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ASSESSMENT OF THE DYNAMICS OF HEPATIC ENCEPHALOPATHY IN PATIENTS WITH CIRRHOSIS BEFORE AND AFTER TREATMENT IN STATIONARY

Bekmuradova Makhsuda Salkhidinovna
Samarkand State of Medical University, Department of Propaedeutics of Internal Diseases. Samarkand City, Uzbekistan.

Khaidarov Sanjar Nizomiddinovich
Samarkand State of Medical University, Department of Propaedeutics of Internal Diseases. Samarkand City, Uzbekistan

Abstract
Nowadays the problem of liver cirrhosis (LC) is one of the urgent problems not only of modern hepatology, but also of the whole internal medicine. The urgency of this problem consists in its prevalence among relatively young, able-bodied persons, the possibility of a number of formidable complications, frequent disability and relatively high mortality rate. [8,11]. Relatively frequent complications of liver cirrhosis in the development of liver failure are neuropsychiatric disorders, referred to as hepatic encephalopathy (HE).For early diagnosis of HE, psychometric tests are widely used in clinical practice: number-letter, number-letter-line, handwriting, arithmetic etc. The sensitivity of psychometric tests in detecting HE is 70-80%. Despite the less severe form, patients with minimal hepatic encephalopathy are at significant risk for impaired quality of life, including increased hospitalization and progression to manifest HE. The main objective of our study, is to compare and evaluate the degree and dynamics of HE in patients with cirrhosis before and after ongoing inpatient treatment.

Keywords: hepatic encephalopathy, liver cirrhosis, blood ammonia, psychometric test.

Introduction

The problem of liver cirrhosis (LC) today is one of the urgent problems not only of modern hepatology, but also of the whole internal medicine. The urgency of this problem lies in its prevalence among persons of relatively young, able-bodied age, the possibility of a number of formidable complications, frequent disability and relatively high mortality rate. [8,11]. Relatively frequent complications of liver cirrhosis in the development of liver failure are neuropsychiatric disorders, referred to as hepatic encephalopathy (HE).For early diagnosis of HE, psychometric tests are widely used in

clinical practice: number-letter, number-letter-line, handwriting, arithmetic etc. The sensitivity of psychometric tests in detecting HE is 70-80%. Despite the less severe form, patients with minimal hepatic encephalopathy are at significant risk for impaired quality of life, including increased hospitalization and progression to manifest HE. HE is observed frequently in cirrhosis [2,5]. Hepatic encephalopathy are classified as types A, B, and C, respectively. HE can also be classified according to whether its presence is overt or covert. Pathogenesis is related to the production of ammonia and glutamine, and treatment is based on mechanisms to reduce the formation and/or removal of these compounds.

Hepatic encephalopathy (HE) is a hallmark of liver failure and affects up to 40% of patients with cirrhosis [9,10]. It is defined as a multifactorial neuropsychiatric disorder manifesting a wide spectrum of cognitive impairment and neuromuscular dysfunction. HE is a significant cause of repeated hospitalizations in patients with cirrhosis and seriously affects the quality of life of both patients and caregivers [1,4,8]. It is a marker of poor prognosis in patients with cirrhosis, with a reported survival rate of only 36% 1 year after the first manifestation [11].

There is no specific diagnostic test for HE, and the diagnosis is based on clinical suspicion, excluding other causes and the use of clinical tests that can confirm its diagnosis. Many tests are used in trials and experimentally, but are not yet universally accepted.

The diagnosis of HE is based on characteristic anamnestic, clinical, and paraclinical findings and requires exclusion of other causes of encephalopathy [8,11]. Patients typically present to primary and secondary care services with complications such as HE, with or without a prior diagnosis of chronic liver disease. There is also a milder form of the disease, latent or minimal hepatic encephalopathy (MHE) or latent encephalopathy with minor changes in cognitive function. Despite the less severe form, patients with MHE are at significant risk for impaired quality of life, including increased hospitalization and progression to overt HE [6,9].

Objective of the study. To compare and evaluate the degree and dynamics of HE in patients with cirrhosis before and after in-patient treatment.

