Case Report

Covid-19 Infection in an HIV-Positive Patient

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Abstract

The COVID-19 pandemic affects all age groups but follows a more mortal trajectory in patients with preexisting conditions such as immune deficiency, chronic lung disease, diabetes, and cardiovascular problems. Hence, HIV-positive patients with immune deficiency are at risk therefore, it is especially important for these patients to have continuous access to treatment during the pandemic. The number of defined COVID-19 positive HIV patients is very limited despite the fact that there are approximately 37.9 million HIV-positive patients globally. Therefore, we decided to publish this study reporting an HIV patient treated for COVID-19 in our clinic.

Keywords

COVID 19, HIV, Pandemics

Introduction

New type coronavirus SARS-COV-2 first surfaced in the Chinese city of Wuhan on December 1st, 2019, to turn into a global concern in quick succession. The World Health Organization declared this a pandemic on March 11, 2020. The patients infected with COVID-19 have 80% mild symptoms, while 14% become serious and 6% attain critical conditions. Patients with pneumonia due to COVID-19 require hospital admission 10% of the time, while 10% within this group develop an acute respiratory distress syndrome (ARDS) subject to intensive care unit admission [1,2].

While COVID-19 mortality rates are higher among elderly patients with chronic lung disease, diabetes, and cardiovascular diseases, it is also known to cause multi organ deficiencies and death among younger patients [3]. COVID-19 also poses a significant burden for patients living with HIV [4].

There are currently no specific treatments for COVID-19 with proven results and efficacy. Over 100 randomized studies involving various medications are currently ongoing to find a cure for this disease. These medications include antiretrovirals used in HIV treatment as well [1,5].

The number of defined COVID-19 positive HIV patients is very limited despite the fact that there are approximately 37.9 million HIV-positive patients globally. Therefore, we deemed important to publish this study reporting an HIV patient that has been treated for COVID-19 in our clinic.

Case

Informed consent given from patient. A 44-year-old man was admitted to our hospital emergency room (ER) with fever and cough symptoms. It was discovered that even though the patient took lopinavir/ritonavir and emtricitabine-tenofovir antiretroviral treatment due to acquired immune deficiency syndrome (AIDS) for the past 5-years, he had stopped taking medications in the past month. The patient had been suffering symptoms for the past 10 days and had been prescribed oseltamivir by the previous medical center, without any improvement to his general condition. On physical examination, he has fever 37.9, turgor, normal tonus, bilaterally equal breath, and noral-ronkus were detected. No anomalies were found in the cardiovascular, gastrointestinal, and genitourinary systems. Blood pressure was recorded at 120/80 mmHg, pulse rate was 80/min, and breath rate was 18/min. The patient was moved to the infectious diseases ward following discovery of bilateral peripheral infusion in the thorax CT performed at the ER. Nasopharyngeal swab test was found positive for SARS-CoV-2 by reverse transcription PCR assay. Initial treatment was lopinavir/ritonavir 400/100 mg, Doxycycline 2 × 100 mg, Ceftriaxone 2 × 1 g iv, Emtricitabine/Ten of ovidisoproxil 200/245 mg 1 × 1. HIV RNA results taken during admission returned to 90 IU/ml, with a CD4 count of 623/mm [3]. The patient was discharged with directions

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of self-isolation after 5 days of hospitalization following his improvement in general condition and stable vital functions.

**Discussion**

While COVID-19 impacts everyone, it is evident that mortality rates are higher among patients with comorbidities and immune deficiencies. Hence, it is especially important to evaluate patients with acquired immune deficiencies [3]. During the pandemic in April, 5 patients were reported in Spain and 1 in Wuhan, China, with co-infections of HIV and COVID-19 [6,7]. Most recently by May 18, the amount of case reports has reached a dozen, covering approximately 100 COVID-19 infected HIV patients [8]. Our case is different from these others since the patient was discharged without intensive care unit intervention. Age younger than 50-years, no preexisting conditions such as hypertension and/or diabetes, having no respiratory issues during admission, and having a CD4 number of 623/mm$^3$ are all important factors leading to patient’s improvement and discharge.

It is necessary to inform HIV-positive patients on infection control measures, such as taking medications consistently, exercising social-distancing and social-isolation, and using masks/gloves. In addition, it is recommended to keep HIV-related infections in mind during diagnosis, as these symptoms might be confused with viral-related pneumonia symptoms.

**References**