Clinical Infectious Diseases

CORRESPONDENCE

No Impact of Hepatitis B Virus Infection on Early Mortality Among Human Immunodeficiency Virus–Infected Patients in Southern Africa

To the Editor—We read with interest the informative article by Kouamé et al describing mortality in human immunodeficiency virus (HIV)/hepatitis B virus (HBV)-coinfected patients on antiretroviral therapy (ART) in West Africa [1]. In line with studies from high-income countries, the results from the Temprano trial show that active HBV infection increases mortality among HIV-infected individuals [2]. However, clinical trial data cannot be generalized to other clinical settings in sub-Saharan Africa (SSA), where resources for patient monitoring and management are limited and patients who initiate ART often present with advanced stages of disease. Real-life data on the impact of HBV determinants on mortality from primary HIV care settings in SSA are scarce.

Since January 2013, we recruited consecutive HIV-infected patients at time of ART initiation into a prospective cohort in Lusaka, Zambia, and Ancuabe, a rural area in Mozambique, within the IeDEA collaboration [3]. All patients were tested for the presence of chronic HBV infection, defined as a positive HBsAg rapid test (Determine®, Alere, Yavne, Israel), and HBV viral load (VL) was measured in HIV/HBV-coinfected individuals using quantitative real-time polymerase chain reaction (Roche, Indianapolis, Indiana) from plasma or dried blood spots [4]. The systematic tracing of patients lost to follow-up (LTFU; i.e., >3 months without a clinical visit) during the first year of ART was performed by phone calls or home visits. We used multivariable Cox proportional hazards methods to compare 1-year mortality between HBV-infected and uninfected patients.

Fourteen percent (276/1948) of the study participants were HBsAg-positive, of whom 137 (49.6%) had an HBV VL above 2000 IU/mL. Median age was 32 years (interquartile range [IQR] 26–40 years), median CD4 count 252 cells/μL (IQR 130–369), 38% had World Health Organization (WHO) stage 3 or 4, and 36% were female. There were no significant differences in CD4 cell counts, body mass index, age, and proportions with advanced HIV disease between groups. HBsAg-positive individuals were more likely to be male ($P < .001$). After 1 year of ART, 129 (6.6%) patients had died, 113 (5.8%) were LTFU, and 63 (3.2%) transferred or withdrew from the study. One-year mortality was 6.5% (95% confidence interval 5.4–7.8%) in HIV-infected patients, 8.7% (4.9–15.2%) in HIV/HBV-coinfected with HBV VL <2000 IU/mL, and 8.2% (95% CI 4.4–15.2%) in HIV/HBV-coinfected patients with HBV VL >2000 IU/mL. In multivariable analyses, HBsAg-positivity was not associated with mortality (Table 1).

As opposed to Kouamé et al, we did not find a significant difference in mortality between HIV-infected individuals with active HBV infection and HBV-uninfected ones in southern Africa. We provide robust mortality estimates from primary care clinical settings in SSA, as we limited the risk of underestimating death

Table 1. Risk Factors for 1-Year Mortality, According to Multivariable Cox Proportional Hazard Regression Analyses

	Deaths (%)	HR (95% CI)	*P* value	aHR (95% CI)	*P* value
HBsAg (%)					
Negative	102/1673 (6.1)	Ref.		Ref.	
Positive	27/276 (9.8)	1.61 (1.05–2.45)	.03	1.21 (0.74–1.98)	.45
WHO stage (%)					
1 or 2	50/1203 (4.2)	Ref.		Ref.	
3 or 4	79/732 (10.8)	2.69 (1.88–3.83)	<.001	1.42 (0.93–2.17)	.10
CD4 cell count (%)					
≥200 cells/μL	41/973 (4.2)	Ref.		Ref.	
<200 cells/μL	71/640 (11.1)	2.76 (1.88–4.05)	<.001	2.02 (1.33–3.07)	.001
BMI (%)					
≥18.5 kg/m^2	48/1275 (3.8)	Ref.		Ref.	
<18.5 kg/m^2	67/519 (12.9)	3.60 (2.49–5.22)	<.001	2.66 (1.76–4.02)	<.001
Sex (%)					
Female	52/1240 (4.2)	Ref.		Ref.	
Male	77/708 (10.9)	2.63 (1.85–3.74)	<.001	1.72 (1.13–2.62)	.01
Age (%)					
<30 years	43/772 (5.6)	Ref.		Ref.	
≥30 years	86/1176 (7.3)	1.29 (0.89–1.85)	.18	0.97 (0.63–1.50)	.89

Abbreviations: aHR, adjusted hazard ratio; BMI, body mass index; CI, confidence interval; HBsAg, hepatitis B surface antigen; HR, hazard ratio; WHO, World Health Organization.

rates by systematically tracing patients LTFU [5]. Although the burden of liver-related mortality due to HBV infection is high in SSA [6], mortality of patients initiating ART outside of clinical trials remains driven by HIV-associated causes. As low-income countries are starting to implement the "treat all" strategy for HIV infection, the impact of HBV infection on clinical outcomes might become more evident. Therefore, long-term data from cohorts with intensive retention strategies will be crucial to inform monitoring of HIV/HBV-coinfected individuals in the near future.

Notes

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