

Predictors of Mortality during Tuberculosis Treatment in HIV-infected Patients with Tuberculosis in Botswana: Differences between Subjects Naïve to and previously started on Highly Active Antiretroviral Therapy

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Setting: Serowe/Palapye District, Botswana, a predominantly urban district with high burden of TB and HIV and high mortality.

Objective: In patients co-infected with TB and HIV, to compare mortality and predictors of mortality in those who are HAART naïve and those with prior HAART exposure.

Design: Retrospective cohort study

Results: Among 300 patients enrolled in the study, 131 started HAART before TB diagnosis (43.7%). There were 45 deaths. There was no difference in mortality between HAART naïve patients and those with prior HAART exposure. In the multivariate analysis, HAART during TB treatment (HR= 5.6 95% CI=2.9-11; p<0.001), opportunistic infections (HR=8.5, 95% CI= 4-18.4; p=0.013), age ≥60 years (HR= 4.8, 95% CI: 1.8-13; p=0.002) and

hepatotoxicity (HR=5, 95% CI=1.6-17; p=0.007) were associated with increased mortality. Hemoglobin ≥10g/dl was associated with reduction on mortality (HR= 0.44, 95% CI=0.21-0.92; p=0.029). In subgroup analysis, Among HAART naïve patients, HAART during TB treatment (HR=8.1, 95% CI=3.4-19.4; p<0.001), opportunistic infections (HR=16, 95% CI=6.2-42; p<0.001), hepatotoxicity (HR=8.3, 95% CI=2.6-27; p<0.001) were associated with mortality. Among patients with HAART exposure, opportunistic infections (HR=6, 95% CI 2.6-27; p<0.001) was associated with mortality.

Conclusion: The rate of mortality in TB-HIV co-infected is still high. To reduce mortality, close clinical monitoring of patients is indicated, together with ongoing reinforcement of treatment adherence and integration of TB-HIV care delivery.