

Influence of diabetes mellitus on the development of multidrug-resistant tuberculosis in yogyakarta/ Antonia M. I. Saktiawati, Yanri W. Subroto

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Abstrak

ABSTRAK

Background: the correlation between diabetes mellitus (DM) and Multi-Drug-Resistant Tuberculosis (MDR-TB) has never been studied among patients with tuberculosis (TB) in Indonesia, while DM has been identified to alter immune response and pharmacokinetics of TB medications that may lead to a failure of TB treatment and develop MDR-TB. Our study aimed to analyze the influence of diabetes mellitus on the development of MDR-TB. Methods: a retrospective cohort study was carried out on 356 TB patients at the Provincial Lung Clinics and Sardjito Hospital, Yogyakarta, Indonesia between 2010 and 2014. Diagnosis of MDR-TB was established based on GeneXpert or drug sensitivity testing, while DM was determined based on the criteria in the National Guidelines. Demographic, epidemiological and outcome variables were collected. Odds ratios and 95% confidence intervals (95% CI) were analyzed using simple logistic regression. Results: among 356 TB patients, 23 patients were with binomial TB-DM, while 333 patients did not suffered from DM. Patients with TB-DM presented a 6.8-fold (95% CI:2.0-23.7, p=0.003) higher risk of developing MDR-TB. Individuals with TB-DM had a 4.4-fold (95% CI:1.5-12.9, p=0.008) greater chance to have positive sputum smear by the second month of treatment indicating a delay in the resolution of the tuberculosis infection. Conclusion: there was a significant correlation between diabetes mellitus and MDR-TB development. Therefore, it is suggested that clinicians at all levels of health care service should conduct any kind of screening test for MDR-TB in such group of patients. Further prospective cohort study is needed to confirm the findings of this preliminary study.