



CLINICAL AND LABORATORY CHANGES IN PATIENTS WITH ALCOHOLISM WHO HAVE UNDERGONE COVID 19, WITH VARIOUS PATHOLOGIES IN THE LIVER

Turaev Bobir Temirpulatovich

Xushvaktova Dilnoza Hamidullayevna

Assistant of the Department of Psychiatry, Medical Psychology and Narcology
Samarkand State Medical University, Samarkand, Republic of Uzbekistan

bobir.turaev.89@mail.ru

Annotation

So far, the combination of COVID-19 with various diseases has been studied, and there is very little data on the effects of this disease in patients with alcoholism. It is known to us that the most important member affected in alcoholism is the liver. A special group that is at high risk among patients suffering from COVID 19 is considered to be patients with various liver pathologies. Complications of coronavirus disease (COVID-19) have not yet been fully studied by scientists. We studied these clinical and laboratory results to study the various pathologies that occur in the liver after carrying out Covid-19 in patients with alcoholism.

Keywords: COVID-19, alcoholism, liver pathology, biochemical analyzes.

The relevance of the problem: the COVID-19 disease caused by the SARSCoV-2 Coronavirus, a pandemic that began in December 2019 in Wuhan, China, spread all over the world and caused various medical and social problems [1, 3]. COVID-19 is characterized by hypoxia, which as a result of viremia leads to the development of local and systemic inflammatory processes, micro and macrothrombosis, and is clinically severe with intoxication, fever, vascular endothelium, damage to the lungs, heart, kidneys, gastrointestinal tract, central and peripheral nervous system [2, 7]. During the pandemic period, it became known that COVID-19 infection is a disease that, in addition to acute respiratory infection, damages many organs, including such important organs as the liver [4, 9]. The liver is one of the important organs with many functions [10, 11]. The protective function of the liver involves the neutralization of endogenous and exogenous factors [12, 13]. Liver cells are actively involved in the body's immune defense activities. The liver contains T and B lymphocytes, Kupfer cells are specialized hepatic macrophages, necessary to capture the virus and disrupt its replication [15, 16]. The last process involves the active cation of Kupfer cells with interferon (IFN) –I and prevents the spread of the virus to neighboring hepatocytes



[17]. In the absence of Kupfer cells, hepatocytes cannot resist viral replication even in the presence of IFN-I, and this leads to long-term virus replication even possible severe T-cell Immunopathology [18, 19]. The active participation of the liver in the pathological process and the course and outcome of COVID-19 are manifested in the connection with the frequency and extent of liver damage from this infection [20].

During the COVID-19 pandemic, patients with alcoholism and the presence of various liver diseases were not given enough attention [21, 22]. Chronic liver diseases are one of the most common in the world, among which patients with alcoholism take the lead [23]. During the pandemic period, no necessary attention was paid to the problems of effective observation and continuation of treatment of patients with these pathologies. In the latest literature, there is not enough data on the effect of COVID-19 on the development of liver diseases [24, 25]. However, patients with severe fibrosis and cirrhosis of the liver, patients from liver transplantation have extensive data on the severe course of COVID-19 [26].

The liver is one of the most important organs with many functions. The protective function of the liver includes detoxification of endogenous and exogenous factors [27, 28].

Analysis of clinical data shows that coronavirus infection is common in hospitalized patients with severe disease with liver dysfunction [29, 30]. According to various data, high levels of alanine aminotransferase (ALT) and asparagine aminotransferase (AST) were recorded in 18-50% of patients [32]. Liver dysfunction in COVID-19 has been recognized by most researchers as a mild pathological condition [31]. But some data show that 4-14% of patients with COVID-19 have diseases that accompany the liver, and in 15-55% of cases, the level of aminotransferase during the development of the disease was not normal [34]. Patients with severe COVID-19 disease more often than in the latest literature, liver dysfunction has been observed [35]. Data analysis shows that cases of liver dysfunction increase in proportion to the severity of COVID-19. Elevated alanine aminotransferase, hypoalbuminemia and thrombocytopenia in COVID-19 disease are unfavorable prognosis factors for the disease [36, 37]. Studies of the liver pathways in patients with COVID-19 have shown that they are highly susceptible to COVID-19 infection and maintain strong virus replication [8]. The SARS-CoV-2 virus disrupts various functions of bile acids in cholangiocytes, and this is confirmed by an increase in serum gammaglutamyl transferase (GGT) levels in patients with COVID-19 disease [39, 40]. In most patients with severe COVID-19, serum anti-inflammatory cytokines were observed to be higher than normal. Excessive production of anti-inflammatory cytokines has been described as a cytokine storm. If the high cytokine concentration does not decrease over time, it leads to an





increased risk of vascular hyperconductivity, multiple organ failure, and ultimately death [6]. Activation of blood clotting during an immune response to infection leads to excessive production of anti-inflammatory cytokines, which in turn cause damage to many organs [14]. In the inflammatory process, the concentration of anticoagulants decreases. This procoagulant-anticoagulant imbalance led to the development of microthrombosis, the spread of blood clotting in the vein, and numerous organ failure [5]. Patients with various chronic liver diseases that develop due to alcoholism have a severe risk of contracting a COVID 19 viral infection and various infectious diseases in them [38].

It has been found that ALT, AST, total bilirubin and other liver function values have increased significantly in patients with alcoholism after experiencing COVID-19, and liver function values can gradually return to normal during the recovery process [41]. Patients with severe liver damage as a result of alcoholism are usually prescribed hepatoprotective drugs. In addition, liver dysfunction in COVID-19 patients is associated with increased activation of coagulation and fibrinolysis, relatively low platelet count, granulocyte count and neutrophil-lymphocyte ratio, and high ferritin levels [42]. Although these parameters are considered non-specific symptoms of inflammation, they are also suitable for dysregulation of Innate Immunity.

Conclusion

Different chronic liver diseases with alcoholism require special attention from doctors after experiencing COVID-19 in patients with elevated liver enzyme levels in these patients, other studies have shown that chronic liver disease is a risk factor for severe infection and increased mortality. After patients with alcoholism and having different liver pathologies have passed COVID-19, the course of alcoholism disease is different from the usual one, and in the treatment of alcoholism disease, Wushu indications are of paramount importance.

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