MEDICINA CLINICA

Scientific letter

Impact of the COVID 19 pandemic on new diagnoses of HIV infection

Impacto de la pandemia COVID-19 en los nuevos diagnósticos de la infección por VIH

Dear Editor,

The SARS-CoV2 pandemic has posed a real challenge to health systems, and has led to significant changes in their capacity to respond to other diseases, including the HIV infection,[1] although we don't know the impact on HIV patients.

Our interest was to assess if the pandemic has altered the response times of the health care system to HIV infection.[2] With this objective we analyzed whether the SARS-CoV2 pandemic has led to a delay in the time to reach negative viral load and a change in the clinical characteristics of patients with primary HIV diagnosis in the area of a tertiary hospital in Madrid.
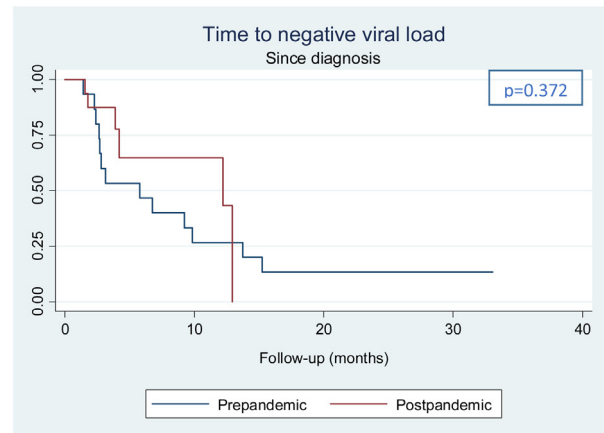
Retrospective longitudinal study of cases diagnosed with primary HIV infection in the health area of the Hospital Universitario Príncipe de Asturias in a period of 18 months before (October 2018–March 2020) and after the pandemic (March 2020–October 2021). We collected variables related to primary endpoint (time from first diagnosis of HIV infection to seronegativity); sociodemographic data; HIV-related and primary care variables. Survival analysis from the diagnosis data to negativization of viral load was performed using the Kaplan–Meier method. Differences between pandemic periods were assessed by the Mantel–Haenszel statistic (log-rank test). *p* values < 0.05 were considered statistically significant.

The study was carried out in accordance with the principles of the latest revision of the Declaration of Helsinki and approved by the Hospital Universitario Príncipe de Asturias's Ethics Committee (Protocol number: IE ETS).

The sample was constituted by 31 HIV patients, 15 corresponding to pre-pandemic period and 16 to post-pandemic period. Clinical situation of the post-pandemic patients was worse than those of the pre-pandemic period with longer times to first visit (median: 27 days vs 14), and to ART beginning (25 days vs 13). In addition, they had lower number of CD4 lymphocytes (194 vs 381) and lower viral load at diagnosis (47,871 vs 109,470). The percentage of patients with negative viral load during follow-up, was higher in the pre-pandemic period than in the post-pandemic period (86.7% vs 37.5%; *p* = 0.009).

The primo diagnosis was mainly performed in hospital setting (70%). The median of CD4 lymphocytes was significantly lower in hospital diagnoses than in primary care (138 vs 381; *p* = 0.046). The event of HIV primo diagnosis was recorded in PC clinical records in 67.9% of the cases.

a) Survival function: time from diagnosis to negativization of the viral load

b) Survival function: time from ART treatment to negativization of the viral load
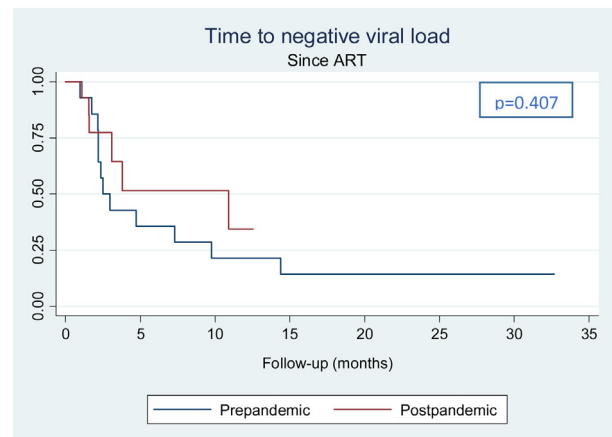

Fig. 1. (a) Survival function: time from diagnosis to negativization of the viral load. (b) Survival function: time from ART treatment to negativization of the viral load.

Globally, the probability to achieve a viral load negative was of 50% at 9.22 months of follow-up. By pandemic period the median time to achieve negative VL since primo diagnosis was of 5.8 and 12.2 months for prepandemic and postpandemic periods, respectively (*p* = 0.372 by log-rank tests) (Fig. 1a). On the other hand, 18 (64.3%) patients achieve the negativization of viral load since the beginning of ART treatment during a follow-up period of 163.83 patient-months with a maximum of 32.66 months. In this period, the median time to achieve VL negativization from the beginning of ART was of 3.80 months for the global sample. By pandemic period

the median survival was of 2.18 and 10.90 for pre and postpandemic periods, respectively ($p = 0.407$ by log rank test) (Fig. 1b).

Our study analyzes the first diagnosis of HIV infection in the 18 months before and after the start of the SARS-CoV2 pandemic, showing clearly worse clinical results in those patients diagnosed after the pandemic.

It is worth noting that despite the multiple campaigns implemented in PC on HIV screening,[3,4] the diagnosis of these patients continues to be eminently hospital-based. In this regard, we also recorded previous consultations in primary care for diseases with a higher risk of prevalence and frequency of HIV, with a strikingly lower number of consultations in the post-pandemic period than in the pre-pandemic (73.3% pre-pandemic vs 35.7% post-pandemic), probably due to the impact of the pandemic on the primary care model in our health care area.[5]

The main strength of our study is that gaps in population-based HIV screening have been detected, especially after the COVID pandemic. It is obvious that early detection of HIV clearly affects the survival of our patients. Therefore, it is very important to carry out campaigns that allow a better screening of the infection and to achieve the WHO objectives of 95% of patients diagnosed.

Authors' contributions

PG and ML were the responsible of the design of the study and the analysis of the data. All authors contributed to the draft of the manuscript, critically revised subsequent versions, and agreed upon the final version of this manuscript prior to submission. The authors read and approved the final manuscript.

Ethics approval and consent to participate

The study was carried out in accordance with the principles of the latest revision of the Declaration of Helsinki. International standards for the conduct of epidemiological studies, which are contained in the International Guidelines for the Ethical Review of Epidemiological Studies were likewise followed. The study was approved by the Hospital Universitario Príncipe de Asturias's Ethics Committee (Protocol number: IE ETS).

Consent for publication

Not applicable.

Availability of data and materials

The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Conflicts of interest

The authors declare no potential conflicts of interest.

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