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?

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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

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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

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

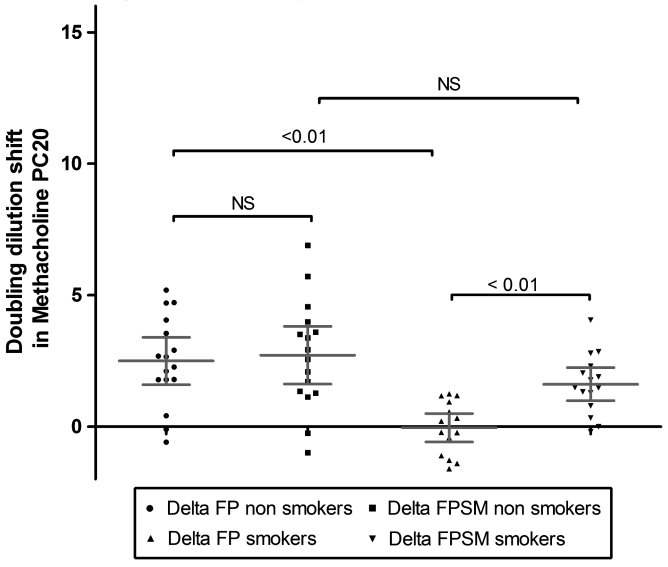
Objectives This study aimed to evaluate the effects of adding salmeterol to fluticasone (FPSM) versus doubling the dose of fluticasone (FP) in smoking and non-smoking asthmatics.

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

gained proportionally greater benefit from FPSM minus FP compared to smokers: 1.4dd (95% CI 0.01 to 2.8), p=0.047. Similar changes were observed in FEV_1 and IOS, and a similar but non-significant trend was seen with AHR to mannitol.

Conclusion Combination FPSM confers greater improvements in AHR and airway caliber in smoking asthmatics, as compared to double the dose of FP alone. It is likely that in the face of the relative steroid resistance, the smooth muscle stabilisation conferred by SM becomes of greater clinical importance.



P173 MANAGEMENT OF SPUTUM EOSINOPHIL-NEGATIVE PATIENTS IN A SEVERE ASTHMA CLINIC

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Asthma is a heterogeneous disease that requires physicians to further phenotype their patients in order to offer carefully customised treatment. Among recent and rapidly evolving tools at clinicians' disposal are sputum analysis for several markers of inflammation, particularly sputum eosinophil count has become a marker widely used. Sputum differential cell counting was introduced in our severe asthma clinic to help further phenotype our patients with a view to first reducing sputum eosinophils below 3% by augmenting anti-inflammatory therapy, and attempting steroid withdrawal once subjects became sputum eosinophil negative (E−). This report investigates its impact on the management of patients with negative sputum eosinophilia at baseline. To date, 264 patients have been investigated for sputum eosinophils, using induction with nebulised sodium chloride if necessary and suitable. Of these, 71 had 2 or more valid results enabling us to assess how these subjects were managed following their initial negative cell count results. Out of 42 patients initially E−, 36 remained E−. Twenty-seven were offered a trial of reduction in steroid therapy:

2 patients stopped IM triamcinolone (both remained E−);

20 patients had decreased oral prednisolone treatment (15 remained E−)

5 patients decreased inhaled steroid therapy (all remained E−).

Despite negative sputum at baseline, five patients were given a trial of triamcinolone, to confirm their absence of response to steroids, of these 4 remained E−, whilst surprisingly 1 patient became E+.

In those E− at baseline, 64% had a reduction in steroid therapy. Of these more than 80% remained E−, despite reduced therapy, whilst 20% had recurrence of E+. For 83% of those who became E+, there were strong indications that their initial dose of maintenance oral steroids was probably already optimal. It is surprising that five patients were offered a trial of IM triamcinolone despite initial negative sputum eosinophils. However, it has been recently reported that increased steroid therapy in sputum non-eosinophilic patients still had positive impact on reducing markers of inflammation different from sputum eosinophils. It was possible to reduce steroid therapy without losing asthma control for 80% of patients initially E−.

P174 IDENTIFYING NON-ADHERENCE WITH ASTHMA MEDICATION AND THE RELATIONSHIP TO CLINICAL OUTCOMES AMONGST ADULTS WITH DIFFICULT-TO-CONTROL ASTHMA

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Background The failure of patients to adhere to prescribed medication regimens is well documented. The clinical effects of non-adherence can include treatment failure, unnecessary, potentially dangerous and costly intensification of therapy, complications and hospitalisations. The extent of non-adherence and the clinical implications in difficult-to-treat asthma were audited.

Method A total of 161 adult asthma patients attending a difficult asthma clinic during July/August 2009 were included in the audit. GPs retrospective prescription refill data for asthma medicines, patient demographics and clinical outcome data were collated. The medication adherence ratio was calculated as the number of doses refilled/number of doses prescribed ×100 for a mean duration of 12 months. Adherence was defined as adequate if the ratio was ≥80%.

Results Prescription refill data for 132 patients were available (82%), and 115 patients were included in the audit. Poor adherence was identified in 75/115 patients (65.2%) on inhaled corticosteroids (ICS) overall − 64/101 (63.4%) taking combined ICS and long acting β_2 agonist (LABA) inhalers and 11/14 (78.6%) patients taking separate ICS and LABA inhalers (p=0.24). In the 14 patients using separate ICS and LABA, adherence to the LABA (50%) was significantly better than adherence to the ICS (14.3%) (p=0.043). Patients with poor adherence to ICS had a lower post-bronchodilator FEV_1 (75.4 (20.9) vs 84.3 (23.5), p=0.049) and higher sputum eosinophil counts (4.6 (0.66)% vs 2.3 (0.54)%, p=0.05) than those with adequate ICS adherence. There were no significant differences in age, gender, racial origin, smoking history or courses of rescue oral prednisolone between these two groups. Patients with poor ICS adherence were more likely to have been ventilated for asthma (19.2% vs 2.6%, p=0.02). In a multivariate logistic regression model, the adherence ratio was the only independent predictor of previous need for ventilation for acute severe asthma (p=0.008). Thus for each 10% decrease in adherence to ICS, the estimated odds of having been ventilated for asthma increased by 1.85 times.

Conclusion The majority of patients with difficult-to-control asthma are non-adherent with their asthma medication. Patients using separate ICS and LABA inhalers use the LABA more than the ICS. Non-adherence is correlated with several poor clinical outcomes.

P175 CROSS-SECTIONAL AND LONGITUDINAL RELATIONSHIPS OF SELF-MANAGEMENT BEHAVIOURS AND OTHER PSYCHOLOGICAL FACTORS WITH OUTCOMES IN PATIENTS WITH SEVERE ASTHMA

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Background Psychosocial factors are associated with various manifestations of severe asthma. Wider research and theory highlight