



CHANGES IN THE KIDNEYS IN PATIENTS WITH A PERIOD OF REHABILITATION AFTER THE DISEASE COVID-19

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Annotation: *although COVID-19 infection is a disease that is mainly accompanied by respiratory tract lesions, a few cases of the disease occurring at different levels (mild, moderate, severe), scientists have been telling. Against the background of post-covid syndrome, which develops after the disease at moderate to severe levels of Covid 19, violations of kidney functional activity and its dependence on the body's auto-immune processes are being studied until now.*

Key words: *COVID-19, reabsorption, filtration, rehabilitation, mochevina, creatinine, urea, proteinuria, acidosis, nephropathy.*

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Relevance: in December 2019, the Chinese government reported the onset of unknown pneumonia in the city of Wuhan, the province of Hubei, the etiology of which (perhaps in the seafood market) is unknown [1].

At the beginning of March 2020, the World Health Organization reported that the number of confirmed cases outside of China has increased by 13 times (37 364 patients), and the number of countries that have spread has tripled (113 countries) in 2 weeks. Thus, who announced a new coronavirus infection (COVID-19, SARS-CoV-2) as a pandemic.[2]

Kidney damage in patients with COVID-19 is a common symptom. More than 40% of hospitalized patients have animal proteinuria. Acute renal failure is common among patients who have undergone COVID-19 at a severe level, and acute renal failure in 20-40% of patients treated in the intensive care unit (intensive care unit) in the European and United States experience is one of the factors that negatively affect patient life. [3]

Various interrelated effects of SARS-CoV-2 infection increase the risk of acute kidney damage.

SARS-CoV-2 directly affects the epithelium of the renal ducts to vapoocytes, through the call of dependence on the angiotensin-converting 2 Type enzyme (APF2), the appearance of maculations in the process of mitochondrial dysfunction, acute renal canal necrosis, protein reabsorption, the collapse of which produces lomerulopathy. [4]

In addition, there is evidence of the direct damaging effect of the virus on renal endothelial cells. The virus is indicated as a causative factor for damage to the renal endothelium of the brain and the development of kidney failure.

Another mechanism of acute renal failure is based on deregulatory immune response reactions associated with SARS-CoV-2 in this body , lymphopenia observed in patients and cytokines separation syndrome (cytokinlarboron). Oby's other findings are rabomyolysis, macrophages activity

syndrome, endothelitis, and the development of microembolism against a background of hypercoagulation. [5]

Thus, it is very important to monitor kidney activity in patients with a severe degree of COVID-19. This can be very important in order to prevent violations of kidney function and to take immediate measures to control cytokine storm in patients with severe degrees of renal failure and to restore kidney function and damage. [6]

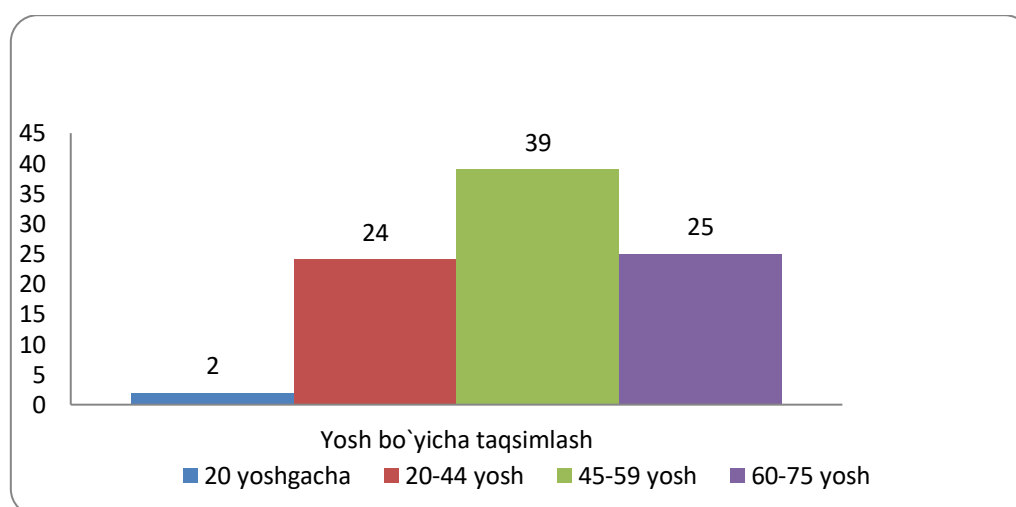
Currently, only approved patients after Covid-19 do not have dispensary control. Like other diseases with acute kidney damage, both patients after Covid - 19 should be under the control of the dispenser.

Objective: to determine changes in the functional activity of the kidneys during the period of reabilitation in patients undergoing Coronavirus (Covid-19) disease.

Research materials. Studies have studied the tests conducted in patients with a confirmed stage of REABLITATION, in which 90 cases of COVID-19 disease were hospitalized and outpatient treatment by the method of laboratory PZR.

These 90 patients will be included in the main groups. In the control group, 24 practical (relative or conditional) clinical tests are conducted in healthy people. Of the 90 patients in the main groups, women are 52 (57.8%), men 38 (42.2%).

