compared between those patients with and without co-morbidities (Charlson index 1 or more vs 0) using unpaired t-test or non-parametric equivalent.

Results 84 patients (73%) had a Charlson index of 1 or more. No difference in age, gender, FEV1, or MRC Dyspnoea score was seen between those with and without co-morbidities. Mean (SD) change in ISW following PR was not significantly different between those with and without co-morbidities (63 (96) vs 33 (88); p=0.13). Similarly there were no significant differences in CRQ-D change (4.1 (6.4) vs 5.7 (7.1); p=0.26), CRQ-F change (2.6 (5.1) vs 4.4 (5.7); p=0.13), CRQ-E change (3.6 (7.8) vs 6.4 (7.7); p=0.09) or CRQ-M change (2.7 (4.8) vs 2.3 (6.9); p=0.75). No association was seen between Charlson index and change in ISW following PR (Spearman rank=0.09; p=0.32).

Discussion The prevalence of co-morbidities in COPD patients undergoing PR is high. The presence of co-morbidities does not seem to affect patients' response to pulmonary rehabilitation.

Changing patterns of mycobacterial disease

P54 DO THE NICE NEW ENTRANT TB SCREENING GUIDELINES UNDER-DIAGNOSE CASES OF LATENT TB INFECTION?

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Introduction In 2006, 72% of active TB cases in the UK occurred in people born overseas (HPA 2008). 48% of new entrants with TB were diagnosed within 5 years of entering the UK and 19% within 2 years (HPA 2008). It is a priority therefore, to identify and appropriately treat those infected with latent TB infection through TB screening programmes (DH 2004). NICE (2006) TB new entrant screening guidelines allow certain groups of new entrants to be screened solely via chest x-ray (CXR), omitting a Tuberculin Skin Test (TST). This potentially under-diagnoses latent TB Infection (LTBI). The aim of this study was to determine whether NICE (2006) criteria are adequate in detecting latent TB.

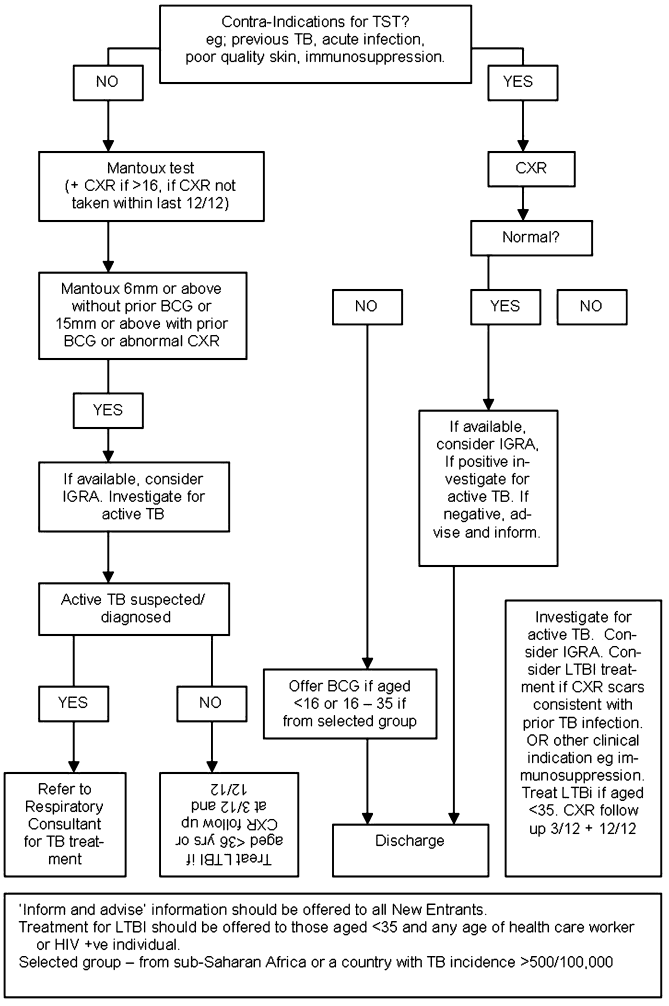
Method A retrospective case-note analysis of new entrants over a 44-month period (2006–2009). All patients were screened using a locally developed 'Dorset' algorithm that combined CXR and TST unless contraindicated (see Abstract P54 Figure 1). Each case was then re-evaluated using the NICE algorithm. This allowed direct comparison of each algorithm to detect LTBI.

