subcarinal (level 7; 81.8% of patients), right lower paratracheal (level 4R; 58.2%) and right hilar (level 10R; 52.7%) stations. The Abstract P167 Table 1 shows correlation of biomarkers and CXR abnormalities with extent of LN involvement on CT. Results are displayed as % group or median (IQR). There were 49.1% with a normal CXR. In this subgroup, ESR and Globulin levels also correlated with extent of LN involvement on CT. The median (IQR) LN involvement stratified by ESR levels was: 2 (1–2), 2 (1–2.8) and 5 (4–5) for ESR ≤15, ESR 16–49 and ESR >49 mm/h, respectively (p=0.039). The median (IQR) LN involvement stratified by Globulin levels was: 2 (1–3), 2 (2–4.8) and 5 (2.8–5.3) for Globulin ≤35, Globulin 36–45 and Globulin>45 g/l, respectively (p=0.048).

Abstract P167 Table 1

Number of LN stations involved	Globulin (g/l)	ESR (mm/h)	Abnormal CXR (%)
1–3 (n=26)	36.5 (32–39)	23 (9–28)	19.2
4–6 (n=24)	42 (35–50)	67 (45–96)	41.7
>6 (n=5)	45 (40–50)	84.5 (62–96.5)	80
p-Value	0.03	0.004	0.03

Conclusion Tuberculous mediastinal lymphadenopathy on CT is characterised by a specific anatomical pattern with predominance of right sided LNs and more frequent involvement of particular LN stations. A large proportion of patients with pathologically enlarged LNs on CT have normal CXRs. Biomarkers such as ESR and globulin levels correlate with extent of LN involvement on CT.

P168 RIFABUTIN IS A USEFUL ALTERNATIVE TO RIFAMPICIN IN THE TREATMENT OF ACTIVE TB/HIV CO-INFECTION

doi:10.1136/thx.2010.151043.19

[1]R Singh, [1]N Marshall, [1]C J Reynolds, [2]R A M Breen, [3]C J Smith, [1]L Swaden, [1]S Bhagani, [1]S Hopkins, [1]M A Johnson, [1]M C I Lipman. *[1]Royal Free Hospital, London, UK; [2]St Thomas' Hospital, London, UK; [3]UCL Medical School, London, UK*

Introduction Effectiveshort course anti-tuberculosis treatment (TB Rx) requires use of a rifamycin, typically rifampicin (RIF). However, in patients with TB/HIV co-infection it has significant drug interactions; and rifabutin (RBT) is often substituted in those taking anti-retrovirals (ARVs). Recent data suggest that the recommended dosage of RBT may be inadequate with concomitant ARVs, leading to an increased risk of subsequent rifamycin resistance after apparent successful treatment.

Aims We undertook a retrospective, single-site review of TB/HIV treatment to determine the impact of rifamycin selection on prevalence of serious (ACTG grade III or IV) adverse events (AE), TB treatment completion and TB recurrence.

Methods The characteristics and treatment outcomes, stratified by rifamycin type and ARV use for all adults with TB/HIV co-infection receiving rifamycin-based therapy as part of active TB Rx from 1997 to 2008 were examined. Rifamycin choice and dosage was in line with BHIVA guidance for TB/HIV therapy—in general RIF being used with a non-nucleoside inhibitor ARV combination and RBT with boosted protease inhibitors.

Results 143 HIV-positive individuals received rifamycin-based TB Rx during the study period (64 RIF, 56 RBT and 24 RIF/RBT in treatment switch—see Abstract P168 Table 1). 103/143 (72%) patients had culture positive disease, of whom 4 had isoniazid drug resistance. 106/143 (74%) patients used ARVs during TB Rx. Patients on ARVs who had RIF either alone, or switched from RIF to RBT during TB Rx had a higher incidence of serious AE compared to those prescribed RBT alone (p=0.002). There was no difference in the percentage of patients who completed prescribed TB Rx between the RIF and RBT groups (p=0.6). After a median follow-up of 3.2 years from start of TB Rx, 4 patients relapsed, all with a drug sensitive organism.

Abstract P168 Table 1 Rifamycin

	No ARVs during TB Rx		ARVs during TB Rx		
	RIF n=34*	RBT n=1	RIF n=28	RBT n=54	RIF + RBT n = 24
Black-African	22 (65%)	1 (100%)	21 (75%)	37 (69%)	20 (83%)
Blood CD4 count (cells/mm^3)	350 (7–831)	132	123 (13–500)	124 (2–844)	61 (11–233)
Completion of prescribed TB Rx	30 (88%)	1 (100%)	27 (96%)	52 (96%)	23 (96%)
Grade III/IV AE	14 (41%)	0	20 (71%)	17 (31%)	16 (67%)
Recurrence of TB	1 (3%)	0	2 (7%)	1 (2%)	0

Entries are number (%) or median (range).
*2 RIF pts had unknown ARV status

Conclusion Within our study population, rifabutin is a useful alternative to rifampicin in the treatment of active TB/HIV co-infection and does not appear to lead to subsequent rifamycin resistance after successful therapy. We find no evidence in this analysis to change the advice within the current national TB/HIV guidelines.

