Title: Impact of diabetes mellitus on drug-resistant tuberculosis treatment outcomes in Georgia – Cohort study

Body: Background. Diabetes mellitus (DM) is associated with an increased risk of tuberculosis (TB). There is growing evidence that this comorbidity might affect TB-disease presentation and treatment response. Aims and objectives. We investigated the level of impact of diabetes mellitus on drug-resistant tuberculosis (DR-TB) treatment outcomes in condition of adequate management of both diseases. Methods. Cohort study was provided among 1154 drug-resistant tuberculosis patients integrated in DOTS+ programme in 2009-2010 years in Georgia. Every patient was routinely investigated for DM. To compare the treatment outcomes of patients with and those without diabetes comorbidity dispersive analysis using Kruskal-Wallis - H criteria was provided. Results. Among 1154 DR-TB patients only 69 (5, 98%) had diabetes mellitus. All of them developed pulmonary form of TB and were HIV-negative. 61 (88, 4%) patient was male, mean age was 46, 8 (Standard deviation-12,67), mean BMI-23,44 (St.dev.- 3,78). In 3 (4,3%) patient was revealed extensively-DR-TB, in 58 (84,1%) - multi-DR-TB, and in 7 (10, 1%) - poly-DR-TB. 91,3% patients had II type of DM and 86,9% received insulin therapy. Definition: “successful treatment” received 55% diabetic patient vs 56 % non-diabetic, “Default”-36,2% vs 27,6%; “Failure” – 5,8 % vs 4,7 %; “Death” – 4,3% vs 9,6 % (p>0,05). Conclusions. We found no significant difference in proportion of successful treatment outcomes, though default rate was rather higher in patients with diabetes than non-diabetes in the setting of adequate treatment options and management in Georgia.