Clinical Characteristics of Patients with Chronic Diffuse Liver Disease Against the Background of Covid -19

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ABSTRACT

The work is based on the analysis of studies conducted in 60 patients who underwent inpatient treatment in the general resuscitation department of the Republican Scientific Center for Emergency Medical Care and in the hepatology department of the regional infectious diseases hospital of Bukhara region for the period from 2021 to 2023.

Keywords: Chronic diffuse liver disease (CDLD), COVID-19, age-related features, clinical characteristics. research methods.

Introduction. Everyone knows that the coronavirus pandemic has had a detrimental effect on patients who have chronic diseases [1]. This article discusses the role of past COVID-19 on the course of chronic diffuse liver diseases. Of the total number of 60 patients admitted to the Republican Scientific Center for Emergency Medical Care (RSCEMC) and the regional infectious diseases hospital (RIDH) of the Bukhara region, they applied from the regions of the Republic of Uzbekistan, namely: from Karakul region - 3, Bukhara city - 19, Romitansy region - 4, Olat region - 5, Peshkun region - 4, Shofirkan region - 2, Vobkent region - 4, Kashkadarya region - 3, Gijduvan region - 6, Kagan district - 3, Bukhara region - 2, Zhondor district - 3.

Purpose of the study: To identify the features of the clinical picture of patients with CDLD against the background of COVID-19.

Materials and methods. For the distribution of patients according to age, the classification of age groups adopted at the WHO seminar was used. In accordance with this classification, persons under 14 years old were assigned to the children's group, from 15 to 29 years old - youthful, 30 - 44 years old - young, 45 - 59 years old - middle (mature) age group, 60 - 74 - elderly, 75 - 90 years - old age, and people over 90 years old - a group of centenarians.
Patients of childhood were - 2 (3.3%), boys - 2 (3.3%), young - 13 (21.7%), patients of middle age - 27 (45%) and elderly - 15 (25%) , senile age amounted to 1 patient (1.7%) of the total number of admitted c COVID - 19 (60 patients) to the general resuscitation department of the RSCEMC and department of hepatology of the RIDH of Bukhara region for the period from 2021 to 2024.

Research results. 60 patients were divided into two groups: with liver cirrhosis - 30 (50%) and hepatitis - 30 (50%), of which men - 28 (47%), and women - 32 (53%) who had COVID - 19 Patients with hepatitis were 10 males, 20 females, 16 males and 14 females with cirrhosis of the liver. - 6 and peptic ulcer disease - 11, and in men there were elements of encephalopathy - 6. Table 1.1 shows the distribution of patients with cirrhosis by sex and age in accordance with the concomitant disease and complication.

Table 1.1 Distribution of patients with cirrhosis by sex and age according to complications .

Age / Disease	LC + bleeding from VVE		LC+ Encepha-lopathy		LC+ ascites		Cirrhosis + coagulopath y		Total		Total
Floor	M	W	M	W	M	W	M	W	M	W	
15-29 years old	-	-	-	-	1	-	-	-	1	-	1
30-44 years old	1	2	2	-	-	-	-	1	3	3	6
45-59 years old	1	3	2	1	3	1	1	1	7	6	13
60-74 years old	1	1	2	-	1	2	1	1	5	4	9
75-90 years old	1	-	-	-	-	-	-	-	-	1	1
	10		7		8		5		thirty		

The distribution of patients with cirrhosis by complications of the underlying disease (Table 1.1) showed the prevalence of patients with cirrhosis with bleeding from varicose veins of the esophagus 10 and cirrhosis with ascites 8, while cirrhosis was combined with encephalopathy 7, and cirrhosis with coagulopathy occurred only in 5 patients. Obviously, cirrhosis occurs in most cases in adulthood, and it is at this age that cirrhosis with ascites and bleeding from esophageal varices are most often detected.

Table 2.2 shows the distribution of patients with hepatitis by sex and age in accordance with concomitant diseases.