P169 SUBCLINICAL OCULAR MANIFESTATIONS OF PULMONARY AND EXTRAPULMONARY TUBERCULOSIS IN A HAMPSHIRE POPULATION

doi:10.1136/thx.2010.151043.20

[1]S Beeson, [1]N Wetherill, [2]S Mansour, [2]A K Banerjee, [2]D Rowen, [2]N Hall, [2]B G Marshall. *[1]Southampton University School of Medicine, Southampton, UK; [2]Southampton University Hospitals NHS Trust, Southampton, UK*

Background Intraocular tuberculosisis capable of imitating numerous uveitis entities; the ability of TB to causeuveitis is multifactorial including virulence of the infecting organism, anindividual's immune response, and the location of the disease. The nonspecificnature of uveitis makes diagnosis difficult, and allowed to progressunchallenged, intraocular tuberculosis can be sight-threatening. We postulate that subclinical ocular signs of TB might coexist with TB activeat other sites.

Methods 14 TB latent, 14 TB active, and 3 TB-HIV co-infected patients were recruited for this pilot study, between October 2009 and April 2010, from the TB service at the Royal South Hants Hospital. At Southampton General Hospital's Eye Unit patients provided detailed ocular and tuberculosis histories; all patients then underwent a series of extensive ocular examinations, including best corrected visual acuity and colour vision, intraocular pressure, pupillary response, ocular motility, slit lamp and dilated fundus examinations; finally each patient's ocular findings were correlated against their TB and TB-HIV co-infection clinical profiles.

Results 14 patients were classified "latent TB" (IGRA positive, asymptomatic) and 14 patients were classified "active TB" (symptoms, culture positive) of whom three were "TB-HIV co-infected". Patients with active TB were identified as having significantly more symptoms associated with anterior uveitis, such as pain, photophobia, redness and blurred vision/floaters, compared to those patients with latent TB. We demonstrated objective evidence of anterior chamber inflammation inpatients with active disease, but not latent disease. The patients with HIV coinfection exhibited combined anterior and posterior segment abnormalities consistent with an active uveitis.

Conclusions The results of this pilot study suggest that patients with active TB have symptoms suggestive of uveitis, but these are unrecognised by the patient unless specifically sought. These patients have anterior chamber findings of uveitis. TB-HIV co-infected patients appear to present asymptomatically with anterior

segment and potentially posterior segment signs. These findings suggest that units treating TB should actively screen all patients newly presenting with TB for occult ocular disease.

Abstract P169 Table 1 Uveitis symptoms relating to TB status

	Active patients—latent patient response difference: (95% CI)	p-Value*	Active patients (TB-HIV)—active patient (TB) response difference: (95% CI)	p-Value*
Redness	31.5% (−10% to 60%)	0.236	−21.3% (−40% to 50%)	1.000
Pain	46.9% (10% to 70%)	**0.033**	−21.3% (−40% to 50%)	1.000
Itchiness	37.8% (0% to 70%)	**0.033**	21.2% (−30% to 60%)	1.000
Watery	55.9% (20% to 80%)	**0.004**	3.1% (−50% to 40%)	1.000
Light sensitivity	30.1% (−10% to 60%)	0.209	−12.2% (−50% to 40%)	1.000
Visual disturbance	2.8% (−30% to 30%)	1.000	15.1% (−20% to 30%)	1.000
Loss of vision	9.1% (−10% to 40%)	1.000	−9.1% (−40% to 50%)	1.000
Floaters	27.3% (0% to 60%)	**0.041**	39.4% (−20% to 70%)	1.000

*Fisher exact significance (two-sided).

P170 TB-HIV CO-INFECTION: HOW DOES THE UK COMPARE TO EUROPE?

doi:10.1136/thx.2010.151043.21

[1]M E Kruijshaar, [1]L Pimpin, [2]C Ködmön, [3]M Lipman, [1]V Delpech, [1]B Rice, [4]L Drumright, [2]D Manissero, [1]I Abubakar. *[1]Health Protection Agency — Centre for Infections, London, UK; [2]European Centre for Disease Prevention and Control, Stockholm, Sweden; [3]Royal Free Hospital — Respiratory Medicine, London, UK; [4]Imperial College, London, UK*

Background Tuberculosis (TB) and HIV/AIDS are global public health problems with considerable mutual interaction. Data on national TB-HIV co-infection trends are essential to plan and evaluate TB-HIV control measures. We compared the burden of co-infection and how this is monitored in surveillance systems in England with the rest of Europe.

Methods

- A systematic search of academic and grey literature identifying studies reporting data on TB-HIV co-infection in EU/EEA countries.
- A questionnaire survey among EU/EEA countries' TB surveillance leads, regarding surveillance methods, data and proportion of cases tested for HIV.
- For England, Wales and Northern Ireland, cases reported to Enhanced Tuberculosis Surveillance matched to national HIV/AIDS case reports.

