

EXTRAPULMONAL MANIFESTATIONS OF COVID-19

Oblokulov Abdurashid Rakhimovich 1,

Duysenova Gulzar Karlibaevna 2

Bukhara State Medical Institute named after Abu Ali ibn Sino1,

Republican Hospital for Children's Infectious Diseases 2

obloqulov.abdurashid@bsmi.uz

Abstract

COVID-19, caused by SARS-CoV-2, is primarily known as a respiratory illness; however, it has been increasingly recognized as a multi-organ disease with significant extrapulmonary manifestations. The virus affects various organ systems, including the cardiovascular, neurological, gastrointestinal, renal, and hematological systems, leading to complications such as myocarditis, thromboembolic events, encephalopathy, acute kidney injury, and gastrointestinal disturbances. The pathophysiological mechanisms underlying these manifestations involve direct viral invasion, immune dysregulation, endothelial dysfunction, and hyperinflammation.

Keywords: Coronavirus infection, extrapulmonary manifestations, skin manifestations, erythematous rash.

INTRODUCTION

Clinical signs of coronavirus infection vary widely from asymptomatic manifestations to acute pneumonia with respiratory failure and even death [1-4]. In about 80% of people infected with coronavirus, the disease occurs in a mild or subclinical form, in 13-14% - in an acute form, and in 4-6% a critical form develops, which requires hospitalization in the intensive care unit [5-9].

In this article we will reveal several neurological manifestations in COVID. These include Guillain – Barré syndrome, viral encephalitis, toxic encephalopathy, acute necrotizing hemorrhagic encephalopathy, smell and taste disorders, stroke, and nonspecific neurological symptoms such as headache and dizziness [10-13]. Smell and taste disorders have been reported as symptoms of COVID-19. They can precede or occur in conjunction with other classic COVID-19 symptoms, or occur in isolation [14-18]. Several gastrointestinal symptoms have been reported in COVID-19 patients. These include anorexia, diarrhea, nausea, vomiting, and abdominal pain [19-25]. Skin rash was noted in 0.2% of patients with a confirmed diagnosis of COVID-19. It can occur at the first sign of illness or during a hospital stay [26-30].

Extrapulmonary and atypical manifestations of COVID-19 may be the only symptoms at the time of the first visit to the hospital. If they are missed by doctors, it can lead to incorrect or delayed diagnosis [31-35]. Therefore, information about these clinical characteristics of COVID-19 is important, as it helps to diagnose and isolate suspected patients at an early stage of the disease, which helps to contain nosocomial infection [36-39].



The aim of the study was to study the extra-respiratory manifestations of the new coronavirus infection (Covid-19).

Materials and Methods

This study was a single-center, retrospective cohort study. We included all patients with confirmed SARS-CoV-2 infection admitted to an infectious diseases hospital from March 21 to August 12, 2020 in Bukhara. Clinical data were obtained from electronic health records, including demographic data, medical history, signs and symptoms, and laboratory data at admission.

All COVID-19 patients included in this study were diagnosed in accordance with the guidelines for the diagnosis and treatment of pneumonia caused by infection with the new corona virus. All patients had laboratory-confirmed infection with SARS-CoV-2 (real-time RT-PCR specific for SARS-CoV-2 was positive).

Result and Discussion

206 patients were under observation. Patients were divided into severe patients (n = 68, including 26 patients with severe cases at admission and 42 patients with moderate cases that became severe after admission) and patients with moderate forms (n = 138). Of these, 12 (8.6%) patients were hospitalized in the intensive care unit, 8 (3.8%) patients died, 185 (89.8%) patients were discharged by August 12, 2020.

The average age was 53 years, of 206 patients, 181 (88%) were men. The median time from symptom onset to hospitalization was 4-5 days, and the median time to diagnosis of severe illness was 6-7 days. The most frequent chronic diseases were: hypertension, in 26 patients (13.1%); cardiovascular diseases, in 25 (12.5%); uncomplicated diabetes, in 15 (7.3%); chronic obstructive pulmonary disease, in 13 patients (6.3%). The most common gastrointestinal symptoms in patients with COVID-19 were: anorexia in 178, sore throat in 115, diarrhea in 26, nausea in 28, vomiting in 12, and abdominal pain in 10. Neurological symptoms such as headache were recorded in 165, fatigue - in 154, dizziness - in 37, loss of taste - in 75, loss of smell - in 78, myalgia - in 72, confusion - in 35, convulsions - in 4. Ophthalmological manifestations were also recorded, such as conjunctivitis - in 48, lacrimation from the eyes - in 12 (Fig.).

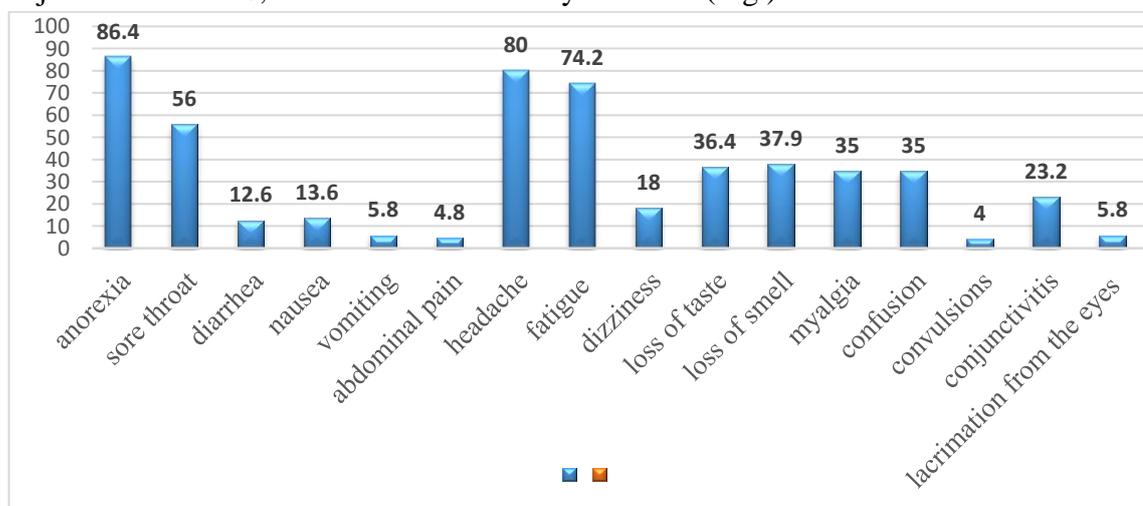


Figure: Frequency of symptoms in patients with COVID-19 (%).



According to the results of the data obtained on 206 patients, it turned out that 45 patients (21.8%) had skin manifestations. In 18 patients, they manifested themselves in accompany by the manifestation of other symptoms, in 27 patients - after hospitalization. Among the skin manifestations prevailed: erythematous rash (in 24 patients), widespread urticaria (in 13 patients), as well as vesicles similar to rashes in chickenpox (in 8 patients).

Conclusions

Thus, the results of the study showed that in the examined patients, along with the typical signs of this disease, there were such extra-respiratory, as neurological, gastrointestinal and skin.

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