

Reply to Comments on 'Co-infection of SARS-CoV-2 and HIV in a patient in Wuhan city, China'

To the Editor,

Coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection has been ranging throughout the world now. The World Health Organization declared the COVID-19 crisis a global pandemic. The previous our case of coinfection of SARS-CoV-2 and human immunodeficiency virus (HIV) has raised the interests of the HIV research community.¹ Based on nationwide statistics of the COVID-19 in China, older adults and people of any age who have serious comorbidities might be at higher risk for severe illness or fatality.² People who are in immunocompromised status, including anti-cancer treatment,³ organ transplantation, immune weakening medications, and poorly controlled acquired immunodeficiency syndrome (AIDS) according to currently limited information and clinical expertise.

Joob and Wiwanitkit⁴ have pointed out that none of the cases of SARS-CoV-2 infection has been reported among HIV-infected patients in Thailand within a high prevalence of HIV infection, and standard antiretroviral treatment (lopinavir/ritonavir) against HIV might be a protective factor for people living with HIV (PLWH) in the crisis.³ In a historical control study, this anti-HIV drug was associated with substantial clinical benefit among SARS-CoV-infected patients.⁴ And it is being studied in the Middle East respiratory syndrome-CoV infection. In the early stage of the outbreak in Wuhan, China, the antiretroviral treatment was being used as an off-label medicine for COVID-19, as we reported in our case. Despite a clinical improvement of our case, a clinical benefit for COVID-19 with lopinavir/ritonavir was equivocal due to the limitation of one case observation. However, treatment outcome among the initial case would be useful for future therapeutic research. Very recently, a randomized controlled trial of approximately 200 patients was quickly performed in China and that found that the combination of lopinavir and ritonavir was not beneficial compared with standard care alone in COVID-19 management.⁵ Now, there is no drug that has proven to be effective and safe against SARS-CoV-2. Thus, we would not agree that PLHIV receiving standard antiretroviral treatment might be at low risk in the current crisis.

Nixon⁶ has given immensely helpful comments to detail our case, especially the information of HIV infection.⁷ According to the medical records, there was neither blood transfusion nor the sharing of needles due to drug abuse. However, he was highly suspected to be infected with HIV during vaginal sex without a condom. The antigen/antibody combination test of HIV was a routine test for screening HIV infection in our center, despite there were no clinical clues of AIDS on the admission of the patient. The HIV antigen/antibody test was repeated 1 week after discharge and remained positive. The patient was asked to

do a further viral load test to confirm HIV in the Chinese Center for Disease Control and Prevention and receive the antiretroviral treatment and follow-up in a designated center, in accordance with local epidemic prevention law. However, the process of confirmation test was being delayed because of current strict prevention measures of COVID-19 in local. Thus, we were unable to exclude the false-negative results occurred in our case even a small possibility based on repeated tests. The patient complained no more symptoms and his throat swabs remained negative for SARS-CoV-2 reverse transcription polymerase chain reaction 2 weeks after discharge.

Our case report has some notable limitations. There was no confirmation test of HIV and additional follow-up was not performed due to an urgent study and limited resources. Previous studies have found that HIV-infected people were more susceptible to influenza and at greater risk for severe illnesses than the general population in influenza epidemic.⁶ In current global pandemic, there will definitely be more cases of concurrence between HIV infection and COVID-19. Thus, future studies with large sample size and case-control cohort are warranted to further evaluate the outcome and potential effective antiretroviral treatment in PLWH with COVID-19.

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CONFLICT OF INTERESTS

The authors declare that there are no conflict of interests.

AUTHOR CONTRIBUTIONS

FZ and MZ drafted the manuscript. MZ, YC, and SYX cared for the patient and did a follow-up on the patient.

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