



## **CLINICAL AND LABORATORY FEATURES OF CORONAVIRUS INFECTION IN VACCINATED PATIENTS**

B. M. Tazhiev

A. R. Akhrarova

D. A. Abduganieva

### **Summary**

We conducted a comprehensive clinical and laboratory examination of 60 vaccinated patients, aged 18 to 70 years, with a confirmed diagnosis of "COVID-19 in vaccinated patients." We established the clinical diagnosis of patients on the basis of epidemiological anamnesis, clinical examination and laboratory results. The mean age of the patients was  $50.3 \pm 2.83$ ; males predominated by gender.

**Keywords:** vaccinated patients with COVID-19, coronavirus infection, clinic, symptoms

### **Relevance**

The novel coronavirus infection caused by the SARS-CoV-2 virus has become a serious problem worldwide. Appearing in China in 2019 and leading to a pandemic, SARS-CoV-2 from the coronavirus family has put humanity and, first of all, biomedical sciences in front of the most difficult problem of combating a new infectious agent. The total number of infected people on the planet is now more than 26 million in 209 countries. These figures are the opinion of many experts, the peak of the epidemic in some countries has not yet been passed [5,6,8,9] Prompt familiarization with these practices and their implementation will help increase the effectiveness of the measures that are currently being taken in the Republic. Since the features of the etiology, epidemiology, clinic and laboratory parameters of an infectious disease are not clear enough, many aspects of the COVID-19 clinic need further research.

**The purpose of the study:** To identify Clinical and laboratory features of coronavirus infection in vaccinated patients with COVID-19



## Material and Methods

A retrospective analysis of the case histories of patients who were under observation in the special coronavirus hospital "Zangiota 2" of the Republic of Uzbekistan in the period 2020-2021 was carried out. The study included 60 patients diagnosed with coronavirus infection in vaccinated COVID-19 patients (ICD code U07.1-U07.2) aged 18 to 70 years, the average age of patients was  $50.3 \pm 2.83$  years, patients aged 50 to 60 years predominated. Of these, there were 34 (56.7%) men and 26 (43.3%) women. In 24 (40.0%) patients, the SARS-Cov-2 virus was identified, and in 36 (60.0%) patients, the diagnosis was made according to clinical and epidemiological parameters (polymerase chain reaction (PCR) showed a negative result). The main biomaterial for the detection of SARS-<sup>^</sup>V-2 RNA was a nasal swab. The standard laboratory examination included a general and biochemical blood test, a coagulogram, determination of C-reactive protein, D-dimer, to detect respiratory failure (RD) and assess the severity of hypoxemia, as well as computed tomography (CT) of the chest, ECG and ultrasound of the internal organs. The statistical significance of the measurements obtained when comparing the mean values was determined by Student's t-test (t) with the calculation of the error probability (P) when checking the normality of the distribution. Significance level  $P < 0.05$  was taken as statistically significant changes. Statistical analysis of the results was carried out using Microsoft Office Excel 2016 (Microsoft, USA).

## Result and Discussion

The patients were hospitalized on the 3rd-12th day of illness, more than half of them did not receive treatment at the outpatient stage, some patients received antibiotic therapy without any visible effect. We established the clinical diagnosis of patients on the basis of epidemiological anamnesis, clinical examination and laboratory results. When collecting an epidemiological history, attention was paid to the patient's visits during the previous 14 days to regions unfavorable for COVID-19, the presence of close contacts during this time with people who arrived from endemic areas, as well as contacts with people whose diagnosis was confirmed by laboratory. The study of the epidemiological history made it possible to establish the contact route of infection transmission in 24 (40.0%) patients, the airborne route of transmission in 8 (13.3%) and 28 (46.7%) patients failed to identify the source of infection. All vaccinated patients had a history of: cardiovascular diseases (26.6%), hypertension (20.0%), diabetes mellitus (23.3%), obesity (6.6%), diseases of the digestive system (15.0%) and the respiratory system (8.3%). The analyzed group included patients with a moderate course of COVID-19. The disease



