

Covid-19 in HIV-infected patients: A report of 14 cases experience of the infectious diseases department of the University Hospital Mohamed VI Marrakech - Faculty of Medicine and Pharmacy Marrakech

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Abstract

Objective: Evaluation of clinical, biological, radiological characteristics, therapeutic management and outcome in patients with HIV / SARS-COV-2 co-infection.

Materials and Methods: Descriptive retrospective study of 14 files of patients with HIV / SARS-COV-2 co-infection confirmed by SARS-COV-2 PCR between April 2020 and May 2022 in the infectious diseases department of the University Hospital Mohamed VI Marrakech

Results: 14 patients were included, with a sex ratio M/F: 2.5. The mean age of our patients was 40.7 years. The clinical symptoms presented by our patients were: asthenia (71%); febrile pneumonia (64.20%); anosmia (46.6%); diarrhea (28.5%); and lower limb thrombophlebitis (7.14%). The HIV status was as follows: 9 new cases (64.2%), while HIV was already present in 5 patients (35.8%). On the radiological level, 10 patients had moderate damage (72%), 3 patients had mild damage (21%), while 1 patient had severe damage (7%). Our patients' treatment changed during the study period; in particular, one group of patients was treated with the national covid-19 therapeutic protocol, while others received molnupiravir. The outcome was overall good, with a clear clinical and biological improvement; and only 4 patients died.

Conclusion: The predisposition to SARS-COV2 infection as well as the clinical presentation and evolution of Covid 19 in PLHIV do not differ from the general population.

Keywords: Antiretroviral; SARS-COV-2; HIV; Molnupiravir; Pandemic.

1. Introduction

Coronavirus disease (COVID-19), caused by the novel SARS-COV-2 virus, was declared a global pandemic by the WHO on 11 March 2020. People living with HIV (PLHIV) with cardiac or pulmonary comorbidities may be at higher risk of contracting the virus and developing more severe symptoms. Global reports of HIV/SARS-COV-2 co-infection are limited.

2. Material and methods

This is a retrospective descriptive study conducted between April 2020 and May 2022 on 14 cases of HIV/SARS-COV-2 co-infection confirmed by SARS-COV-2 PCR in the Infectious Diseases Department of the University Hospital Mohamed VI of Marrakech.

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The study population consisted of all patients admitted to our department; data were collected from medical records using a data sheet containing epidemiological, clinical and HIV status data.

Clinical examination data included general symptoms (asthenia; thrombophlebitis of the IL; diarrhea; febrile pneumonitis; anosmia and ageusia), complete physical examination, radiological and biological tests, and immunological test (CD4 T-lymphocyte count).

3. Results

14 patients were enrolled, including 4 females (28.57 %) and 10 males (71.42 %) with a 2.5:1 sex ratio. The mean age of our patients was 40.7 years [21-61 years].

The clinical manifestations of our patients were: asthenia (71%), febrile pneumonitis (64.20%), anosmia (46.6%), diarrhea (28.5%), and lower extremity thrombophlebitis (7.14%).

HIV status was as follows: 9 were new cases (64.2%), while in 5 patients (35.8%) HIV was already present.

Immunologic characteristics: The mean CD4 count at the time of infection was 488.4 cells/mm³. The biological inflammatory syndrome was moderate in 92.8% of the cases, while the cytokine storm was present in only one case.

Radiographic findings were moderate in 10 patients (72 %), mild in 3 (21 %), and very severe in one (7 %) **FIGURE1**.



Figure 1 Chest CT scan: Axial section showing areas of ground-glass, bilaterally distributed with a peripheral and posterobasal predominance. Some anarchic condensations are associated (severe disease).

The treatment of our patients underwent a change during the study period, particularly from April 2020 to December 2021: all patients were treated with the national therapeutic protocol covid-19 (hydroxychloroquine, azithromycin, vitamin C, zinc, vitamin D and thromboprophylaxis).

From January to May 2022, all patients received molnupiravir and vitamin C because of their immunosuppression. Only one patient received anti-interleukin-6 (IL-6). In addition, fifty percent of the patients were treated with adjuvant antibiotics (amoxicillin-clavulanic acid or 3GC).

The course of the disease was good, with clear clinical and biological improvement, and only 4 patients died as a result of opportunistic infections present at the time of diagnosis.

4. Discussion

Since the identification of SARS-CoV-2 as the causative agent of Covid-19 and risk factors for severe disease, including immunosuppression and HIV infection, many questions have arisen for HIV-infected individuals. [1].

The predisposition to SARS-CoV-2 infection, the clinical presentation and the course of Covid-19 in PLHIV do not appear to differ from those in the general population. The risk factors for severe forms of COVID-19 described in the literature (age, comorbidities such as arterial hypertension, diabetes, obesity or chronic respiratory pathology) are the same in PLHIV as in the general population [2].

Altuntas Aydin et al. suggest that the presence of other comorbidities in HIV-infected COVID-19 patients may increase the risk of mortality. In our study, all HIV-infected patients without comorbidities had a favorable outcome, which is consistent with the literature [3].

Amo et al. suggested that HIV-positive patients treated with TDF and FTC had a lower risk of COVID-19-related complications. In our study, patients already on antiretroviral (ARV) therapy and those not yet on ARV therapy had a positive outcome [4].

Molnupiravir has shown antiviral activity against SARS-CoV-2 in vitro[5] [6] and it can accelerate the clinical improvement and RT-PCR negativity rate of patients with mild to moderate COVID-19 with the presence of risk factors, therefore, it is preferable to use it in the early stages of SARS-CoV-2 infection[7];which ties in with our study.

The paucity of reports of co-infection with HIV and SARS-COV-2 may suggest that PLHIV receiving antiretroviral treatment are not at significant risk of COVID-19 and may have a protective mechanism that confers a better prognosis and more rapid resolution of symptoms, which consists with the results of our study [8].

5. Conclusion

With over 524 million cases of COVID-19 worldwide and the number continuing to rise, it is important to focus on prevention strategies to reduce the spread of COVID-19, particularly in countries with high HIV prevalence. The clinical presentation and course of COVID-19 in people living with HIV does not appear to differ from that of the general population. The usual preventive measures and vaccinations remain the same as in the general population.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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