Doctopic: Analysis and Interpretation
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Authors' reply

We thank Rachael Jones and colleagues for highlighting two issues prescribing caution before drawing conclusions from our case series[1] of coronavirus disease 2019 (COVID-19) in HIV-infected patients. The first issue is regarding treatment with boosted protease inhibitors; the second is about prevalence of HIV-infected patients at our institution. We appreciate the attention paid to our work and their valuable insight.

First, as Jones and colleagues point out, knowledge about the efficacy of different antiviral treatments against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is evolving rapidly, and local protocols have been periodically updated. When treating the five cases described, we relied on findings of previous in-vitro studies and limited clinical data for efficacy of lopinavir-boosted ritonavir against severe acute respiratory syndrome. Published since that time, a Chinese clinical trial has shown scant efficacy of lopinavir-boosted ritonavir against SARS-CoV-2,[2] [~~A: please reference~~] and Jansen published a note[3] [A: ~~please reference~~] reporting darunavir has no affinity for the SARS-CoV-2 protease. We agree that boosted protease inhibitors introduce a substantial risk of drug–drug interactions, but our five cases were managed by skilled infectious disease specialists and they presented neither remarkable side-effects nor substantial drug–drug interactions during the 14-day treatment period. At the time of the publication of our case series, patient 2 was still in intensive care, requiring extracorporeal membrane oxygenation, but ~~they have survived and were discharged~~ on April 30, 2020, with a plasma RNA HIV viral load below 50 copies per mL and, thus, this patient has reverted to their previous antiretroviral regimen (abacavir, lamivudine, and dolutegravir).

Second, Jones and colleagues question the 1% prevalence of HIV-infected cases admitted with COVID-19. We had stated that our findings were both the first data to be published and preliminary results. Moreover, our local protocol included HIV serology for all hospitalised COVID-19 patients. The 1% prevalence has been confirmed in Barcelona after 2 months. 42 HIV-infected patients with COVID-19 visited the hospital clinic emergency department, of whom 32 (76%) were admitted and among whom only one new case of HIV was diagnosed. These figures represent 0·7% of the 5649 patients in our institution's HIV cohort, 1·9% of the 2215 emergency department visits, and 1·5% of the 2102 hospital clinic admissions. The prevalence of HIV-infected patients with COVID-19 was, therefore, similar to the findings of a Chinese survey[4] reporting 0·7% of HIV-infected cases with COVID-19 (eight of 1174), whereas the rate of HIV hospital admissions was slightly higher than reported in New York city (0·8% [42 of 5700]).[5]

These are preliminary results and we must redouble our efforts, doing appropriate studies to define more clearly the main epidemiological and clinical features of COVID-19 in HIV-infected patients.

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1 Blanco JL, Ambrosioni J, Garcia F, et al. COVID-19 in patients with HIV: clinical case series. *Lancet HIV* 2020; **7:** e314–16.
2 ~~reference requested~~
3 ~~reference requested~~
4 Guo W, Ming F, Dong Y, et al. A survey for COVID-19 among HIV/AIDS patients in two districts of Wuhan, China. *SSRN* 2020; published online March 13 (preprint). http://dx.doi.org/10.2139/ssrn.3550029 (accessed May 6, 2020).
5 Richardson S, Hirsch JS, Narasimhan M, et al. Presenting characteristics, comorbidities, and outcomes among 5700 patients hospitalized with COVID-19 in the New York City area. *JAMA* 2020; published online April 22. DOI:10.1001/jama.2020.6775.