Characterizing Hepatitis B Virus Infection Among Persons Living With HIV In Care In Urban Senegal

2091

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BACKGROUND

- Chronic hepatitis B virus (HBV) infection affects 10% of the general population and is the leading cause of liver cirrhosis and cancer in West Africa. HIV may accelerate the progression of HBV-related liver disease.
- Despite current recommendations, HBV infection is often not tested for in clinical routine in the region.
- We investigated the HBV infection status of HIV-infected individuals (PLHIV) in care at a referral outpatient clinic in Dakar, and determined the proportion of HIV/HBV co-infected individuals with viral replication despite antiretroviral therapy (ART).

METHODS

- We tested all PLHIV between March and July 2019 for the presence of HBsAg (NovaTest®).
- All individuals with a positive result underwent an HIV viral load (VL), HBV VL (COBAS/TaqMan®Test) measurement and Liver stiffness measurements (LSM) using transient elastography (Fibroscan®).
- We compared the main characteristics between individuals previously tested for HBV and those who don't, using Chi2 and Mann-Whitney tests.
- We determined the proportion of HBsAg positive individuals who had current HBV replication (>20 IU/ml) on ART and/or who were on an inadequate ART regimen.

RESULTS

- We included 1.219 HIV-infected patients whom were retained in care by the time of the intervention.
- Of those, 873 (71.6%) did not have a recorded HBsAg test result in the past and were offered to be tested [Figure 1].
- During the study intervention, more than half (51.4%) of PLHIV non previously tested were screened for HBV infection. Reason for non testing were not recorded.

MAIN FINDINGS

- ▶ Nearly 3 out of 4 HIV-infected individuals in care in a referral outpatient HIV clinic in Dakar, had no recorded HBV infection status. The prevalence of HBsAg was 11.1%.
- ▶ 1 in 10 HIV/HBV coinfected had detectable HBV DNA while on ART.
- ▶ Almost 10% of coinfected were not on a TDF-containing regimen.

RESULTS [continu.]

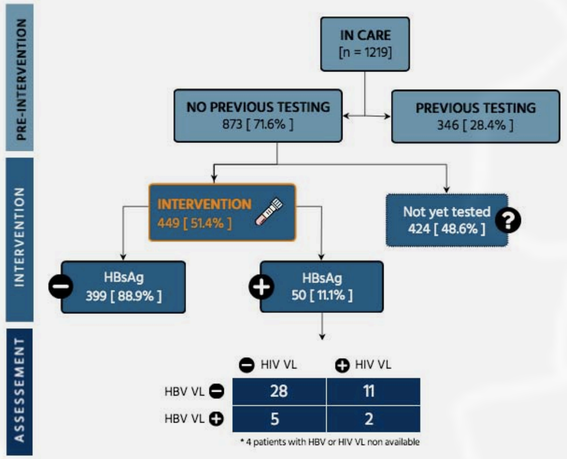

Figure 1: HBV assessment in an HIV clinic in Dakar

- When compared with individuals previously tested, those not yet tested were more likely to be female (67.7% vs. 55.5%: p<0.001) and to have CD4 >350 cells/µL at enrollment (37.6% vs 29.5%, p=0.01) [Figure 2].

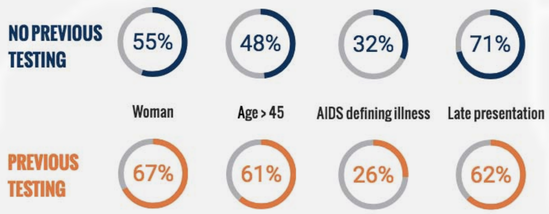

Figure 2: Clinical-epidemiological characteristics at intervention by HBsAg testing status

- Of 449 patients tested during our intervention, 50 (11.1%) were HBsAg-positive (Figure 1), of whom 21 (46.7%) were female and 65.1% were aged more than 45 years old. Their median CD4 cell count at ART initiation was 153 cells/µL (IQR 57-234).

RESULTS [continu.]

- Only two (5.7%) patients presented significant liver fibrosis (LSM >7 kPa).
- Seven (14%) had a detectable HBV DNA, of whom five were HIV suppressed [Figure 3].
- Three (6%) individuals had elevated ALAT (>40 UI) at HBV screening.
- Importantly, four (8%) individuals were on ART including lamivudine and zidovudine as a backbone, and had to be switched to a TDF-containing regimen.

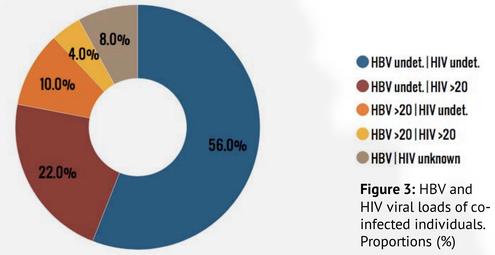

Figure 3: HBV and HIV viral loads of co-infected individuals. Proportions (%)

CONCLUSION

- In this Senegalese urban referral HIV clinic, the majority of patients on ART had never been tested for HBV infection. We found a prevalence of HBV co-infection of 11.1%.
- 1 in 10 co-infected individuals had a detectable HBV viral load despite HIV suppression, and 8% were not receiving a TDF containing regimen.
- Considering the high risk of liver-related complication in individuals with HBV replication, HBV testing should be performed routinely during HIV clinical care.

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