in all vaccinated patients was manifested in dryness and pallor of the skin and mucous membranes, weakness and lethargy. The disease proceeded against the background of high body temperature in 8.3% of patients and exceeded 38°C, in 16.6% the temperature reached 38-38.5°C, in 75.0% it remained at subfebrile numbers. At the same time, in 20.8% of patients, the fever was prolonged ( $6.0 \pm 1.6$ ). The phenomena of general intoxication were combined with exsiccosis I-II degree. Lethargy and weakness increased intensively (100%). Among the first symptoms of COVID-19, a dry cough was registered (91.6%) and in 27.3% of patients with a small amount of sputum. Decreased sense of smell and taste (58%), shortness of breath (67%), chest tightness (27%), and diarrhea and nausea (12.5%). Heart sounds were muffled, cyanosis of the skin and mucous membranes developed. When analyzing clinical manifestations depending on ^ISSN 2181-712X. EISSN 2181-2187 261 Gender traits found some differences. It was noted that intoxication, fever and shortness of breath were more often recorded and were more pronounced in vaccinated men ( $p < 0.05$ ) than in women. In the majority (90.0%) of the examined patients, the clinical picture of coronavirus infection was characterized by the presence of bilateral viral pneumonia. In (10.0%) vaccinated patients, the disease proceeded without lung damage. The severity of pneumonia was established during CT in accordance with the accepted gradation in terms of the volume of lung tissue damage and is presented in Table No. 1.

Table #1

The results of the CT study in the examined patients: CT data Number of patients  $n=6$ .abs.  $M \pm m$  RT- 0 6 0 RT - 1 30  $12.7 \pm 1.19$  RT - 2 19  $31.8 \pm 1.11$  RT - 3 5  $55.2 \pm 3.77$

As can be seen from table No. 1, upon admission, 54 (90%) half of the patients had lung damage of the 1st-2nd-3rd degree according to CT. At the same time, CT-0 was recorded in 6 (10.0%) patients, CT-1 — in 30 (50.0%), CT-2 — in 19 (31.6%), CT-3 — in 5 (8.3%) of patients. Of the total number of patients ( $n=24$ ) with a PCR-confirmed diagnosis of COVID-19, a CT study was performed in 100% of cases, with CT-1 in 13 (54.2%), CT-2 in 10 (41.6%), CT-3 in one patient (4.2%). The dynamics of the state of the lungs according to CT was evaluated in 26 (43.3%) patients. At discharge, the proportion of patients with CT-3 decreased to 10%. On CT scans of the lungs, ground glass was the most common diagnostic finding (67%). According to the electrocardiogram, rhythm disturbance (58%) and cardiomegaly (23.3%) were detected. Subsequently, we studied the picture of peripheral blood. Thus, out of 24 examined patients, anemia of various severity was observed in 12 patients. According to our observations, normal ESR values were in 9 patients. In the rest, it was increased up to 18 mm/h, and only in one patient did the ESR reach 36 mm/h. The hematological changes noted by us in the peripheral blood,



such as lymphopenia and thrombocytopenia, equally applied to all patients at the height of the disease. It should be noted that the level of C-reactive protein had prognostic value during COVID-19. Discharge of patients with a confirmed diagnosis of COVID-19 was allowed with regression of the clinical manifestations of the disease and after receiving two negative laboratory results. At the same time, the average stay of patients in the hospital was  $12.2 \pm 0.50$ .

Conclusions.1. The clinical picture of coronavirus infection with a moderate course was characterized by the presence of bilateral viral pneumonia (90.0%).

2. Coronavirus infection caused by SARS-Cov-2 as a systemic disease with multiple organ damage that requires further research. All patients who are vaccinated with COVID-19 need further follow-up to detect, evaluate and treat long-term effects.

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