AGREEMENT OF QUANTIFERON TEST AND TUBERCULIN SKIN TEST IN DIAGNOSING LATENT TUBERCULOSIS INFECTION AMONG HIV-INFECTED PEOPLE IN KISUMU COUNTY, KENYA

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Background HIV-infected people are at greatest risk of progression from latent tuberculosis infection (LTBI) to development of active tuberculosis (TB) disease. Accurate diagnosis and treatment of LTBI in this group is an essential component of the WHO TB control strategy. Interferon-gamma assays have emerged as novel alternatives to the tuberculin skin test (TST) for the diagnosis of LTBI. Comparable performance for these two tests is not fully evaluated in regions with high incidence of HIV and TB. We compared the performance of QuantiFERON TB-Gold In-tube® assay (QFT) and TST tests for LTBI.

Methods Newly diagnosed HIV patients older than 7 years were enrolled from HIV clinics. Blood was drawn for QFT assay, thereafter TST was placed into the volar surface of the forearm. The TST was read at 48–72 hours and deemed positive at >=5 mm. Statistical analyses were performed using SAS 9.2. Agreement evaluated using kappa (k) statistic.

Results Of the 650 HIV-infected participants, 62% were females; median age (IQR) was 32 (26–39). Among 592 (91%) who received TST, 88 (17%) were positive; QFT positives were 274 (42%). Indeterminate QFT results were 22 (3%). Overall agreement between QFT and TST was 37% (95% CI: 30–45%). Agreement was 56% (95% CI: 30–45%) and 15% (95% CI: 30–45%) for negative and positive QFT and TST results.

Conclusions Low prevalence of LTBI was found; however, agreement between the 2 tests was moderate. This lack of agreement calls for a search for a better diagnostic test for LTBI among HIV-infected persons in TB endemic regions since TST positivity is associated with better response to INH in LTBI patients.