Our observation in major groups suggests that patients range from 18 years of age to 75 years of age. Patients age range from 20 years to 2 years (2.2%), 20-44 years of age range 24 (26.7%), 45-59 years of age range 39 (43.3%), 60-75 years of age range 25 (27.8%).



We study patients (90) and conditionally healthy (24) who were taken into our observation as 4 small A,B,C,D groups.

- A-group 22 (19,10%) patients who underwent coronavirus disease at a mild level.
- B-group 40 (35,10%) patients who underwent coronavirus disease at a moderately severe level.
- C-Group 28 (24,50%) patients who underwent severe coronavirus disease.

- N-controlled group 24 (21,10%) conditionally healthy people.

The main and control groups were examined to Covid-19 in the PZR method. Biochemical tests (mochevina, creatinine, uric acid, total protein content) of patients and control group blood samples were determined.

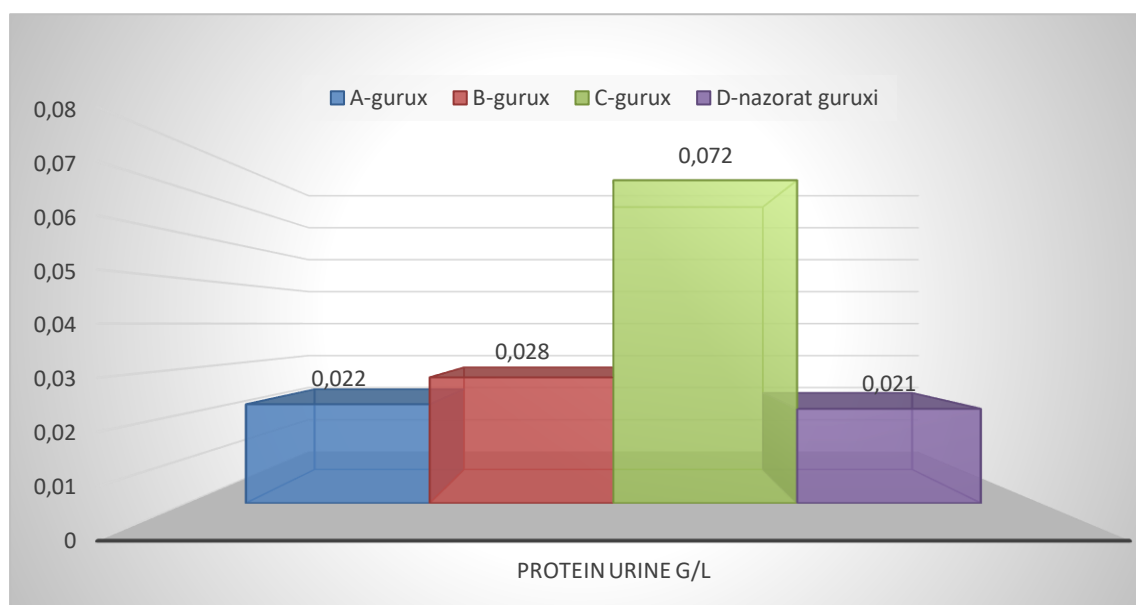
Results: Examination groups and control groups are indicators of the amount of silage taken from blood samples to the middle and the amount from the middle to the silage.

	Mochevina mmol/l	Creatine mmol/l	Uric acid mg/dl	Total Protein g/l
A- group	5,3±0,5	68,2±4,2	4,8±0,8	70±2,0
B- group	5,5±0,7	74,0±7,5	5,1±1,2	71±0,8
C- group	8,1±1,5	101,4±8,0	6,8±1,5	64±1,5
N- Group	4,8±0,6	55,7±7,5	4,5±0,8	69±2,0

The reviews of patients in the main group A and B indicate that they correspond to the reviews of healthy people in the N – control group. In 8 (28.6%) patients included in the C group, it can be seen that the tests are compatible with indicators compared to the N – Group, and in 20 (71.4%) patients the tests are higher than the indicators. Indicators show 0.8 times higher when compared to Group A tests with Group C tests, while indicators show 0.6 higher when compared to Group B tests with Group C tests.

From the results obtained, it is known that the above-mentioned changes indicate that the complication of SARS-CoV-2 infection with kidney activity is preserved in patients with severe course of the disease, in contrast to patients with mild and moderate severity, the effect of the drug on the reabsorption and filtration activity of the kidney.

A comparison of the results obtained from the main and control groups of using diagrams.



In the urine analysis conducted in patients, it is possible to see that the protein content in the urine is higher in the main A and B groups than in the main A and B groups, and in the C group patients higher than in the meory index, respectively, according to the above blood tests.

It manifests itself in varying degrees of effect on the functional activity of the kidneys according to the severity of the course of the disease in patients with COVID-19. As the main reasons for this, the level of viremia occurring in the body, dysregulatory immune response reactions, cytokines separation syndrome (cytokines storm), hemodynamic effects of hyper coagulability syndrome. In addition, it is possible to cause a harmful effect of the virus directly on the endothelial cells of the kidney.

Conclusion: However, the conducted tests show the suitability of the proper organization of quality and proper dispensary control in order to prevent (prophylactic) the occurrence of chronic renal failure in patients after the disease.

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