

PD-944-14 Discordances between TST and IGRA to detect latent tuberculosis infection in paediatric contacts of drug-resistant tuberculosis patients

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Background: Accurate diagnosis of latent tuberculosis infection (LTBI) in paediatric contacts of Drug- Resistant (DR) TB is important for clinical follow-up and management. We measured the agreement between TST and IGRA and assess factors associated with discordant TST/IGRA results in DR-I B paediatric contacts in Armenia.

Methods: We used data from a prospective cohort study of paediatric contacts (< 15 years) of DR-TB cases in Armenia. The study was conducted between June 2012 and December 2016. TST and IGRA were requested systematically at inclusion and during follow-up. Univariate and multivariate logistic models were used to assess factors associated with discordant TST/IGRA results. Results: Among 150 children included 99 (66.0%) had both IGRA and TST results: 46 (46.4%) were TST and IGRA positive, 36 (36.4%) TST and IGRA negative, 10 (10.1%) TST positive and IGRA negative, and 7 (7.1%) TST negative and IGRA positive. All children were vaccinated for BCG. Overall, 56 (56.5%, 95%CI: 46.6- 66.5) children had a positive TST result and 53 (53.5%, 95%CI: 43.5-63.5) a positive IGRA. Concordance between TST and IGRA was 82.8% (kappa= 0.65,95%CI: 0.45-0.84). Among 29 children aged 0-4 years, 1 (3.4%) was TST positive and IGRA negative and 2 (6.9%) TST negative and IGRA positive (concordance=89.7%, kappa= 0.79; 95% CI: 0.43-1.15). Among 70 children aged 5-14 years, 9 (12.8%) were TST positive and IGRA negative and 5 (7.1%) TST negative and IGRA positive (concordance=80.0%, kappa=0.59; 95% CI: 0.36-0.85). Regression analysis did not identify any factor associated with discordant TST/IGRA results. Among IGRA positive children, we did not find differences between those TST positive and those TST negative. Conclusions: Agreement between TST and IGRA was fairly good. In this context, the additional benefit of IGRA for identifying LTBI is questionable although the use of TST alone would have missed 7% of LTBI cases regardless of the age of the child's contacts.