

HYPERHOMOCYSTEINEMIA AND CERTAIN INDICES OF LIPID METABOLISM IN PATIENTS WITH CHRONIC HEPATITIS C

Konstantinov D., Konstantinova E., Popova L., Suzdaltsev A., Novikova A.
Samara State Medical University, Samara, Russia

Objective: To study correlations between hyperhomocysteinemia (HH) with indices of plasma lipid metabolism (LM) - cholesterol (TC), β -lipoproteins (β -PL), triglycerides (TG) - in patients with chronic hepatitis C (CHC) in depending on the degree of hepatitis activity.

Materials and methods: One hundred ten patients (men - 64, women - 46, mean age - 34,4±4,2 years) with primary diagnosed HCV (RNA HCV pos.) were enrolled in the study. Depending on the activity of chronic hepatitis proven with liver biopsy the following groups of patients were introduced: group 1 (n=42) with a minimal activity, group 2 (n=37) with a moderate activity and group 3 (n=31) with significant activity. Total Hhomocysteine (TH) levels in venous blood was measured by immunoassay method on AxSYM analyzer (Abbot Laboratories SA, Norway), with reference values of from 5-15 μ mol/l. Clinical significant certain indices of lipid metabolism were measured with standard techniques. Fifty two healthy donors formed a control group.

Results: Indices of LM and serum TH levels in patients with CHC (RNA HCV pos.) depending on the hepatitis activity are shown in the table.

Groups	TH μ mol/L	TC mmol/L	β -LP mmol/L	TG mmol/L
1	16,01 (15,02-17,11)	5,11 (4,59-5,66)	4,14 (3,61-4,71)	1,96 (1,66-2,34)
2	19,65 (18,72-20,49)	5,4 (4,81-5,84)	4,66 (4,14-5,23)	2,01 (1,64-2,50)
3	23,61 (22,01-25,17)	5,92 (5,32-6,61)	5,96 (5,61-6,34)	2,41 (1,92-2,96)
4	9,01 (7,88-9,77)	4,51 (4,14-4,62)	3,88 (3,41-4,28)	1,33 (1,1-1,52)

TC levels significantly differed test between groups 1 and 3 ($p < 0,05$), 2 and 4 ($p < 0,05$), 3 and 4 ($p < 0,01$) by Wald-Wolfowitz. TG levels significantly differed between the groups 1 and 4 ($p < 0,001$), 2 and 4 ($p < 0,001$), and 3 and 4 ($p < 0,001$) by Mann-Whitney U-test. β -PL levels significantly differed in groups 1 and 3 ($p < 0,001$), 2 and 3 ($p < 0,05$), 3 and 4 ($p < 0,001$) by Wald-Wolfowitz test. Moderate correlation between TH and β -PL ($r = 0,55$), TC ($r = 0,31$) and TG levels ($r = 0,34$) was also observed.

Conclusions: Detected HH and lipid metabolism abnormalities may serve as an additional criterion for inflammatory process in the liver.

CLINICAL PRESENTATION AND MORPHOLOGY IN YOUNG CHILDREN CHRONIC HEPATITIS C

Kotovich M., Karnaukhova N.
Novokuznetsk State Institute of Postgraduate medicine, Novokuznetsk, Russia

Thirty seven children (aged from 1 year to 3 years) with chronic hepatitis C followed-up for 5 years. Perinatal contamination is set in 24 children (group 1) and perinatal - 13 (group 2). Inclusion criteria were: confirmed HCV infection in the child and mother or history of parenteral contamination of child, positive anti-HCV, HCV RNA for 6 months. Exclusion criteria were mixed-infection, TORCH-syndrome, HIV-infection in a child; bile ducts malformations and metabolic disorders. Hepatomegaly and splenomegaly were detected in most children. Impairment of physical growth and development and malabsorption syndrome ($p = 0,01$) were revealed in 33% of children in group 1. Median of ALT levels was 58.7 U and 86.0 U in groups 1 and 2 respectively. Changes in liver tissue were detected in all children (Table 1). Inflammatory activity was more significant in group 2, and stage of fibrosis - in group 1.

Table 1. Inflammatory activity and fibrosis stage in liver samples in children

Inflammation (Knodell score), points	Group 1 (n=24) Liver biopsy=24		Group 2 (n=13) Liver biopsy=12		P*
	Abs	%	Abs	%	
Minimal	3	12,5	-	-	0,2
Mild	16	66,6	2	16,6	0,07
Moderate	4	16,6	10	83,3	0,0001
Severe	1	4,1	-	-	0,473
Fibrosis (METAVIR score)					
F0- no fibrosis	1	4,1%	-	-	0,473
F1- mild	8	33,3%	7	58,3%	0,151
F2- moderate	11	45,8%	3	25%	0,226
F3- severe	4	16,6%	2	16,6%	1,0

*p – differences between groups 1 and 2, U-Mann-Whitney U test

Further researches for development of treatment algorithm are required.

