Introduction
THERAPEUTIC OPTIONS FOR CHILDREN WITH SEVERE ASTHMA

Objective
To determine the short-term (16 weeks) and long-term (beyond 16 weeks) efficacy of omalizumab, and predictors of a successful therapeutic response in children with STRA in a clinical setting.

Methods
This was an observational, prospective study of children with STRA who were commenced on omalizumab. Spirometry, bronchodilator reversibility (BDR), exhaled nitric oxide (FeNO), asthma control test (ACT), mini-AQLQ-related quality of life questionnaire, severe exacerbations (requiring a course of oral corticosteroids (OCS) for ≥3 days) and number of unscheduled healthcare visits (UHCV) and hospital admissions were recorded before and every 4 weeks after commencing treatment. Every 16 weeks, patients underwent a more thorough assessment to determine if the treatment should be continued.

Results
33 children (22 male) aged 5–16 years were commenced on omalizumab. At 16 weeks there were significant improvements in mini-AQLQ; ACT; FeNO; maintenance OCS dose; severe exacerbations and UHCVs.

20/33 (60.6%) children continued omalizumab beyond the initial 16 weeks (up to 192 weeks). Compared to those who discontinued, at baseline these children had higher mini-AQLQ (4.28 vs. 3.05) and ACT (11 vs. 8), were younger (11 vs. 13 years) and were more likely to have been admitted to hospital (57.9% vs. 0%) and have had a severe exacerbation (95% vs. 50%) in the 16 weeks before starting omalizumab. Maximal reduction in number of exacerbations and hospital admissions was evident at 32 weeks; this was maintained for up to 144 weeks (Figure 1).

Conclusion
This is the first longitudinal study demonstrating long-term clinical efficacy of omalizumab as add-on therapy in children with STRA. Omalizumab was most effective in those with an exacerbation-prone phenotype at baseline, highlighting the importance of thorough patient characterisation when considering this treatment option.

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Figure 1. Number of exacerbations (A) and incidence of hospital admissions (B) over time during treatment with omalizumab in children with severe therapy resistant asthma. Data shown is only for those who continued omalizumab beyond 16 weeks. Median and range shown for continuous data.
time of TB diagnosis. Values at the two time points were compared using Student’s paired t-tests.

Results Thirty-one participants were followed up between August 2012 and February 2013. Serum 25(OH)D concentrations were significantly higher post-recovery than at diagnosis (mean 29.7 vs. 12.2 nmol/L, p < 0.0001). Participants also had higher mean serum concentrations of PTH, corrected calcium and 24,25(OH)2D post-recovery than at diagnosis (PTH, 4.97 vs. 2.78 pmol/L, p = 0.0003; corrected calcium, 2.50 vs. 2.45 mmol/L, p = 0.03; 24,25(OH)2D, 3.15 vs. 1.53 nmol/L, p = 0.004). No statistically significant differences in serum concentrations of 1,25(OH)2D, 25(OH)2D or DBP were seen between the two time points. Differences in serum concentrations of 25(OH)D at follow-up vs. baseline remained statistically significant after exclusion of 14 participants who were taking supplemental vitamin D at follow-up and/or who had increased their sun exposure since time of diagnosis (p = 0.003), and after exclusion of 17 participants whose baseline sample was taken from March to July inclusive (p = 0.0003).

Conclusions Vitamin D status of TB patients improved after resolution of tuberculosis. This phenomenon was not explained by differences in vitamin D supplementation, self-reported sun exposure or season of sampling at follow-up vs. baseline. Our findings raise the possibility that vitamin D deficiency may be a consequence, as well as a cause, of active tuberculosis.

**P91** INCORPORATING TUBERCULOSIS STRAIN TYPING DATA INTO ROUTINE CONTACT TRACING INVESTIGATIONS: EXPERIENCE FROM THE FIELD

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In this developed world setting, mTB is not uncommon. Although there was a high prevalence of co-existing neurological involvement, overall mortality was low. Undertaking diagnostic procedures for culture is important and has a high yield. Early treatment may have resulted in improved outcomes and the lymphocyte:monocyte ratio may help to monitor response to treatment in miliary TB.