

THE MOST COMMON COMPLICATIONS IN PATIENTS WHO HAVE HAD COVID-19

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Abstract

The impact of COVID-19 on the human body continues to be actively studied. However, despite numerous fatalities and millions of infection cases, many aspects of the disease remain unclear.

Introduction

The impact of COVID-19 on the human body continues to be actively studied. However, despite numerous fatalities and millions of infection cases, many aspects of the disease remain unclear. According to British scientists, primary symptoms of the disease may appear, disappear, and then recur again after 30 days. In some patients, the disease occurs only once but lasts for a prolonged period, eventually transforming into post-COVID syndrome. According to information published in the prestigious journal *Science*, “no infection known to humankind has ever caused such extensive damage as coronavirus.” It is known that coronavirus infection affects the pulmonary vasculature, inducing inflammation in the form of pneumonitis and alveolitis, resulting in damage to the alveolar structures and injury to the endothelial lining of pulmonary capillaries. Consequently, lung tissue becomes consolidated, with an increased risk of fibrosis. Normal lung parenchyma is replaced by coarse connective tissue. Impaired oxygen diffusion through the lungs leads to subsequent cardiovascular complications. The ability of SARS-CoV-2 to damage the heart and blood vessels is well established. Researchers note that the virus binds to angiotensin-converting enzyme 2 (ACE2) receptors located in lung tissue, myocardium, vascular endothelium, kidneys, urinary bladder, and intestinal epithelium. As a result, myocardial injury or viral myocarditis may occur. These complications typically develop one to two months after infection, and in some cases even six months later [1].

Since ACE2 receptors are also expressed in the liver, the virus can affect hepatic tissue as well. According to Professor Leonid Lazebnik of the A.I. Evdokimov Moscow State University of Medicine and Dentistry, ACE2 receptors are particularly abundant in cholangiocytes, and viral proteins bind to these receptors when injury occurs. Literature data indicate that signs of liver injury were detected in approximately 50% of hospitalized patients in China. Whether these changes are directly caused by the virus remains unclear, as a large proportion of the Chinese population has a



history of chronic hepatitis B. In Russia, observations have shown that patients with pre-existing chronic liver diseases experience more severe COVID-19 compared to individuals without such conditions. It should also be noted that several medications used for COVID-19 treatment possess hepatotoxic properties [2,3,4].

Observations revealed renal injury in 30% of patients. None of these patients had previously reported renal complaints. In some cases, kidney damage was severe, even requiring hemodialysis. Therefore, even in the absence of clinical renal symptoms, all patients should undergo urinalysis and renal ultrasonography. Due to immune system impairment during coronavirus infection, demyelination—damage to the myelin sheath of nerve fibers—may occur. Clinical symptoms vary, but the primary sign is loss of sensation in different parts of the body. Additionally, patients may report fatigue, weakness, headache, dizziness, visual impairment, and dysphagia, among other complaints.

References

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