Results 547 new entrants were referred locally for TB screening (2006–2009). 397 attended. 41 (10.3%) patients (all HIV−ve) were diagnosed with LTBI, based on the following outcomes:

- Abnormal CXR and strongly positive TST=14 (34%).
- Normal CXR but strongly positive TST=18 (44%).
- Abnormal CXR but normal TST=9 (22%).

Comparison of the two algorithms showed that while all 41 cases were detected using the Dorset algorithm, only 27 cases (65.8 %) were detected using the NICE algorithm. This represents a 34.1% shortfall in LTBI detection using NICE (95% CI 19.63% to 48.67%, 99% CI 15.04% to 53.26%).

Discussion This study demonstrated that through the omission of TST, the NICE algorithm missed 14 (34.1%) cases of LTBI compared with the Dorset algorithm. While alternative screening methods such as IGRA are increasing in recognition, these continue to be an expensive option if not provided locally. Therefore TB services without routine access to IGRA can significantly improve their detection of latent TB by simply combining their existing screening tools.



Abstract P54 Figure 1 Dorset new entrant TB screening algorithm (2009).

P55 POST-BRONCHOSCOPY SPUTUM: INCREASING THE DIAGNOSTIC YIELD IN SMEAR NEGATIVE PULMONARY TUBERCULOSIS

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Background The prevalence of smear negative pulmonary tuberculosis (PTB) is increasing. At many centers, active PTB suspects who are Acid-Fast Bacilli (AFB) smear negative or non-productive of sputum undergo fiber optic bronchoscopy for bronchoalveolar lavage but post bronchoscopy sputum (PBS) sampling is not routine. The aim of the study was to establish the clinical utility of PBS sampling in this subgroup of patients with active PTB.

Methods A retrospective study of all patients attending a central London University hospital with microbiologically confirmed PTB between January 2004 and December 2009. Patients who were AFB smear negative or non-productive of sputum were eligible for the study if a sputum sample was obtained within 7 days of bronchoscopy.

Results The cohort (n=50) was heterogeneous—29 were male (58%), 12 were infected with HIV (24%), 19 were of African origin (38%), 17 were white Caucasian (34%) and four were from the

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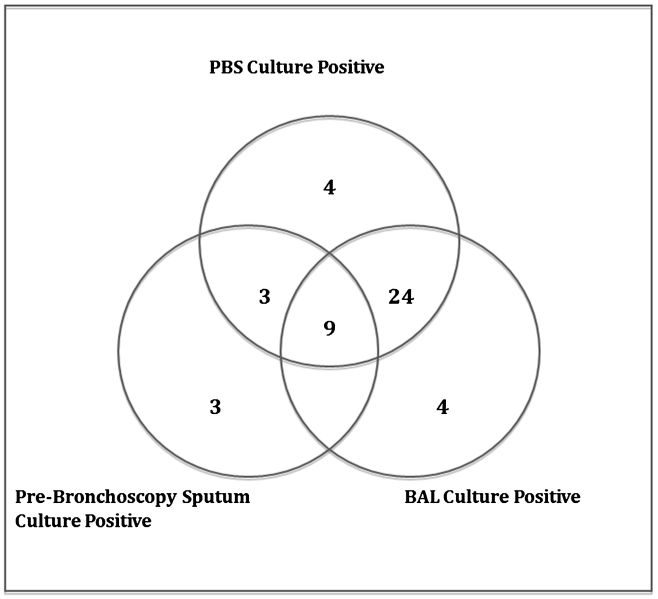
Indian subcontinent (8%). 15 patients (30%) converted to AFB sputum smear positivity post bronchoscopy and five patients (10%) were exclusively AFB sputum smear positive on PBS microscopy. *M tuberculosis* was cultured from the PBS of 40 patients (80%) and four of these (8%) were exclusively PBS culture positive (Abstract P55 Figure 1). Two of these four patients were infected with HIV.

