

Publication

Transient hyperglycemia in patients with tuberculosis in Tanzania : implications for diabetes screening algorithms

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)**ID** 3565453**Author(s)** Boillat-Blanco, Noémie; Ramaiya, Kaushik L.; Mganga, Maliwasa; Minja, Lilian T.; Bovet, Pascal; Schindler, Christian; Von Eckardstein, Arnold; Gagneux, Sebastien; Daubenberger, Claudia; Reither, Klaus; Probst-Hensch, Nicole**Author(s) at UniBasel** [Schindler, Christian](#) ; [Gagneux, Sebastien](#) ; [Daubenberger, Claudia](#) ; [Probst Hensch, Nicole](#) ; [Reither, Klaus](#) ;**Year** 2016**Title** Transient hyperglycemia in patients with tuberculosis in Tanzania : implications for diabetes screening algorithms**Journal** Journal of Infectious Diseases**Volume** 213**Number** 7**Pages / Article-Number** 1163-72

Diabetes mellitus (DM) increases tuberculosis risk while tuberculosis, as an infectious disease, leads to hyperglycemia. We compared hyperglycemia screening strategies in controls and patients with tuberculosis in Dar es Salaam, Tanzania.; Consecutive adults with tuberculosis and sex- and age-matched volunteers were included in a case-control study between July 2012 and June 2014. All underwent DM screening tests (fasting capillary glucose [FCG] level, 2-hour CG [2-hCG] level, and glycated hemoglobin A1c [HbA1c] level) at enrollment, and cases were tested again after receipt of tuberculosis treatment. Association of tuberculosis and its outcome with hyperglycemia was assessed using logistic regression analysis adjusted for sex, age, body mass index, human immunodeficiency virus infection status, and socioeconomic status. Patients with tuberculosis and newly diagnosed DM were not treated for hyperglycemia.; At enrollment, DM prevalence was significantly higher among patients with tuberculosis (n = 539; FCG level >7 mmol/L, 4.5% of patients, 2-hCG level >11 mmol/L, 6.8%; and HbA1c level >6.5%, 9.3%), compared with controls (n = 496; 1.2%, 3.1%, and 2.2%, respectively). The association between hyperglycemia and tuberculosis disappeared after tuberculosis treatment (adjusted odds ratio [aOR] for the FCG level: 9.6 [95% confidence interval {CI}, 3.7-24.7] at enrollment vs 2.4 [95% CI, .7-8.7] at follow-up; aOR for the 2-hCG level: 6.6 [95% CI, 4.0-11.1] vs 1.6 [95% CI, .8-2.9]; and aOR for the HbA1c level, 4.2 [95% CI, 2.9-6.0] vs 1.4 [95% CI, .9-2.0]). Hyperglycemia, based on the FCG level, at enrollment was associated with tuberculosis treatment failure or death (aOR, 3.3; 95% CI, 1.2-9.3).; Transient hyperglycemia is frequent during tuberculosis, and DM needs confirmation after tuberculosis treatment. Performance of DM screening at tuberculosis diagnosis gives the opportunity to detect patients at risk of adverse outcome.

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