Abstract #755

Treatment Outcomes for HIV/MDR-TB Co-infection in the Era of Antiretroviral Therapy

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Background

- Multidrug resistant (MDR) tuberculosis (TB) is a major global health threat
- Previous studies of HIV/MDR TB coinfection found
  - Poor treatment outcomes (57% treatment success)
  - High mortality (38%)
- Most studies done prior to rollout of antiretroviral therapy (ART)

Objective

- To describe treatment outcomes among MDR TB patients in a program setting after widespread use of ART

Setting: Botswana

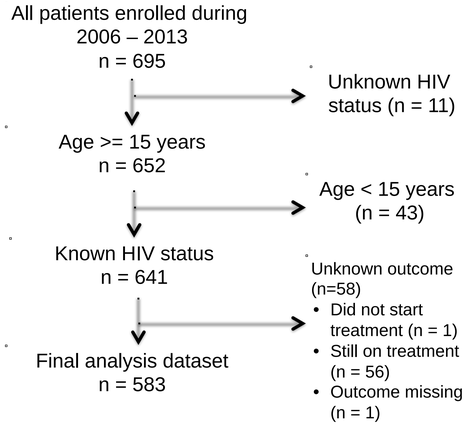
- Middle-income country
- Population = 2 million
- Adult HIV prevalence = 18.5% (2nd highest) in 2013
- High TB incidence (385 per 100,000 per year) in 2014
- 60% HIV prevalence among TB patients
- Decentralized MDR TB management starting 2006



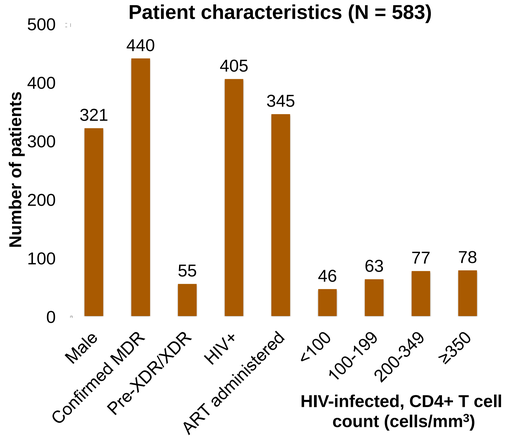
Methods

- Routine program data from 5 MDR TB clinics in Botswana
- Inclusion: MDR TB patients ≥15 years old with known HIV status and outcome
- Drug susceptibility testing (DST) for 1st line drugs
  - DST for 2nd line drugs for patients failing initial regimen
- Multivariable Poisson regression modeling with dependent variables:
  - Treatment success (cured or completed treatment)
  - Death

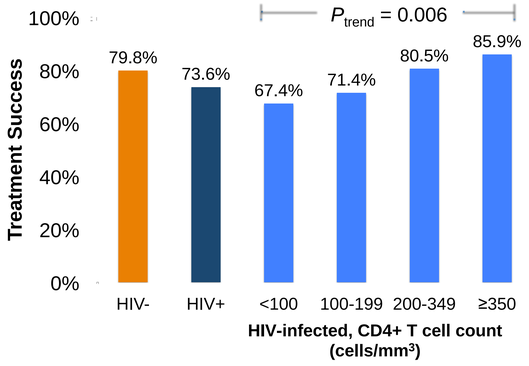
Results



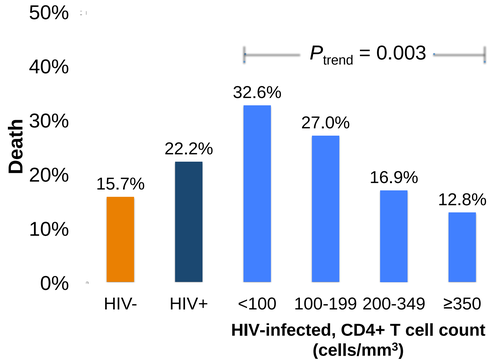
Patient characteristics (N = 583)



Treatment success rates by HIV-infection status and baseline CD4+ T cell counts



Risk of death by HIV-infection status and baseline CD4+ T cell counts



Multivariable models of HIV/CD4 vs. treatment success and death

Variable	Treatment Success Risk ratio (95% CI)	Death Risk ratio (95% CI)
Sex		
Female	1.00	1.00
Male	0.915 (0.830 - 1.008)	**1.592 (1.015 - 2.498)**
Age (+10 year)	**0.945 (0.907 - 0.984)**	**1.222 (1.066 - 1.399)**
Prior TB		
No	1.00	1.00
Yes	0.901 (0.777 - 1.044)	3.601 (0.500 - 25.932)
CD4+ T cell count		
HIV-uninfected	1.00	1.00
<100	0.872 (0.702 - 1.084)	**1.926 (1.117 - 3.320)**
100 - 199	0.972 (0.825 - 1.146)	1.346 (0.760 - 2.385)
200 - 349	1.015 (0.891 - 1.156)	1.124 (0.627 - 2.015)
≥350	1.069 (0.956 - 1.195)	0.874 (0.435 - 1.756)

Conclusions

- In the ART era, high levels of treatment success can be achieved among HIV/MDR TB coinfected patients
- HIV-infected patients with < 100 cells/mm3 at MDR TB diagnosis continue to experience poor outcomes
- Interventions are needed to prevent advanced immune suppression among HIV-infected persons at risk for MDR TB

Acknowledgements

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