Material and Methods of the Investigation

The investigation was carried out at the 1st Clinic of the Samarkand State Medical University, the 2nd Department of Internal Medicine in Chair of Propaedeutics of internal diseases. The study involved 35 patients with liver cirrhosis of different genesis: as hepatitis B, C, D, alcohol, autoimmune and cryptogenic. The patients were

examined and treated in a therapeutic department. Exclusion criteria: mental illness, cerebrovascular disease.

Table 1.

Etiologies of cirrhosis	Number of patients (n)	(%)
Hepatitis C	10	28,6%
Hepatitis B	9	25,7%
Hepatitis B, D	3	8.6%
Alcoholic	2	5,7%
Fatty hepatosis	7	20%
Autoimmune	1	2,9%
Cryptogen	3	8,5%

The severity of cirrhosis in all patients was assessed according to the Child-Tercott-Pugh classification. The class of cirrhosis was based on the sum of scores for all indices. All patients underwent a complex of investigations, such as: general blood analysis, urine, blood biochemistry, liver ultrasound, liver elastography, liver fibroscanning, esophagogastroduodenofibroscopy (EGDFS), ammonia in blood.

To assess the severity of HE, we used: 1) psychometric test (number binding test - Reitan test was used as a psychometric test; 2) West-Haven criteria for hepatic encephalopathy as modified by Conn (1994). When assessing the severity of hepatic encephalopathy, the questionnaire and the "Number Binding Test" were used to test the ability to connect numbers from 1 to 25 in a correct sequence within a certain period of time.Results of the study and their discussion.

Of the patients examined, 20 (57.2%) were men and 15 (42.8%) were women. Minimum age was 32 years. Maximum age was 64 (mean age was 49 ± 8.2). On the basis of laboratory data and clinical observation the group of patients (35 patients) was divided into 3 subgroups according to the severity of cirrhosis according to Child-Pugh classification. Group A included 18 (51.5%) patients, Group B - 13 (37.1%), Group C - 4 (11.4%) patients.

Results obtained: 1) before ongoing treatment: 0 (latent HE) was detected in 8 (22.9%) patients the average time of test passage was 58.4 s, 1st degree - in 19 (54.3%) patients the average time of test passage was 82.8 s, 2nd degree - in 7 (20%) patients the average time of test passage was 111.9 s, 3rd degree - in 1 (2.8%) patients due to severity of condition the patient was unable to pass the test; 2) after ongoing treatment (diet - table 5, drug therapy - lactulose, preparations of ursodeoxycholic acid, very cautiously branched amino acids, L-ornithine-L-aspartate, vitamins, antibacterial drugs - Rifaximin). After the number of 35 patients: grade 0 (latent HE) - 11 (31.4%) patients, the average time to pass the test was 58.1 seconds, grade 1st - 18 (51.4%) patients, the

average time to pass the test was 81.4 seconds, grade 2nd - 5 (14.3%) patients, the average time to pass the test was 112.1 seconds, grade 3rd - 1 (2.9%) patients, but could not pass the test because of disorientation. Results of the study: after inpatient treatment, the average time for testing grade 0 (latent) was 8 (22.9%) patients, the average time for testing was 58.4 seconds; grade 1st was 19 (54.3%) patients, the average time for testing was 82.8 seconds; grade 2nd was 7 (20%) patients, the average time for testing was 111.9 seconds; grade 3rd was 1 (2.8%) patient, the average time for testing was 190.2 seconds. The majority of patients with liver cirrhosis showed a decrease in the severity of PE symptoms (psychomotor retardation and difficulties in performing daily activities, changes in the level of consciousness and disorientation, personality changes, motor system disorders, including hypertension, hyperreflexia, dystonia, dyskinesia, as well as sleep-wake cycle disorders, plantar muscles lifting and asterixis) during in-hospital treatment.

Conclusions

He is a wide spectrum of neurological and psychiatric disorders from subclinical manifestations to coma. All patients with liver cirrhosis who were hospitalized in the therapeutic department of the 1st Clinic of Samarkand State Medical Institute had hepatic encephalopathy of varying severity - from minimal (mild) to the third degree of severity. Hepatic coma, that is, the 4th degree of hepatic encephalopathy was not diagnosed in any patient because the 4th degree of hepatic encephalopathy was not hospitalized in a therapeutic department, that's why condition is considered intensive care. During inpatient treatment, most patients' psychometric test time decreased and their neurological and mental status improved, which indicates regression of HE severity against the background of treatment and effectiveness of the therapy methods used.

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