became normal steadily. Indicators of Elastography were improved. (M= 27kPa). Trombocytes are within the limits of 55-80 10⁹/l. At the beginning of 2014 after the season acute attack of the dermatitis in the morin climate the signs of psoriasis disappeared. Remission is lasting during six months. Monitoring is supposed to be continued.

NONINVASIVE DIAGNOSTICS OF HEPATIC STEATOSIS IN PATIENTS WITH CHRONIC HEPATITIS C

Kozko V.M., Solomennyk G.O., Bondar O. Ye., Mohylenets O.I., Iurko K.V.,
Merkulova N.F., Vinokurova O.M., Ostroplets G.S.

National Medical University, Kharkiv, Ukraine

Aim – to assess the levels of total cholesterol (TC), triglycerides (TG) and glucose (GL) in the serum of patients with chronic hepatitis C (CHC), depending on the stage of hepatic steatosis.

Material and methods. 25 patients with CHC were observed. From them 15 were men (60%) and 10 – women (40%). The average age of the patients was 39,35 ± 3,1 years. The content of TC, TG, GL in blood serum was determined on biochemical analyzer, «BioSystems» with diagnostics of the same name company (Spain). The stage of hepatic steatosis was assessed by FibroMax system, which is now an alternative to liver biopsy.

Results. S0 was diagnosed in 7 (28%), S1 – in 5 (20%), S2 – in 4 (16%), S3 – in 5 (20%), S4 – in 4 (16%) patients. The average value of the contents of TC, TG and GL in blood serum of examined patients did not differ from control numbers (p>0,05). At the same time carrying out a correlation analysis showed there was a link between the content of TC, TG, GL in serum of patients with CHC and steatosis stage (p<0,05). On this basis, we have developed a probable indicator of steatosis (PSI) (Ukraine patent for utility model №97787), which was calculated by the formula:

$$PSI = (TC, \text{ mmol/l} + GL, \text{ mmol/l}) \times TG, \text{ mmol/l} \times R,$$

where R – correction factor equals 1 for men weighing less than 80 kg, 2 – for men weighing 80 kg and more and for women weighing less than 100 kg, 3 – for women weighing 100 kg or more. If the value of the PSI ≤ 11 it is diagnosed absence of steatosis (S0), if 11 < PSI ≤ 22 – mild steatosis (S1), if PSI > 22 – moderate (S2) or severe (S3) steatosis.

Conclusions. Determination of TC, TG, GL in blood serum of patients with CHC, followed by calculation of the probable indicator of steatosis enables to diagnose hepatic steatosis at its different stages.

ON ONE APPROACH TO MODELING MECHANISMS OF INTRACELLULAR PROCESSES IN THE SYSTEM OF "LIVER CELLS-HEPATITIS B VIRUSES"

Hidirova M.B., Saidaliev M., Aliev B.R., Khikmatullaeva A.S.

Institute of Virology MH RUz, Centre of the development of software and hardware-program complex at Tashkent University of Information Technologies, Tashkent, Uzbekistan

In studying of pathogenesis of viral hepatitis methods of mathematical modeling are important. Research of realization laws of anti-infectious protection processes of hepatocytes at viral hepatitis B based on the methods of mathematical modeling is conducted by applying models of regulatory mechanisms of an organism cellular communities to investigate immunological processes and for researching supracellular interaction between liver cells and hepatitis B viruses (HBV). The basic equations of mathematical model HBV penetration in hepatocyte's cytoplasm and the viruse's genetic information adoption into HC genom are constructed. The estimation of applicability and correctness of the chosen class of the functional-differential equations with concerning to model researching the interconnected activity between hepatocytes and HBV is carried out; the following conditions are considered: existence, continuity, uniqueness, decisions non-negativeness at non-negative initial conditions, decisions limitation and positive attractor presence. These conditions are basic for receiving biologically reasonable behavior in developed mathematical model of the interconnected activity between HC and HBV. It is used the modern methods of the qualitative theory of the functional-differential equations to establish regular and irregular solutions areas. The special attention is given for regime of periodic excitation of hepatocyte's viral lesions and condition of difficult, unpredictable interaction between molecular-genetic systems of HC and HBV.