Treatment outcomes in HIV infected and uninfected drug-resistant tuberculosis patients in Khayelitsha, South Africa

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Background
There are limited data on outcomes of HIV-infected drug-resistant tuberculosis (DR-TB) patients who are on antiretroviral therapy (ART). In a retrospective analysis, we compared treatment outcomes among HIV positive (+ve) and negative (-ve) patients treated for DR-TB in Khayelitsha, South Africa.

Methods
Routinely collected data of patients diagnosed with DR-TB in Khayelitsha from January 2008 to December 2011 were analysed. Outcomes until December 2013 were included. Ethics approval was granted by the University of Cape Town Research Ethics Committee.

Results
875 patients were diagnosed with DR-TB: 607 (69%) were HIV +ve; 232 (27%) -ve; 36 (4%) had unknown status. Among HIV +ve patients, 96 (16%) had pre- and XDR-TB (extensively drug-resistant TB), 373 (61%) MDR-TB (multidrug resistant-TB), 129 (21%) rifampicin mono-resistance, and nine (1%) presumed DR-TB. Among HIV -ve patients, 34 (15%) had pre- and XDR-TB, 144 (62%) MDR-TB, 28 (12%) rifampicin mono-resistance and 26 (11%) presumed DR-TB. 139 (16%) patients did not start TB treatment: 64 (46%) died before treatment could be started (HIV +ve 55/62 [89%], -ve 7/62 [11%]; p<0.001; HIV status unknown in two patients). Among those who started treatment, 507/736 (69%) were HIV +ve (216 -ve, 13 unknown status); 470/507 (93%) were known to be on ART, with 236 (47%) on ART at DR-TB diagnosis with median CD4 count 120 cells/mm3 (IQR 55-250). Among 642 patients with final outcomes, treatment success was achieved in 213/440 (48%) and 88/189 (47%) of HIV +ve and -ve patients, respectively (13 HIV status unknown). Significantly more HIV -ve patients were lost from treatment (37% [70/189] vs 27% [120/440], p=0.01). Mortality was greater among HIV +ve patients (18% [81/440] vs 9% 17/189), p=0.004), during treatment. There was no difference in the proportion of treatment failure between HIV +ve (6% [26/440]) and -ve (7% [14/189]) patients (p>0.05). 31/120 (26%) HIV +ve and 15/70 (21%) -ve patients who were lost from treatment, and 21/26 (81%) HIV +ve and 7/14 (50%) -ve patients who experienced treatment failure, subsequently died. There was no significant difference in overall mortality: 19/100 person-years (95%CI 16-22) HIV +ve; 17 (95%CI 12-22) HIV -ve; incidence rate ratio 1.14 (95% CI 0.80-1.67).

Conclusion
Treatment success among HIV +ve DR-TB patients on ART was comparable to that of HIV -ve patients. Loss from treatment was greater in HIV-ve patients, while treatment failure did not differ by HIV status. Although mortality during treatment was greater among HIV +ve patients, there was no difference in overall mortality rates. More effective treatment regimens and strategies for reducing loss from DR-TB treatment are urgently needed to reduce mortality in HIV +ve and -ve DR-TB patients.