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Syphilis among PLWH: prevalence of the infection in relation to COVID-19 outbreak

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INTRODUCTION

The occurrence of syphilis and human immunodeficiency virus (HIV) co-infection can be frequent, with incidence rates depending on the prevalence of each infection within the community as well as individual risk factors.

AIM OF THE STUDY

In this study we aimed to evaluate the possible influence of COVID-19 on syphilis screening in a cohort of people living with HIV (PLWH) in treatment at our hospital considering both reduced outpatient and laboratory activities and possible lower exposure to sexual risk situations due to pandemic restrictions.

MATERIAL AND METHODS

A retrospective analysis of all cases of syphilis from January 2019 to December 2022 was carried out. We included in our investigation both patients with active syphilis as well as those with previous history of infection in a follow-up state, basing on the main syphilis diagnosis tests. Nontreponemal test was rapid plasma reagin (RPR) test while treponemal assays included Treponema pallidum haemo-agglutination (TPHA) assay and enzyme linked immunosorbent assay (ELISA) for the detection of IgM and IgG antibodies. Subjects showing TPHA in the positive ranges along with positive IgM and/or RPR titer were considered in active syphilis whereas patients with positive TPHA and negative RPR/IgM were considered in follow-up.

RESULTS

Overall, from January 2019 to December 2022, a total of 12253 tests were performed. The number of positive results for syphilis over the global number of tests during the study period was 380/3797 in 2019 (10%), 216/2448 in 2020 (9%), 174/2777 in 2021 (6%) and 242/3231 in 2022 (7%) (Fig.1). Most of the patients tested were PLWH, specifically, 235 (62%) in 2019, 132 (61%) in 2020, 130 (75%) in 2021 and 130 (54%) in 2022. In this cohort, median age (IQR) was 48 (38-55) years and patients were more frequently male (97% males vs 3% females).

Analyzing only the PLWH, in 2019 the number of active infections was 41/235 (17%). Until 9 March 2020, 70 tests were performed, with 12 (17%) active infections detected, while from June to December 2020, 62 tests were executed and 13 (21%) active infections were found. From 9th March to June 2020 no test was carried out. Finally, 91 (70%) and 92 (71%) patients showed active infection during 2021 and 2022, respectively (Fig. 2).

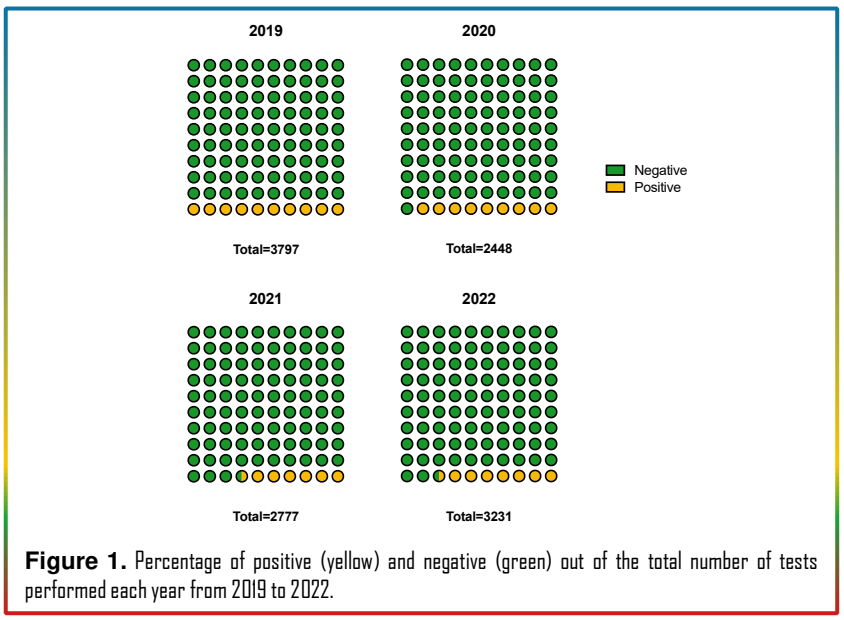

Figure 1. Percentage of positive (yellow) and negative (green) out of the total number of tests performed each year from 2019 to 2022.

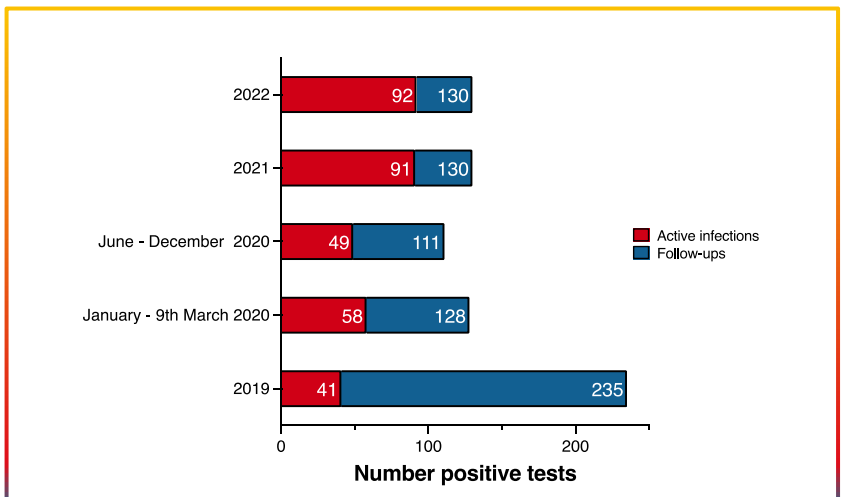

Figure 2. Number of active infections (red) and follow-ups detected each year from 2019 to 2022.

CONCLUSION

Although statistical significance was not reached, the number of performed tests was lower in 2020 in comparison with 2019 and remained similar in 2021 and 2022. While in 2020 a similar rate of active infections was detected, a trend of higher incidence was observed both in 2021 and 2022. The lack of tests performed from March to June 2020 due to the pandemic restrictions could have delayed the diagnosis and possibly the treatment of syphilis in this cohort of individuals. Finally, our data highlight the influence of COVID-19 outbreak on syphilis diagnosis and underlines the importance of thorough and frequent screening in PLWH.