RESEARCH LETTER

Descriptive account of 18 adults with known HIV infection hospitalised with SARS-CoV-2 infection

ABSTRACT

Objective To report on the clinical characteristics and outcome of 18 people living with HIV (PLWH) hospitalised with SARS-CoV-2 infection in a London teaching hospital.

Methods The hospital notes of 18 PLWH hospitalised with SARS-CoV-2 infection were retrospectively reviewed alongside data concerning their HIV demographics from an established HIV Database.

Results The majority (16/18) had positive PCR swabs for SARS-CoV-2, and two had negative swabs but typical COVID-19 imaging and history. Most were male (14/18, 78%), median age 63 years (range 47–77 years). Two-thirds were migrants, nine (50%) of Black, Asian and minority ethnicity (BAME). All were diagnosed with HIV for many years (range 8–31 years), and all had an undetectable HIV viral load (<40 copies/mL). The median CD4 prior to admission was 439 (IQR 239–651), and 10/16 (63%) had a CD4 nadir below 200 cells/mm^3. Almost all (17/18) had been diagnosed with at least one comorbidity associated with SARS-CoV-2 prior to admission. 3/18 patients died. None received mechanical ventilation. Hospital stay and clinical course did not appear prolonged (median 9 days).

Conclusions Our data suggest that PLWH may not necessarily have prolonged or complex admissions to hospital when compared with the general hospital and national population admitted with COVID-19. Many had low nadir CD4 counts and potentially impaired functional immune restoration. The PLWH group was younger than generally reported for COVID-19, and the majority were male with multiple complex comorbidities. These patients had frequent contact with hospital settings increasing potential for nosocomial acquisition and increased risk of severe COVID-19.

The incidence and course of COVID-19 disease due to SARS-CoV-2 in people living with HIV (PLWH) is uncertain, with little current evidence to suggest worse outcomes.[1–3]

We report 18 PLWH, admitted to hospital with COVID-19 between March and April 2020. The majority (16/18) had positive PCR swabs for SARS-CoV-2, and two had negative swabs and no other respiratory pathogens isolated with typical COVID-19 imaging and history. Most were male (14/18, 78%), median age 63 years, (range 47–77 years). Two-thirds were migrants, nine (50%) of BAME ethnicity of whom eight were black African and one Asian (overall Ian Charleson Day Centre cohort 45% BAME). All were diagnosed with HIV for many years (range 8–31 years), and all had an undetectable HIV viral load (<40 copies/mL). The median CD4 prior to admission was 439 (IQR 239–651), and 10/16 (63%) had a CD4 nadir below 200 cells/mm^3.

All were on antiretroviral therapy (ART): 3 were receiving two-drug (dual) ART, one of whom died and one had protease inhibitor monotherapy; 7 had Truvada or Descovy; 4 had abacavir/lamivudine within NNRT backbone; 11 included an Integrase strand transfer inhibitor; and 5 had a protease inhibitor (all boosted darunavir).

Almost all (17/18) had been diagnosed with at least one comorbidity prior to admission (table 1). These primarily related to cardiovascular and cerebrovascular disease, diabetes, chronic kidney and pulmonary disease.

The median hospital stay was 9 days (range 1–40+, n=15); one patient remains an inpatient awaiting rehabilitation. Three (3/18) patients died (one at home 5 days after self-discharge, presumably COVID-19 related); all were males over the age of 60 years with multiple comorbidities. Two were BAME and on dialysis, with additional comorbidities including diabetes, hypertension, ischaemic heart disease and restrictive lung disease. The other white patient had a previous cerebrovascular accident, chronic obstructive pulmonary disease and pulmonary hypertension.

Table 1 Relevant comorbidities in 18 PLWH admitted with SARS-CoV-2 infection

Treated hypertension	7
Type 2 diabetes	6
Previous myocardial infarction	4
Severe CKD (Estimated Glomerular Filtration rate -eGFR <15 mL/min)	4*
COPD	4
Previous CVA	3
Recent breast cancer diagnosis (not on chemotherapy)	1
CKD/glomerulonephritis/on immunosuppression	1
Pulmonary hypertension	1
Three or more above comorbidities present	***13***

*Three on dialysis and one awaiting dialysis.
CKD, chronic kidney disease; COPD, chronic obstructive pulmonary disease; CVA, cerebrovascular accident; PLWH, people living with HIV.

Three were on regular hospital haemodialysis and six others had attended hospital appointments or had admissions in the month prior to COVID-19 admission, including one protracted stay with confirmed influenza A. Hospital-acquired infection of SARS-CoV-2 was confirmed in one patient who had been an inpatient for 2 months prior.

Two PLWH were admitted to Intensive Care Unit (ITU) but neither received mechanical ventilation. One had a ceiling of care of non-invasive support due to end-stage renal failure and cardiovascular disease. Data are incomplete (15/18); however, only two were admitted with severe SARS-CoV-2 (WHO definition), one of whom died .No patient received SARS-CoV-2 specific antiviral therapy or immunomodulatory treatment.

Our data suggest that PLWH may not necessarily have prolonged or complex admissions to hospital (median hospital stay 9 days) when compared with our general hospital population (7 days) and national data (8 days).[4 5] This is despite many having low nadir CD4 counts and potentially impaired functional immune restoration. The PLWH group were younger than generally reported, and a high proportion were male and BAME.[5]

The majority of PLWH admitted had multiple complex comorbidities, with frequent contact with hospital settings increasing potential for nosocomial acquisition and increased risk of severe COVID-19. The three deaths occurred in people with a predetermined ceiling of care or were out of hospital. There is some encouragement to be gained for PLWH that no patients required ventilation or had a prolonged admission related to COVID-19.

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