

Analysis of Scientific and Practical Data on the Pathogenesis of Damage to the Kidneys, Pathomorphological Changes in Covid-19 Infection

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ANNOTATION

Viral infections have always been one of the pressing problems of Medicine. On Earth, billions of people are currently infected with viral infections of one type or another. Viral diseases account for 80% of infectious diseases, according to experts from the entire World Health Organization.

Introduction: viruses (lot. virus - "poison") are non-cellular forms of life that have the property of being able to reproduce only within the cell. Viruses are very small living beings, consisting of carriers of genetic information surrounded by a protective shell, made up of a molecular protein of nucleic acid. Their main feature is their parasitic reproduction in the cells of the affected organs. These viruses do not have their own apparatus for synthesizing organ molecules, which is why they use human and animal cells as a source, for the purpose of self-reproduction. In nature, a huge variety of viruses are known that parasitize bacteria, plants, animals and human cells. The proliferation of viruses in cells becomes more and more intense, causing damage and even death of organs. But the role of viruses in nature is not limited to this. They serve as an important factor for the evolution of living organisms in the world. Viruses achieve this due to the fact that they have the property of being able to alter the genetic information of the affected organism. Among the world population, the incidence of coronavirus infection is a total of 28.8%. On 11 March 2020, the World Health Organization (who) announced a pandemic of coronavirus infection, and it was considered by SARS-CoV-2 to be the 11th pandemic in the 20th-21st centuries. SARS-CoV – 2 is a single-stranded RNA-capturing virus in the family Coronaviridae. The S-protein of SARS-CoV-2 is similar to the variable 2-angiotensin enzyme (ACE2), and its affinity is 10 times stronger than that of the previous virus SARS-CoV, which provides a high degree of transmission. Receptor expression with respect to ACE2-enzyme is detected in respiratory epithelium, alveolocytes, alveolar monocytes, vascular endothelium, gastrointestinal epithelium, pechobid epithelium, macrophages, and even other cells. SARS-CoV-2 has active replication to the upper respiratory epithelium. Therefore, the course and progression of COVID-19 is triggered by severe acute respiratory syndrome (oors) and SARS-CoV-2, whose intense replication causes viremia, immune disorders, hypoxia, and damages a number of

organs, namely the heart, kidney, gastrointestinal tract, and other organs, which express a receptor on ACE2-enzyme in organ cells and leads to clinical severity in the 2nd week after infection. At the same time, the main and fundamental essence of this disease is the development of microangiopathy and damage to the immune system in the form of destructive-product thrombovasculitis and hypercoagulation syndrome. SARS-CoV-2 virus uses angiotensin-modifying type 2 enzyme (ACE2) receptors for intracellular entry. ACE2 receptors are highly expressed in the kidneys. For this reason, kidney disease is a risk factor for COVID - 19 infections, exacerbating the clinical course of the disease.

Purpose of the study: Analysis of scientific and practical data on the pathogenesis of damage to the kidneys, pathomorphological changes in Covid-19 infection

Materials and methods of the study: In June, July, August, September 2021, 44 individuals who died from COVID-19 infection were autopsied at the Department of pathological anatomy of the murdasi ozr SSV Center “pathology of mothers and children”, their medical history, autopsiya protocol data were analyzed, changes in the external appearance of the kidney during the autopsiya process were studied and 2 to 1x1 cm from the bark, cuttings were taken in order to study pathogystological changes. The kidney slices were hardened for 72 hours in a formalin solution prepared in a 10% phosphate buffer. An analysis of disease history data shows that the duration of COVID-19 has had the following dynamics.

Research results: In the material we studied, 10 patients (22.7%) died in the first period of the appearance of clinical symptoms of COVID-19, almost half of them were patients aged 60-79 years. So, the reason for the death from this infection in older patients was considered the presence of chronic diseases of the cardiovascular, respiratory and renal-venereal systems in them. It was found that 14 (31.8%) of the patients we studied died during the second period of coronavirus infection, that is, during the peak of the inflammatory process. In this group, too, the bulk of the dead fell on the elderly. During the third, complication-giving period of the disease, the death toll was also the majority (15nafar, 3%). Post-covid syndromes were relatively low in the developmental period compared to the olfactory display, which was 5 (11.3%). The following have been identified as the immediate cause of death in those who died during the highly indicated clinical periods of COVID-19. Acute kidney failure (31.8%) was the number one cause of death. It was followed by DVS syndrome (27.2%). Of the next most significant mortals, birisifatidea which are also found to be low-end, in some of thememorrhagic edema (20.4%). In rare cases, cases of cranial edema (4.5%), bilateral pneumothorax (2.7%), and splenomegaly (4.5%) were found to be the direct cause of death in coronavirus cases. Cases of death from COVID-19 were equally observed in all age groups of people, with deaths by periods of development of the disease having the following image: the first - 22.7% in the period of exacerbation of the disease, 31.8% in the period of large-scale development of the inflammatory process, 34.0% in the period of giving complications, the last secondary changes

Conclusions: Indirect causes of death from COVID-19 were pulmonary artery thromboembolism (9.0%), acute kidney failure (31.8%), pulmonary edema (20.4%), DVS syndrome (27.2%) and cranial edema, pneumothorax (4.5%). It has been found that pre-existing chronic concomitant various background and comorbid conditions in humans, including: hypertension (27.3%), diabetes mellitus (18.1%), obesity (20.4%), OSNA rheumatism, cardiomyopathy, bronchial asthma, lung ciliabicasalitis, exacerbated and end of COVID-19 infection.

The results of clinical-morphological analysis of COVID-19 deaths showed that deaths in the first period of the disease in the form of exudation phase uchog pneumonia were 59.0%, in the form of interstitial pneumonia in the second proliferative phase, 41.0%.

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