COMPARATIVE CHARACTERISTICS OF LIVER ULTRASONOGRAPHY IN PREGNANT WOMEN WITH CHRONIC HEPATITIS B AND C

Kovaleva T., Chuikova K., Spivak S.
Siberian State Medical University, Tomsk, Russia

Objective: To compare liver ultrasonography in pregnant women with chronic hepatitis (CH) B and C.

Materials and methods: Liver ultrasound was performed in 278 pregnant women with CH (93 - CHB and 185 - CHC). The average age of pregnant women with chronic hepatitis B and chronic hepatitis C had no significant differences - 28,7±0,4 and 28,4±0,3 years, respectively ($p > 0,05$). History, pregnancy parity and childbirth in women with CHB and CHC did not differ: primigravida - 32.3% and 24.9%, primiparous - 53.8 % and 56.2%, respectively ($p > 0,05$). CH was primary diagnosed during pregnancy in 62.4% of women with chronic hepatitis B and 74.5% of women with CHC. The average duration of the disease in women with chronic hepatitis B was higher than in women with chronic hepatitis C (7,0±0,7 years and 4,9±0,4, respectively, $p = 0,01$). Statistical significance of the differences between the relative frequencies of events was evaluated with χ^2 criterion.

Results: Hepatomegaly was revealed in 16.1 % of women with CHB and 31.9% of women with CHC ($\chi^2 = 8,087$, $p = 0,004$), splenomegaly - much rarer: in 9.7% of women with CHB and in 14 % of women with CHC ($p > 0,05$). Diffuse changes in liver were detected in 48.4% of women CHB and in 58.4% of women with CHC ($p > 0,05$). Echogenicity of liver were slightly increased more often in women with CHC than CHB (46.5% and 36.5%, respectively; $\chi^2 = 3,091$, $p = 0,079$). Signs of fatty liver were detected in 1.1% of women with CHB and in 3.2% of women with CHC ($p > 0,05$). Enlargement of infrahepatic lymph nodes were more frequent in women with CHC than CHB (7.0% and 1.1%, respectively; $\chi^2 = 4,518$, $p = 0,034$). Portal vein diameter (≥ 13 mm) appeared in women with chronic hepatitis B in 7.5% of cases, and in women with chronic hepatitis C ≥ 2 times often - in 16,6% ($\chi^2 = 4,468$, $p = 0,035$). Increased diameter (more than 10 mm) of splenic vein was determined in 0.7% of women with CHB and in 2.4% of women with CHC ($\chi^2 = 3,347$, $p = 0,188$).

Conclusions: Pregnant women with CHC when compared with pregnant women with CHB have more significant changes in liver US and tendency to develop portal hypertension.

MACROELEMENTS CONTENTS IN THE BLOOD SERUM HIV-INFECTED PATIENTS, PATIENTS WITH CHRONIC HEPATITIS C AND HIV/HCV CO-INFECTION

Kozko V.M., Iurko K.V., Bondarenko A.V., Zovskiy V.N., Solomennik A.O., Mohylenets O.I., Hvozdetzka M.G., Zavadskaja L.S.
National Medical universitet, Kharkov, Ukraine

Macroelements have a significant influence on the metabolic processes in the body and have a close relationship with enzymes, hormones, vitamins and other biologically active substances.

Macroelements (calcium, sodium, magnesium) in serum of patients with HIV, chronic hepatitis C (HCV) and HIV/HCV co-infection performed by atomic absorption spectrophotometry. Generally 100 patients were examined: HCV - 35 (35,0%) patients, HIV - 34 (34,0%) and HIV/HCV co-infection - 31 (31,0%) patients. The age of patients ranged from 17 to 69 years. Comparison group consisted of 35 healthy individuals who were comparable in age and sex of the patients studied groups. There were 31 (47,7%) women and 34 (52,3%) men among HIV-infected patients (HIV and HIV/CHC co-infection).

According to the clinical stage of the disease HIV- infected patients were divided. Only in 2 HIV-infected patients clinical stage I was diagnosed, so in our study we don't take into consideration their results. Clinical stage II was found in 9 (17,6%) patients, III-rd - 15 (44,1%) and IV-th - 13 (38,2%).

According to study results, macronutrient content was significantly different in patients of the control group and in patients with HIV infection, chronic hepatitis C and HIV/HCV co-infection. Thus, the calcium (Ca) and sodium (Na) content was moderately decreased in patients with chronic hepatitis C, but its significant deficiency was observed in patients with HIV and HIV/HCV co-infection, compared with those individuals in the control group.

Note the probable magnesium (Mg) decrease, which participates in important biochemical and physiological processes in the body. Thus, in patients with chronic hepatitis C its contents amounted to 0,79±0,09 ($p < 0,05$), in HIV-infected patients - 0,68±0,02 ($p < 0,05$) and in patients with HIV/HCV co-infection - 0,65±0,02 mmol/l ($p < 0,05$). Depending on the clinical stage of the disease and immunodeficiency degree the Mg level in HIV-infected patients was decreased. Consider the impact of Mg on lipid metabolism, we plan to examine the dependence of Mg deficiency on lipid metabolism.