

certain design limitations. The data were obtained during the run-in for another study (Cowan *et al*, *Thorax* Published Online First: 23 September 2010. doi:10.1136/thx.2010.144592). However, the principal finding remains: while we agree that the presence of airway eosinophilia is a reliable predictor of steroid responsiveness, the absence of eosinophilia does not accurately predict steroid unresponsiveness. Whether intentionally or not, these authors imply that only patients with demonstrable sputum eosinophilia are steroid responsive. This is not the case.

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## Potential risk factors for recurrence of pulmonary tuberculosis

Among UK residents of South Asian descent potential risk factors for pulmonary tuberculosis (PTB) and, possibly, also for its recurrence, include vitamin D deficiency (as proposed by Crofts *et al*),<sup>1</sup> the population-attributable fraction (PAF) for PTB attributable to diabetes mellitus,<sup>2</sup> and end-stage chronic kidney disease (CKD).<sup>3</sup> The PAF for PTB attributable to diabetes mellitus can be as high as 19.6% (95% CI 10.9% to 33.1%) and 14.2% (95% CI 7.1% to 26.5%) for UK Asian men and women, respectively, versus 6.9% (95% CI 3.1% to 12.4%) and 8.2% (95% CI 3.0% to 15.6%) for their white male and female counterparts, respectively.<sup>2</sup> Furthermore, in the presence of diabetes mellitus, recognition and treatment of PTB can be complicated by the fact that its radiographic stigmata can simulate those of lower lobe community-acquired pneumonia, and by the fact that median time to culture conversion may be significantly ( $p=0.03$ ) longer in subjects with diabetes than in their counterparts without diabetes.<sup>4</sup> Relative to their white counterparts, UK Asians also have a 13.66-fold higher risk of end-stage diabetic nephropathy,<sup>5</sup> end-stage CKD itself being associated with an acquired immunodeficiency state characterised by a 10- to 25-fold increase in risk of PTB.<sup>3</sup> When vitamin D deficiency complicates CKD<sup>6</sup> this might,

arguably, further compound the risk of PTB and its recurrence.

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## Authors' reply

In response to Dr Jolobe, our understanding of the epidemiology of tuberculosis in South Asians in the UK is that extrapulmonary disease is more common in this group.<sup>1</sup> South Asians are therefore not necessarily predisposed only to pulmonary tuberculosis and its recurrence but to tuberculosis in general. What is likely is that being immunocompromised in this population, arising potentially from vitamin D deficiency<sup>2</sup> and type 2 diabetes,<sup>3</sup> is the important risk factor for tuberculosis and its recurrence. We therefore agree that diabetes could be another reason why South Asians appear to be at greater risk than other groups for recurrence of tuberculosis, but not necessarily just pulmonary forms of the disease. Although we have discussed potential factors associated with recurrence,<sup>4</sup> national surveillance does not collect information on diabetes precluding us from assessing its role.

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## Mains-powered hypoxic gas generation: a cost-effective and safe method to evaluate patients at risk from hypoxia during air travel

For the evaluation of patients at risk of hypobaric hypoxia during air travel, the British Thoracic Society Recommendations describe the normobaric hypoxic challenge as a substitute for the use of hypobaric chambers, which are not widely available.<sup>1</sup>

In the normobaric hypoxic challenge, breathing 15% oxygen at sea level replicates the reduced  $P_{O_2}$  in ambient air at 8000 ft (2438 m), the maximum permissible cabin altitude during commercial flight. This method has been shown to produce results comparable with those obtained using hypobaric chambers and oxygen desaturation similar to that found in patients with chronic obstructive pulmonary disease (COPD) during flight.<sup>2,3</sup> The methods described in the British Thoracic Society Recommendations include using a cylinder of 15% oxygen in nitrogen, delivered by either a breathing circuit or a body box. Alternatively, a cylinder of nitrogen may be used to drive a 40% Venturi mask resulting in a fractional inspired oxygen ( $F_{iO_2}$ ) of 15%. As pure nitrogen is an asphyxiant gas,  $F_{iO_2}$  can fall dangerously low if Venturi mask ports become blocked or the nitrogen concentration becomes too high in an enclosed space. Furthermore, these