high TB prevalence region like India. TST with all its limitation probably will continue to serve a useful purpose. Larger prospective studies are needed in high incidence countries to determine the sensitivity and specificity of IGRAs, their ability to serve as useful rule-out test for active TB.

P13 INTERFERON-GAMMA RELEASE ASSAY (IGRA) CONVERSION, REVERSION AND IMPLICATIONS FOR THE DIAGNOSIS OF LATENT TUBERCULOSIS INFECTION USING A MULTIMODALITY APPROACH: A RETROSPECTIVE, OBSERVATIONAL STUDY WITHIN A CENTRAL LONDON TB CENTRE

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Introduction and Objectives Accurate diagnosis & management of latent tuberculosis infection (LTBI) among TB contacts is critical for both the health of infected individuals and prevention of disease transmission. Interferon gamma release assays (IGRAs) measure T cell release of interferon-gamma following stimulation by antigens not confounded by the BCG vaccination. The current NICE guidelines recommend their use following a positive TST. In addition some centres have moved to a single step IGRA test for LTBI. Our institution adopts a triple investigation approach comprising a chest radiograph (CXR), TST and IGRA on presentation followed by a rescreen if the TST & IGRA are discordant or if pulmonary contacts are screened prior to 6 weeks. The aim of our study was to evaluate the prevalence of IGRA conversion and reversion in rescreened asymptomatic TB contacts that attended our centre.

Methods This was a retrospective, observational study carried out at a central London teaching hospital. The study population comprised 593 consecutive, adult TB contacts screened between 1 January 2008 and 31 December 2010. Data were collected through retrospective review of chest radiographs, TST & IGRA tests.

Results Of 498 asymptomatic TB contacts screened, 460 had both an initial TST and IGRA performed (Abstract P13 figure 1). 81

Abstract P13 Figure 1 LTBI Diagnostic Flow showing that an IGRA rescreen can both identify LTBI and reduce the number of false positives.

(17.7%) contacts had discordant TST & IGRA results. 52 (64%) of these discordant cases had a positive TST & Negative IGRA; these patients would have been discharged under NICE guidelines however, our rescreen revealed 9 (17%) positive 2nd IGRAs that is, conversion. Three of these patients were under 35 and would therefore be eligible for chemoprophylaxis. Twenty-nine (36%) of the discordant cases had a negative TST and positive IGRA however, 8 (28%) of these IGRAs reverted to negative. It is important to note that if following a single-step IGRA screening protocol (ie, without a rescreen) these cases may have been commenced on chemoprophylaxis unnecessarily (four of these reversion cases were under the age of 35).

Conclusions Our results show that adoption of either a sequential TST + ve/IGRA approach or single IGRA approach can result in a significant number of false negative LTBI diagnoses due to IGRA conversion. Conversely, we have also shown that an IGRA rescreen because of discordant TST/IGRA tests can improve LTBI diagnostic specificity and therefore reduce unnecessary chemoprophylaxis due to the effect of reversion.

P14 COMPARISON OF TWO INTERFERON-GAMMA RELEASE ASSAYS (QUANTIFERON-TB GOLD IN-TUBE AND T-SPOT.TB) IN SCREENING FOR LATENT TUBERCULOSIS INFECTION (LTBI) AMONG HIV-INFECTED ADULTS ATTENDING AN INNER LONDON HIV CLINIC

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Background There is a paucity of data on the performance of interferon-gamma release assays (IGRAs) in screening HIV-infected patients for latent tuberculosis infection (LTBI).

Methods Prospective evaluation of two IGRAs [QuantiFERON-TB Gold In-Tube (QuantiFERON) and T-SPOT.TB] for screening HIV-infected patients attending an inner city clinic with a high local prevalence of tuberculosis (TB). For each patient we recorded their gender, ethnicity, country of birth, BCG status and prior treatment for TB, CD4 count, plasma HIV load and receipt of antiretroviral therapy (ART). All patients had both IGRAs (results = positive, negative, or indeterminate) and a chest radiograph.

Results Of 117 patients, 91 (78%) were men, 48 (41%) were white British, 29 (24.8%) black African, 21 (18%) European, 7 (6%) South American and 12 (10%) from other ethnic groups. Individuals born outside the UK had been resident in the UK for a median of 10 years (range 3–45). 91/117 (78%) had previously received BCG and 14/117 (12%) had been treated for TB a median of 9.5 years (range 3–13) previously. Of 106 (90.6%) receiving ART, 105 (99%) had an undetectable plasma HIV load and the median CD4 count was 550 (range 30–1250). Among those not receiving ART the median (range) plasma HIV load and CD4 count was 21 000 copies/ml (590–160 000) and 520 (250–950) respectively. IGRA results are shown in the Abstract P14 table 1. Overall there was good concordance (92.3%) between the two IGRAs. Among 14 patients previously treated for TB, 10 (71.4%) had previously received BCG; 4/14 (28.6%) had a positive IGRA (3/4 both IGRAs were positive, 1/4 QuantiFERON was positive). Of those previously treated for TB with negative IGRAs (n=10) all had an undetectable HIV viral load, 9/10 had been on ART >2 years and median CD4 count was 670 (range 180–1250). Five other patients with CD4 <200 had negative IGRAs; all had previously received BCG. Mantoux testing, done in 2 of the 5, was negative.