Results A total of 55 papers were identified providing estimates on the proportion of TB patients co-infected with HIV. From 30 EU/EEA countries 25 TB questionnaires were returned. This gave prevalence data for 23 countries. In England, the prevalence of HIV co-infection among TB patients rose from 5% in 2000 to 8% in 2005, with a peak at 9% in 2003—2004. These figures are at the higher end of what is observed in Europe. France, Iceland and Portugal (11—15%) had higher co-infection levels, while similar levels were found for Estonia and Malta (9%). Very low levels were reported from central European countries (0—1%). A rise in co-infection levels was seen in Estonia, Latvia, Lithuania, the UK and Belgium, while decreases were seen in Spain and Portugal. The burden was higher in countries reporting high levels of HIV testing and countries with a higher HIV burden. Information on TB patients' HIV status was collected in 19/25 TB surveillance systems responding to the survey. While 17 countries rely on clinician reporting, in England and Finland, data are obtained by matching to national HIV/AIDS surveillance data due to confidentiality concerns.

Conclusion Levels of TB-HIV co-infection vary widely across EU countries, with the UK being at the higher end. Our data suggest that TB-HIV surveillance appears patchy and needs strengthening to better inform control policies and clinical practice.

P171 THE DEVELOPMENT OF A UK NATIONAL MDRTB SERVICE

doi:10.1136/thx.2010.151043.22

P D O Davies, D M Cullen. *TB Unit, Liverpool Heart and Chest Hospital NHS Foundation Trust, Liverpool, UK*

Introduction The low incidence in the UK means that few specialists treating tuberculosis have much experience of managing patients with MDRTB. To attempt to overcome this gap, the MDRTB Service was established at the Liverpool Heart and Chest Hospital in January 2008.

Method The service offers ready access to expert advice on the management of patients with MDRTB via an electronic virtual committee of TB experts. The advice given offers the likely best treatment for patients and by doing so prevents the emergence of Extreme drug resistant TB (XDRTB). The second function of the Service is to collect data on all MDRTB cases identified in the UK and record outcomes.

Results From 2008, the MDRTB Service has been approached for advice on 93 TB cases. Of these 70 were confirmed as MDR and 6 XDRTB whilst the remainder either could not be confirmed as MDR, were Isoniazid OR Rifampicin mono resistant or were more general requests for advice. The initial resistant patterns of 76 MDRTB cases showed resistance to Isoniazid and Rifampicin, 52% of the cases were resistant to Streptomycin, 41% to Ethambutol and 31% to Pryazinamide. Indeed 33% of cases were resistant to three Group 1 drugs and 29% to 4 drugs in this category. In the 6 XDR-TB patients, three were resistant to one group 2 drug only whilst the other three cases were resistant to more than one group 2 drug. All XDRTB cases were resistant to more than one group 3 drug, and 3 (50%) had more than one resistance in both drug groups. Patients of non-UK origin accounted for 86% of cases (male: 48%) of which 5 (8%) were XDR-TB, the rest MDR-TB. India (28%) and Sub Saharan Africa (26%) were the most prevalent countries of origin. 57% of patients had pulmonary disease, of which 82% were known to be sputum smear positive and therefore infectious. Three patients are known to have died and the rest are continuing on treatment.

Conclusion The MDRTB service is an important means of providing expert advice on management of these cases. Streptomycin resistance was present in the majority.

Therapeutic interventions in asthma and airways disease

P172 FLUTICASONE/SALMETEROL COMBINATION CONFERS SIGNIFICANT BENEFITS IN SMOKING ASTHMATICS

doi:10.1136/thx.2010.151043.23

K L Clearie, L McKinlay, P A Williamson, P Hopkinson, K T Meldrum, B J Lipworth. *Asthma and allergy research group, University of Dundee, Dundee, UK*

Rationale Smoking is known to increase airway inflammation and induce relative resistance to of inhaled steroids.

Objectives This study aimed to evaluate the effects of adding salmeterol to fluticasone (FPSM) versus doubling the dose of fluticasone (FP) in smoking and non-smoking asthmatics.

Methods 16 non-smoking and 15 smoking asthmatics were randomised to completion in a double blind, placebo-controlled crossover study. They received either FP/SM pMDI (125/25 mg) two puffs bid (+FP placebo) or active FP 250 mg pMDI two puffs bid (+FPSM placebo), for 2 weeks each, with baselines after 1—2 week run-in and wash-out periods. The primary outcome was change from baseline in methacholine PC_{20}.

Results In non-smokers there were similar improvements with FP and FPSM. Smokers demonstrated no change in methacholine PC_{20} following treatment with FP, however FPSM conferred significant benefit: 1.6 doubling dilution (95% CI 1.0 to 2.2), $p<0.01$. Smokers