Table 2. 2 Distribution of patients with hepatitis by sex and age in accordance with concomitant diseases .

Age / Disease	Hepatitis + PU		Hepatitis+ ischemic heart disease		Hepatitis + hr. cholecystitis		Hepatitis with transition to the LC		Total		Total
Floor	M	W	M	W	M	W	M	W	M	W	
Up to 14 years old	-	-	-	-	-	-	1	1	1	1	2
15-29 years old	-	-	-	-	-	-	-	1	-	1	1
30-44 years old	-	4	2	-	-	-	1	-	3	4	7
45-59 years old	1	3	3	1	-	2	-	4	4	10	14
60-74 years old	-	4	2	-	-	-	-	-	2	4	6
75-90 years old	-	-	-	-	-	-	-	-	-	-	-
	12		8		2		8		30		

The distribution of patients with hepatitis and concomitant diseases (Table 1.2) showed the prevalence of patients with hepatitis with peptic ulcer (PU) 12, while hepatitis was combined with coronary heart disease (CHD) - 8, hepatitis with the transition to LC - 8, and hepatitis with the transition to LC occurred only in 2 patients. It is obvious that hepatitis occurs in most cases in young and adulthood, namely, at this age, hepatitis with

peptic ulcer and coronary heart disease is most often detected.

In the first table, we can notice the prevalence of cirrhosis with bleeding from VVE against the background of COVID - 19 - 10 patients, and in the second table, there were most patients with hepatitis, combined with peptic ulcer. It was found that in all age groups who had COVID - 19 from 30 to 74 years of age, bleeding from VVE prevailed in women with cirrhosis, encephalopathy - in men with cirrhosis in a ratio of 1.15: 1.0. With a combination of complications with ascites and transition to cirrhosis, no significant gender and age differences were found.

On an emergency basis, 35 patients with cirrhosis and hepatitis were admitted against the background of a previous COVID -19 with complications of bleeding from VVE and encephalopathy, and 25 patients were hospitalized as planned in the general resuscitation department of the RSCEMCMP and in the hepatology department of the Institute of Public Health of the Bukhara region for the period from 2021 to 2024 year (Table 1.3).

Table 1.3 The order of admission of patients with cirrhosis and hepatitis with combined complications

Diseases	LC+ bleeding out VVE	LC+ enceph al .	LC+ coagul.	LC + ascite s	Hepatitis + PU	Hepatitis + ischemic heart disease	Hepatitis trans in LC	Hepatitis + hr. cholec.	Total
Hospital in extra order	6	4	3	5	8	5	3	1	35
Hospital into the plan. order	4	3	2	3	4	3	5	1	25
Total	10	7	5	8	12	8	8	2	60

32 patients had a history of viral hepatitis. LC was diagnosed before admission to the hospital with combined complications in 23 patients, in 7 patients the diagnosis of LC was first established during the examination in the hospital. With a combination of hepatitis with cirrhosis, out of the total number of patients, 8 patients were diagnosed before admission to the hospital (the main diagnosis was viral hepatitis B, C).

An analysis of clinical indicators was carried out to identify the features of the clinical course of cirrhosis and hepatitis against the background of previous COVID -19 in patients with diffuse liver diseases in comparison with data from a similar examination of patients without signs of liver pathology. To this end, we studied the results of clinical, biochemical and instrumental research methods in 60 patients aged 14 to 73 years.

It has been established that hepatitis in patients with cirrhosis manifests abdominal pain, especially in the right hypochondrium, vomiting, general weakness, as well as signs of endogenous intoxication (dry mouth, hyperthermia, tachycardia, etc.) [2].

The long period of latent course of liver cirrhosis makes it difficult to determine the actual timing of the disease. The range of the first heralds of the disease in the analyzed group was quite wide - from banal weakness to profuse esophageal-gastric bleeding, and therefore the duration of the history of the disease varied within very large limits [3]. The average duration of the anamnesis was 1.2 years. The main complaints at the time of hospitalization are presented in Table 2.3.