Abstract P14 Table 1

Assay	QuantiFERON			
T-SPOT.TB	Result	Positive	Negative	Indeterminate
	Positive	5	1	0
	Negative	6	103	1
	Indeterminate	0	1	0

Conclusion Overall there was a high concordance between the two IGRAs. Four of the 12 with positive IGRA results had a past history of TB making interpretation uncertain. The low rate of indeterminate results likely reflects the high CD4 counts among this patient group.

P15 DOES AN INTERFERON-GAMMA RELEASE ASSAY CHANGE PRACTICE IN PATIENTS REFERRED TO CLINIC FOR POSSIBLE LATENT TUBERCULOSIS INFECTION?

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Introduction and Objectives Suspected latent tuberculosis infection (LTBI) is a common reason for referral to TB specialist clinics. This is becoming increasingly frequent since the introduction of newer immunomodulatory drugs. Interferon-gamma release assays (IGRAs) are more sensitive and specific than tuberculin skin tests (TSTs) for diagnosing LTBI. NICE guidelines (2011) recommend considering IGRA testing to diagnose LTBI in those with positive TST or in whom TST may be less reliable. The aim of this study is to determine if IGRA changes practice in the management of cases referred to a TB specialist clinic for possible LTBI.

Methods A prospective study was carried out over a 29-month period. All adult patients who had three interventions [TST, chest x-ray (CXR) & QuantiFERon TB-Gold (QFT)] were included. The original decision to proceed with TB chemoprophylaxis was made by TB team consensus, based on the clinical history and TST alone. Cases were then analysed with the addition of QFT to determine if the QFT had altered management. An independent TB physician subsequently reviewed the cases. Each case was then analysed on

Abstract P15 Figure 1 Cases where change of practice occurred.

the presumption of QFT as a “gold-standard” vs the original clinician-based approach.

Results 204 patients were included. Sixty-eight were immunocompromised. One hundred and nine were referrals from other medical specialties, with the remaining 95 from other agencies. One hundred and eighteen patients had a positive TST and 84 had a negative TST. In those with positive TST, 35 (30%) had a positive QFT and 83 (70%) had a negative QFT. Practice changed in 77 (65%) cases with positive TST, all of whom avoided TB chemoprophylaxis due to negative QFT. Of the 68 immunocompromised patients, 16 (24%) underwent change of practice (Abstract P15 figure 1). There were no discrepancies between the original team and the independent TB physician. “Gold-standard” analysis revealed 12 discrepant cases (6%). No cases of active TB have developed in the study population, with maximum follow-up period of 36 months.

Conclusions This study demonstrates a significant change of clinical practice in the management of possible LTBI with the recent introduction of QFT testing. Our findings support the NICE 2011 recommendations with regard to TST-positive patients and immunocompromised patients.

P16 TB INFECTION IN THE UK INDIGENOUS WHITE ELDERLY POPULATION: A RETROSPECTIVE STUDY OF INTERFERON GAMMA RELEASE ASSAYS (IGRAS)

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Introduction Recent data from The Health Protection Agency (HPA) UK indicates a further rise in the incidence of TB and about 15% cases of newly diagnosed cases of TB occur in those aged =65. Within the indigenous white population in the UK, it is the elderly population in whom TB is principally an issue. In contrast to previous studies looking at TST positivity, the application of IGRAs to detect infected cases of TB across various ethnic groups has not yet been reported. In addition to further quantify TB infection in the UK white population, this study also looked at IGRA positivity in the elderly population.

Methodology Retrospective study of IGRAs which were performed in cases where latent or active TB was suspected. Data were collected from regional IGRA database and individual hospital audit departments were approached to obtain ethnicity data.

Results Ethnicity data was available in 575/1119 cases and comprised 482 white British, 26 Asian/Asian British, 34 black/black British and 33 other. IGRAs results in the UK population are shown in the Abstract P16 table 1 below: The difference in the prevalence of a positive IGRA between the ethnic groups was statistically significant ($p < 0.001$). Further age specific analysis was performed for the white British population for whom age data was available. Of these 468/482 cases, 47% were male (222/468) and the mean age was 50 years. The study demonstrated a significant association between age upon the occurrence of a positive IGRA result ($p < 0.001$). The likelihood of a positive IGRA result was found to increase for older subjects. In the Mersey region, for the UK white

Abstract P16 Table 1

Ethnic group	Positive IGRA, number (%)	Negative IGRA, number (%)	p Value
White British	49 (10%)	433 (90%)	<0.001
Asian/Asian British	13 (50%)	13 (50%)	
Black/Black British	17 (50%)	17 (50%)	
Other ethnicities	13 (39%)	20 (61%)	