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?

doi:10.1136/thoraxjnl-2011-201054c.15

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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)

doi:10.1136/thoraxjnl-2011-201054c.16

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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%)	

population aged ≥ 65 , the prevalence of a positive IGRA result was between 18% and 37% (95% CI).

Conclusions IGRA positivity was found to be lowest in the white British population compared with other ethnic groups. Interestingly, of the UK indigenous white elderly population almost 1/3 are infected with TB (latent or active) highlighting significant disease burden among older age groups. With IGRAs heralded as the more specific and reliable diagnostic test, such results may aid future planning and policy making for the management of TB in the UK.

P17 CLINICAL UTILITY OF THE TUBERCULOSIS INTERFERON GAMMA TEST (IGT) IN A LOW INCIDENCE AREA

doi:10.1136/thoraxjnl-2011-201054c.17

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Introduction The clinical utility and cost effectiveness of IGT in low prevalence areas of TB remains unclear. In some clinical settings it has been used to exclude active disease. We describe the experience of IGT in a teaching hospital in a low prevalence area (13/100 000).

Methods We identified individuals who had undergone IGT for any indication from 01 January 2010 to 30 June 2011. Case notes and electronic records were reviewed retrospectively to identify baseline demographics, indications for testing and outcomes where a positive result was identified. Healthcare workers, contacts of TB and new entrants were all screened for latent TB infection (LTBI) with tuberculin skin test and if positive, IGT (as per NICE, 2006). Those on immunosuppressant therapy had IGT alone if a risk factor was identified. In May 2011, there was a change in local contract from QuantiFERON® TB-Gold In-Tube (QFT), Cellestis International, Australia to T Spot-TB® (TSp) Oxford Immunotec, Abingdon, UK.

Results 179 cases were identified, 75 (42%) cases had TSp performed and 104 (58%) cases with QFT. There were 5 (3%) indeterminate results (QFT: 4 [4%]; T Spot-TB: 1 [1%]). Two TSp tests could not be processed as there were insufficient white cells (both haematology patients). Median age was 40 years (IQR 25–60), the majority were from Europe 135 (75%). Other ethnicities included African 17 (9%), South East Asian 14 (8%), Western Pacific 5 (3%), Eastern Mediterranean 4 (2%) and the Americas 4 (2%). 108 (60%) cases were performed to exclude latent TB infection and 71 (40%) to exclude active TB (see Abstract P17 table 1).

Abstract P17 Table 1

	Indication	Number (n=179)	No. +ve IGRA (n=32) (% of group)	Treated latent/ active TB (n=21) (% of positive IGRA)
Latent TB (n=108)	Pre-Anti TNF therapy	45	1 (2%)	1 (100%)
	Contact screening	29	11 (38%)	5 (45%)
	Healthcare worker screening	23	6 (26%)	4 (75%)
	New entrant	11	4 (36%)	2 (50%)
To exclude active TB (n=71)	Fever, lymphadenopathy or systemically unwell	43	7 (16%)	6 (86%)
	Uveitis/choroiditis	15	3 (20%)	2 (66%)
	HIV infection	2	0 (0%)	0 (0%)

Conclusions In a low incidence population, approximately one third of new UK entrants, contacts and health-care workers were diagnosed with latent TB, 56% of whom received chemoprophylaxis. The role of IGT to screen for active disease is unclear and requires further investigation. However, it may be of use in patients with uveitis/choroiditis. In those patients with a positive IGT, 80% went

on to receive standard therapy for active TB, all of whom clinically improved. However, screening for LTBI was less cost effective for those undergoing biological therapy with only one positive (2%) result.

P18 HOW EFFECTIVE IS THE RECOMMENDED STAGING FOR LATENT TB FOLLOW-UP?

doi:10.1136/thoraxjnl-2011-201054c.18

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Introduction NICE (2011) recommends that patients with latent TB infection who are eligible for but decline treatment are followed up with a chest x-ray (CXR) at 3 and 12 month intervals to assess for TB reactivation. The aim of this study was to assess the effectiveness of this strategy in detecting reactivation of TB.

Method

- ▶ A retrospective case note analysis of 146 latent TB patients (2006–2011) of all ages.
- ▶ Mode age range 16–35 (46%).
- ▶ Follow-up attendance, clinical presentation, CXR appearances and patient demographics were recorded.

Results

- ▶ 47% (n=69) attended for follow-up at 3 and 12 months.
- ▶ 18% DNA at 3 months, 35% DNA at 12 months. 13% moved away.
- ▶ 98.6% of patients showed no evidence of TB reactivation in a 12-month period.
- ▶ 52% of patients were under 35.
- ▶ 2 (1.4%) patients developed active TB within a 12-month period. One was found to have CXR changes at the 3-month follow-up, and was later admitted with TB meningitis. The other was symptomatic (no CXR changes) and was treated empirically for active TB.
- ▶ 63% were new entrants; 41% had been in the UK <1 year.
- ▶ 1 patient was immunosuppressed.
- ▶ Common risk factors for LTBI were ethnicity (73%) and occupational exposure (19%). Only 12% recalled previous TB contact.

Discussion

- ▶ 3 and 12-month follow-up had a very low yield of detecting TB reactivation in this sample (1.4%).
- ▶ It cost £16 000 (based on current PbR tariff) to screen the 69 patients who attended at 3 and 12 months.
- ▶ Use of limited resources must be justified. Are there better staging intervals for follow-up?
- ▶ Follow-up is also associated with a high DNA rate, particularly at 12 months, further stretching resources.
- ▶ However, follow-up allows health promotion regarding TB symptoms and the role of chemoprophylaxis.

Abstract P18 Figure 1 Effectiveness of latent TB follow-up.