Outcomes of multidrug resistant tuberculosis treatment among human immunodeficiency virus co-infected patients taking anti-retroviral treatment at Sizwe Tropical Disease Hospital Johannesburg, South Africa

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Background: Multidrug resistant-tuberculosis (MDR-TB) is a threat to global tuberculosis control which is worsened by human immune-deficiency virus (HIV) co-infection. There is however paucity of data on the effects of antiretroviral treatment (ART) before or after starting MDR-TB treatment. This study determined predictors of mortality and treatment failure among MDR-TB-HIV co-infected patients on ART.

Methods & Materials: A retrospective medical record review of 1200 HIV co-infected MDR-TB patients admitted at Sizwe Tropical Disease Hospital, Johannesburg from 2007 to 2010 was performed. Chi-square test was used to determine treatment outcomes in MDR-TB-HIV co-infected patients on ART. Multivariable logistic regression and Poisson models were used to determine predictors of mortality and treatment failure respectively.

Results: Mortality was higher (21.8% vs. 15.4%) among patients who started ART before initiating MDR-TB treatment (p = 0.013). Factors significantly associated with mortality included: the use of ART before starting MDR-TB treatment (OR 1.65, 95% CI 1.00-2.73), severely-underweight (OR 3.71, 95% CI 1.89-7.29) and underweight (OR 2.35, 95% CI 1.30-4.26), cavities on chest x-rays at baseline (OR 1.76, 95% CI 1.08-2.94), presence of other opportunistic infections (OR 1.80, 95% CI 1.10-2.94) and presence of other co-morbidities (OR 2.26, 95% CI 1.20-4.21). Factors predicting failure were severe anaemia (IRR (OR 4.72, 95% CI 1.47-15), other co-morbidities (OR 2.39, 95% CI 1.05-5.43) and individualised regimen at baseline (OR 2.15 95% CI 0.98-4.71).

Conclusion: High mortality among patients already on ART before initiating MDR-TB treatment is a worrisome development. Management of adverse-events, opportunistic infections and co-morbidities in these patients is important if the protective benefits of being on ART are to be maximized. There is the need to intensify intervention programmes targeted at early identification of MDR-TB, treatment initiation, drug monitoring and increasing adherence among HIV co-infected MDR-TB patients.