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Impact of diabetes mellitus on tuberculosis drug resistance in new cases of tuberculosis



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ABSTRACT

Background and objective: Diabetes mellitus (DM) has an effect on many aspects of tuberculosis (TB). The aim of this study is to determine the impact of DM on anti-tuberculosis drug resistance in new cases of TB patients.

Materials and methods: A case-control study was conducted on all newly diagnosed pulmonary TB adult patients with DM as cases and without DM as controls who were hospitalized and treated at the National Research Institute of Tuberculosis and Lung Disease (NRITLD) from May 2013 to October 2013. A molecular resistance test for rapid detection of resistance to isoniazid and rifampin was done for all smear-positive TB patients. A multivariate analysis was performed to determine the impact of DM on any anti-TB drug resistance.

Results: 45 TB cases with DM and 45 TB cases without DM were included. TB cases with DM were more likely to be older (61 vs. 47 years, $p = 0.001$). Two TB-DM patients had multidrug-resistant TB (MDR-TB) (4.4%) compared with zero cases of MDR-TB in the control group, and TB-DM cases were resistant to at least one drug (11.1% vs. 4.4%, $p = 0.43$). DM remained significantly associated with any drug resistance (OR: 6.32, 95% CI: 1–40.72) in multivariate analysis.

Conclusion: New TB patients with DM are at increased risk of anti-TB drug resistance. More studies are needed to confirm these results.

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