Strengthening of the venous pattern of the anterior abdominal wall was noted upon admission in 32 patients. An increase in the size of the liver during palpation was observed in only 41 patients. Splenomegaly , on the contrary, was noted in a significant number of patients already at admission. This symptom is one of the leading symptoms in comorbidity, which makes it possible to suspect cirrhosis. Splenomegaly was diagnosed in 36 patients. And palpation splenomegaly was noted in 28, with the help of ultrasound diagnostics in 16.

Table 1.4 **Main complaints of patients during hospitalization**

Complaints	LC + blood from VVE	LC + encephal.	LC + ascites	Hepatitis + PU	Hepatitis + IHD	Hepatitis trans . in LC
General weakness	34	21	22	8	5	3
Pain in the region epigastrium	26	18	33	4	4	5
Pain in the right - hypochondrium	48	36	19	7	3	3
Weight loss	12	8	3	3	2	8
Pain in the left - hypochondrium	6	5	3	8	2	1
Pain behind the sternum	1	3	1	2	9	3
Loss of appetite	33	18	15	34	3	5
Nausea and vomiting	22	30	15	5	1	2
Temperature increase	30	25	18	8	5	5

The presence of ascites in the abdominal cavity was detected visually and percussion upon admission and during treatment in 18 patients, with the help of ultrasound in 12 patients there was pastosity or slight swelling of the legs.

The state of the portohepatic circulation was determined according to the classification - of M.D. Patsiori (1984). Compensated stage - a moderate increase in portal pressure (PP), compensated intrahepatic circulation , splenomegaly with or without hypersplenism , was observed in 32 patients. Subcompensated stage - high PP, splenomegaly with hypersplenism , varicose veins of the esophagus and gastric cardia with or without bleeding, a significant violation of the portohepatic circulation in 26 patients. Decompensated stage - splenitis megalia , varicose veins of the esophagus and cardia of the stomach with - repeated bleeding or without it, ascites, pronounced disorders of the porto-hepatic and central blood circulation - in 23 patients.

The main cause of portal circulation disorders was intrahepatic block (due to liver cirrhosis) in 32 patients and mixed block (liver cirrhosis was combined with extrahepatic form of PH) in 4 patients. The large-nodular form of liver cirrhosis was diagnosed during laparoscopic diagnostic surgery in the vast majority of patients - 18, finely nodular - in 11, mixed liver cirrhosis - in 3.

The most specific in assessing the condition of patients with cirrhosis of the liver is the assessment of the functional state of the liver according to Child-Pugh (1967) (Table - 1.5). Using the Child-Pugh criteria system , i.e. one indicator of group A is worth one point, the same indicator in group B - 2 points and in group C - 3 points. Based on such approaches, 3 groups are distinguished according to summary criteria; the first group "A" - 3-4 points, the

second group "B" - 5-7 points and the third group "C" - 8-12.

Table 2.5 **Criteria according to Child-Pugh (1967)**

	Various prognostic groups		
Clinical signs	1	2	3
Bilirubin (μmol/l)	up to 35	35-50	Over 50
Albumin (mg%)	Over 35	30-35	Less than 30
Prothrombin index	80-100%	79-60%	Less than 60%
Ascites	Absent	Transient	Expressed
Encephalopathy	Absent	Minimum	Coma

An important point of combined lesions is the establishment of the underlying and concomitant disease (based on the distribution of patients according to complaints made at admission, anamnesis data, diagnostic manipulations.

Research methods.

In accordance with the tasks set in the process of clinical examination of patients, the following were determined:

Traditional laboratory research methods

1. The number of erythrocytes, leukocytes, platelets, hemoglobin content, ESR.
2. Total serum protein.
3. protein fractions.
4. Blood creatinine.
5. Bilirubin in the blood.
6. Blood diastasis.
7. Aspartate aminotransferase and alanine aminotransferase .
8. blood ammonia.
9. Blood urea.

