



## Patients With Alcoholism Functional Changes in the Liver After Covid-19 Disease

**Turaev Bobir Temirpulatovich**

Assistant of the department of psychiatry, medical psychology and narcology  
Samarkand State Medical University, Samarkand, Republic of Uzbekistan  
[bobir.turaev.89@mail.ru](mailto:bobir.turaev.89@mail.ru)

**Abstract:** Patients with alcoholism were examined for a state of functional changes in the liver after covid-19. For this, 80 patients who experienced COVID-19, aged 30-45, who stood on the list with a diagnosis of alcoholism, were selected as the main group. They were infected with COVID-19 before the period from 20 to 90 days after their medical history. The control group stood on the list with a diagnosis of 60 alcoholics but was not infected with COVID-19. In the main group of patients included in the study, the activity of blood enzymes increased significantly compared with the control group: it was found that the ALT content increased almost 10 times in the main group, The AST content almost 3 times, LDG 3 times, and Alpine - almost one and a half times. In patients of the main group, the concentration of albumin in peripheral blood decreased. In the ultra-sound examination of the liver, it was found that there are significant changes in the patients of the main group. Patients with alcoholism after covid-19 disease, cytolytic, cholestatic syndrome in the functional hepatobiliary system in the liver, a decrease in the protein synthesis function of the liver was noted. In addition, an increase in the size of the liver, an increase in the diameter of the gate veins, spleen veins and the stiffness of the hepatic parenchyma were found.

**Key words:** alcoholism, COVID-19, liver, enzyme, ALT, AST.

**Introduction:** Changes have appeared in the system of different organs due to COVID-19 disease, that is, the development of different types of pathologies, has proven itself in many studies. Examples of this system of organs can be not only the respiratory system, but also the gastrointestinal system, cardiovascular and endocrine systems [1-18]. Various liver pathologies are common in patients with alcoholism. Up to 15-53 percent of patients have been diagnosed with liver pathologies due to COVID-19 disease, which is manifested by an increase in the amount of aminotransferases (ALT, AST) and bilirubin [19-30].

Patients with alcoholism after covid-19 patients have identified hyperfermentemia, in turn there are hypotheses that these conditions can negatively affect the course of alcoholism [31-42].

**The purpose of the study.** Patients with alcoholism evaluate functional changes in the liver after covid-19 disease.

**Research materials and methods.** The study was conducted for 2020-2021 in 140 patients undergoing treatment in the Samarkand regional branch of the Republican specialized scientific and



practical medical center of Narcology. The average age of patients is  $37.4 \pm 6.3$  years, all of them male. The examiners were divided into two groups. The main group has 80 alcoholism patients who have experienced Covid-19 disease. The control group has 60 alcoholism patients who are not infected with Covid-19. The criteria for inclusion in the study are the following, patients who have experienced COVID-19 from their medical history for a period of 20 to 90 days from their introduction into the study. For the study, patients were examined for alanine aminotransferase (ALT), aspartate aminotransferase (AST), gamma glutamyl aminotransferase (GGT), lactate dehydrogenase (LDH), total bilirubin and albumin levels. an ultrasound examination (UZI) was carried out: the cosovertical size of the right piece of the liver, the structure of the parenchyma, the diameter of the intrahepatic bile ducts, the general bile ducts, the lower vein, the state of the spleen were examined.

Liver elastometry was performed on the FibroScan apparatus and the results were interpreted as follows. 5.8 kPa or less – the liver is healthy; 5.9 – 7.2 kPa-the initial level of fibrosis; 7.3 – 9.5 kPa-progressive fibrosis; 9.6 – 12.5 kPa – pronounced fibrosis; 12.6 and more-cirrhosis.

### **Research results and their discussion.**

From the results of the study, it was found that the enzyme activity in patients with the main group of patients who are on the list with the diagnosis of alcoholism and who have experienced COVID-19, was significantly increased compared to patients who are on the list with the diagnosis of alcoholism, who are not infected with COVID-19 (Table 1). As a result of the examinations, it was found that in patients of the main group, the proportion of Alt to patients of the control group is almost 4 times higher, the AST is almost 3 times higher, LDH is 3 times higher. Usually cholestatic syndrome was assessed by the concentration of bilirubin in the blood, and it turned out to be almost 2 times higher, respectively. In the main group of patients, the total bilirubin content was  $33.92 \pm 0.43\%$ . In patients with Covid-19, the concentration of albumin in the blood was equal to the norm (40-60g/l), which may be associated with the consumption of albumin in the exudative phase of inflammation. A decrease in Albumin concentration may be pathogenetically associated with impaired liver protein synthesis function, as a component of liver cell failure.

When the main and control group patients were examined, various liver pathologies were detected in both groups of patients. In patients of the main group, ultrasound was clearly manifested signs of Hepato-and splenomegaly. Thus, the curved vertical size of the right piece of the liver of patients included in the study is significantly higher and larger than the standard pointer (150 mm). In patients of the main group, the diameter of the portal vein and spleen vein was determined above the indicators of the control group. In 38 of the patients of the main group (47.5%), an ultrasound examination of hepatitis symptoms was detected, hepatic steatosis – in 30 patients, bile duct enlargement – in 47 patients, splenomegaly-in 18 patients.

In the process of Elastography, the degree of hardness of the parenchyma was determined. This method allows you to determine the severity of liver fibrosis, but with inflammation and swelling of liver tissue, an increase in stiffness may be observed, in these cases, a high level of fibrosis is also noted. In this study, the majority of patients reported healthy liver (52.67%), less initial fibrosis levels (21.16%), progressive fibrosis (14.81%), and clear fibrosis (5.35%).



**Conclusion:** thus, in patients who stand on the list with a diagnosis of alcoholism and have experienced COVID-19, it was found that structural and functional changes appear in the hepatobiliary system, characterized by cytolytic, cholestatic syndrome, decreased liver synthesizing protein function, as well as an increase in liver volume, portal and spleen vein diameters, increased stiffness of the liver parenchyma. In the treatment of alcoholism, the effectiveness of treatment will not be sufficient if these changes are ignored, and various changes will occur in the general somatic state of the patient.

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