M.Tuberculosis Culture Positive Results for Pre-bronchoscopy, BAL and PBS Samples



(PBS – Post bronchoscopy sputum, BAL – Bronchoalveolar lavage)

Abstract P55 Figure 1 M tuberculosis culture positive results for pre-bronchoscopy, BAL and PBS samples.

Conclusion Sampling sputum post bronchoscopy can provide a previously underutilized method of making a rapid diagnosis of PTB and reduce the number of patients who are treated on an empiric basis, particularly in the context of sputum smear negative or non-productive disease. Importantly it can increase culture yield by up to 8% hence allowing for a greater proportion of appropriate treatment of drug resistant strains. PBS sampling is also a key infection control measure that should be considered following bronchoscopy. Further studies are now required to establish the duration of smear positivity post bronchoscopy in patients who were previously considered non-infectious but in the light of this data, we consider it best practice to only de-isolate such patients when their infective status can be ascertained with at least one post-bronchoscopy sputum sample.

P56 HIGH INCIDENCE OF TUBERCULOSIS IN PATIENTS WITH CHRONIC KIDNEY DISEASE IN A TERTIARY REFERRAL UNIT

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Introduction Patients with chonic kidney disease (CKD) are at increased risk of developing tuberculosis (TB) due to immunosuppression from renal failure. There is little information on incidence of TB in CKD patients in countries such as the UK with a low background rate of TB. The incidence of TB is 14.9/100 000 population in UK and 43/100 000 population in London.[1] Our aim was to establish this incidence in our CKD patients.

Methods We identified 40 patients with CKD at a single large renal unit in London who developed TB from 1994 to 2010. Data collected included site of TB, treatment received for CKD (pre-dialysis, peritoneal dialysis (PD), haemodialysis or transplant) and outcome. Incidence of TB was calculated from total number of TB patients and total number of CKD patients in each CKD treatment group from 1994–2010.

Results Sites of TB were: 21 pulmonary, six lymph node (cervical, mediastinal and aortic lymph nodes), five disseminated/miliary, six spinal, one renal, one skin and three of unknown sites. Only three patients had a past medical history of TB. Three PD patients had TB of whom two had peritoneal TB. 18/40 CKD/TB patients were pre-dialysis, 3/40 had PD, 15/40 were on haemodialysis, 4/40 had a transplant. The incidence of TB was 398/100 000 in patients on PD, 1267/100 000 in patients on haemodialysis and 298/100 000 in renal transplant recipients. No total pre-dialysis patient numbers were available. 17/40 patients were further immunosuppressed by either HIV (five cases) or drugs (12 patients) such as prednisolone, cyclosporine, tacrolimus or mycophenolate mofetil. Most of the latter had either functioning or non-functioning transplants. All patients were cured except for one who died of an unrelated cause.

Conclusions Patients with CKD are at increased risk of developing TB compared with the general UK population. Peritoneal TB is more common in patients on PD whereas pulmonary TB is seen more often in other CKD groups followed by lymph node TB. More than two fifth of the CKD/TB patients had further immunosuppression in the form of drugs or HIV infection, thus further increasing their risk of developing TB.

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P57 THE LONDON TB METRICS: ARE TARGETS ACHIEVABLE IN A LOCAL DISTRICT HOSPITAL CLINIC?

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Introduction and objectives Tuberculosis (TB) has re-emerged as an important public health problem in the UK. Subsequent to the publication of 'Stopping Tuberculosis in England: An Action Plan from the Chief Medical Officer' in 2004, the London TB Metrics was produced, against which the performance of local TB services can be measured. This audit recorded relevant aspects of diagnosis and management of all adult TB patients in a local district hospital TB clinic, and compared them against the Metric targets.

Methods Eight of the nine Metric indices were selected (neonatal BCG vaccination coverage excluded). Data were collected on all adult patients seen in an outpatient TB clinic in 2008 and compared against targets set in the London TB Metrics.

Results 73 adults (35 males, 38 females) were diagnosed, of which 38 (49.4%) were pulmonary cases. 69 patients (94.5%) were offered an HIV test; 63 patients attended for testing, with two patients testing positive for HIV. Abstract P57 Table 1 summarises results achieved.

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