On the basis of clinical and laboratory studies, the activity of the cirrhotic process in the liver and the metabolic function of the organ were determined [4].

Exceeding the activity of aminotransferases of the upper limit of the norm by 1.2-3.0 times was considered as moderate hyperfermentemia , 3.1-10 times - moderate, hyperfermentemia 10.1 or more - as high hyperfermentemia .

Molecular Diagnostics

Polymerase chain reaction (PCR) is an experimental method of molecular biology, a method for significantly increasing low concentrations of certain nucleic acid (DNA) fragments in a biological material (sample).

The survey was performed in all 60 study patients. To detect SARS-Cov-2, swab tests are taken from the surface of the tonsils, palatine arches, and the posterior wall of the oropharynx. When taking a smear from the nasopharynx, the probe is inserted along the outer wall of the nasal passage to a sufficient depth.

immunological method. The detection of the formed complex is carried out using the enzyme as a label for signal registration. Examination was performed by 30 subjects, patients were tested for hepatitis B: HBsAg (qual .) and hepatitis C: Anti -HCV (qual .);

Instrumental examination methods

Ultrasound Sonography . We attached particular importance to ultrasonic research methods. The survey was performed in all 60 study patients. The focus of ultrasound was on two things, namely the portal system and the liver parenchyma. Also, special attention was paid to the structure of the intrahepatic and extrahepatic bile ducts, their size, width, the state of the gallbladder, the fluid inside its size.

Attention was also paid to changes in the dynamics of the above factors in the course of treatment.

The state of the liver parenchyma, irregularities of its periphery (edges), sizes, blood vessels entering and leaving the liver, their sizes, as well as the state of anostomoses of the portal circulatory system were studied using ultrasound sonography and Dopplerography of the Mindray company. DC - 60" (China) and 5.7 MHz convex transducer.

The normal values of the metric analysis of the vessels of the portal system and the state of portal hemodynamics in healthy people were taken from the work of E.A. Nikitina (1986), according to the author's suggestion:

portal vein diameter 13.3+0.40 mm;

diameter of the splenic vein - 8.53 + 0.78 mm;

the volume of blood passing through the portal vein - 1053.1 + 30.8 ml / min;

in the splenic vein - 198.4 + 23.4 ml / min ..

The dimensions of the internal and external bile ducts of the liver during an ultrasound study according to Kolesnikov L.L. (2000) are defined as follows.

diameter of the common bile duct 2-4 mm;

bile ducts of the liver 0.4-1.6 mm in diameter;

bile duct 1.5-3.2 mm;

Elastometry . Elastometry is a non-invasive method of research without injury using fibroscan equipment (I / CH in France, FibroScan), which allows you to determine the degree of fibrosis (in the metavir method), taking into account the elasticity (density) of the liver tissue in 5-10 minutes. The density of the liver tissue is an accurate physical indicator, expressed in kilopascals (kPa). Tissue density is measured at more than 10 points in order to study a wider area.

Based on the results of the study of elastometry, the following (states) of the degree of fibrosis of the liver tissue are expressed:

F0 – healthy liver.

Fibrosis levels F1-F3

F4 – cirrhosis of the liver

A test for liver elastomerism was performed in 48. Of these, 28 patients were found to have F3-F4, elastometry showed the presence of F2-F3 in 23 patients, and F1-F2 in 9 patients.

Conclusion.

Patients who underwent COVID-19 with varying degrees of liver dysfunction were observed. The negative effects on the liver in patients with CDLD can be complex and varied, requiring careful examination and constant monitoring. Medical personnel treating patients with COVID-19 should first assess whether liver damage is the result of underlying liver disease, treatments used to treat COVID-19, a direct result of the virus, or a complex course of the disease. Many investigators have proposed a number of mechanisms regarding possible causes of adverse liver effects in patients with COVID-19. This review has provided an overview of clinical cases currently available, highlighting the most recent studies on the hepatic consequences of COVID-19.

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