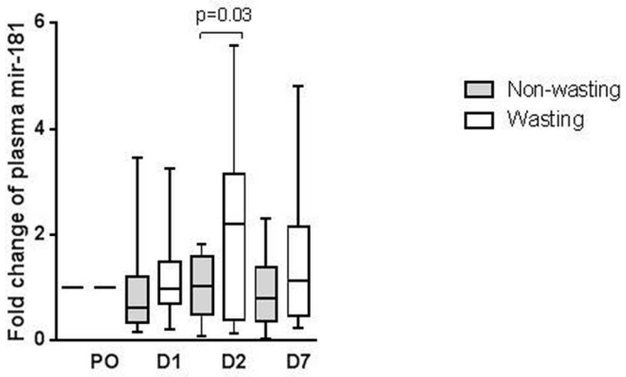
specificity for muscle wasting, (with 55% sensitivity). Other microRNAs did not show significant differences between the groups.

**Conclusion** Mir-181 has been shown to be involved in both regulation of inflammation and muscle regeneration and differentiation. Mir-181 provides a potential biomarker of developing muscle wasting and with further development in the future may prove to be useful in directing treatment.

**Funding** This work is funded by an MRC Clinical fellowship to Dr Bloch and supported by the NIHR Respiratory BRU at the Royal Brompton and Harefiled NHS Trust and Imperial College who part fund the salries of MIP and MG




**Abstract S55 Figure 1. Relative plasma mir-181 concentration in non-wasting (n = 19) and wasting patients(those with >9.24% muscle loss: n = 23) pre-operatively (PO), on day1 (D1), day 2 (D2) and on day 7 (D7). Data presented as box and whisker plots with median, interquartile ranges and 5–95% percentiles. P= 0.03 at day 2 for comparison between groups with Kolmogorov-Smirnov test.**

# TB: predicting disease occurrence and severity

## S56 DOES TIME SINCE ARRIVAL AFFECT SITE OF TB DISEASE IN UK MIGRANTS?

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10.1136/thoraxjnl-2013-204457.63

**Background** In contrast to global tuberculosis (TB) epidemiology, the UK and many low incidence countries have a high proportion of cases with extra-pulmonary tuberculosis (ETB). Almost 70% of reported cases in the UK are non-UK born, and many of these develop TB within the first five years after entry to the UK. The aim of the study was to analyse whether time since entry to the UK was associated with site of disease among migrants.

**Methods** All TB cases (n = 95,427) reported to national enhanced TB surveillance system in the UK from 2000–2011 were included. In univariable analysis we explored associations between site of disease and place of birth, ethnic group, gender, age and previous TB diagnosis, using proportions and unadjusted odds ratios. Logistic regression was used to assess the association between site of disease and time since entry to the UK, adjusted for significant confounders.

**Results** A total of 86,754 cases had complete information for site of disease and place of birth. Of these, 46,284 (53%) cases had ETB increasing from 47% in 2000 to 58% in 2011. ETB was more common amongst the non-UK born (61%) compared with UK-born TB cases (36%). Cases who entered the UK more than one year ago were almost 3 times more likely to have ETB compared to UK born cases after adjusting for sex, age, ethnicity and previous TB diagnosis (aOR 2.98, 95% CI 2.89–3.07). Females (OR 1.22 95% CI 1.18–1.26), adults aged 30–60 years and individuals of black African/Indian subcontinent ethnicities were significantly more likely to have ETB.

**Conclusions** ETB was associated with being non-UK born, having entered the UK more than a year before diagnosis, female gender, age 30–60 years, and ethnic group. Conveying our findings to healthcare workers in the UK may improve awareness of ETB in specific populations, which could help lead to earlier diagnosis.

## S57 DIABETES AND LATENT TUBERCULOSIS INFECTION: NESTED CASE-CONTROL STUDY WITHIN THE PREDICT COHORT

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10.1136/thoraxjnl-2013-204457.64

**Background** Diabetes is associated with an increased risk of tuberculosis disease, but it is unclear whether a similar association exists between diabetes and latent tuberculosis infection (LTBI).

**Methods** The ongoing UK PREDICT (Prognostic Evaluation of Diagnostic IGRAs Consortium) cohort study aims to recruit 10,000 participants to assess the predictive values of interferon gamma release assays (IGRAs) for the development of active TB in recent entrants to the UK and contacts of active TB cases. We used a nested case-control design within the first 5000 recruits in this cohort, to investigate the association between diabetes and LTBI. Participants in PREDICT provide demographic, medical and social information, including any history of diabetes. LTBI is detected using the two commercially available IGRAs, Quantiferon Gold In-Tube and TSpot.*TB*. Cases were individuals who tested positive on either or both IGRAs; controls were negative on both assays (or negative on one and indeterminate on the other). Logistic regression was used to estimate odds ratios and adjust for potential confounders. Assuming a 5% diabetes prevalence, 1084 cases and 3252 controls would allow the detection of a 1.5-fold increase of LTBI with 80% power and 5% error.

**Results** Overall, 1388/4730 (29%) had a positive IGRA. 286/4730 (6%) reported a history of diabetes. Amongst diabetic participants, 168 used insulin and/or oral hypoglycaemic medications and 25 reported control through diet alone (1 participant was being monitored only and for 92 the level of control was unknown). Univariate analysis found an association between diabetes and LTBI (OR = 1.45 [95% CI 1.13–1.86], p = 0.003). After adjustment for age, this association was no longer apparent (OR = 1.15 [95% CI 0.88–1.50], p = 0.30). Adjustment for other variables in addition to age (sex, ethnicity, birthplace outside the UK, previous contact with a TB case, or previous TB diagnosis) did not substantially change the estimated age-adjusted