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.

D C Cowan,¹ D R Taylor²

¹University of Otago, Dunedin, New Zealand; ²University of Otago Medical School, Department of Medicine, Dunedin School of Medicine, Dunedin, New Zealand

Correspondence to D C Cowan, University of Otago, PO Box 913, Dunedin 9001, New Zealand; douglas.cowan@stonebow.otago.ac.nz

Competing interests None.

Provenance and peer review Not commissioned; not externally peer reviewed.

Accepted 27 July 2010

Published Online First 14 October 2010

Thorax 2011;**66**:730–731.
doi:10.1136/thx.2010.147975

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*),¹ the population-attributable fraction (PAF) for PTB attributable to diabetes mellitus,² and end-stage chronic kidney disease (CKD).³ 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.² 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.⁴ Relative to their white counterparts, UK Asians also have a 13.66-fold higher risk of end-stage diabetic nephropathy,⁵ end-stage CKD itself being associated with an acquired immunodeficiency state characterised by a 10- to 25-fold increase in risk of PTB.³ When vitamin D deficiency complicates CKD⁶ this might,

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

Oscar Jolobe

C/o John Rylands University Library, Oxford Road, Manchester, UK

Correspondence to Oscar M P Jolobe, 1 Philip Godlee Lodge, 842 Wilmslow Road, Manchester M20 2DS, UK; oscarjolobe@yahoo.co.uk

Competing interests None.

Provenance and peer review Not commissioned; not externally peer reviewed.

Accepted 23 August 2010

Published Online First 21 June 2011

Thorax 2011;**66**:731.

doi:10.1136/thx.2010.145730

REFERENCES

1. Crofts JP, Andrews NJ, Barker RD, *et al*. Risk factors for recurrent tuberculosis in England and Wales 1998–2005. *Thorax* 2010;**65**:310–14.
2. Raleigh VS, Walker C, Unwin N. Estimates of the impact of diabetes on the incidence of pulmonary tuberculosis in different ethnic groups in England. *Thorax* 2010;**65**:578–81.
3. Milburn H, Ashman N, Davies P, *et al*; on behalf of the British Thoracic Society Standards of Care Committee. Guidelines for the prevention and management of mycobacterium tuberculosis infection and disease in adult patients with chronic kidney disease. *Thorax* 2010;**65**:559–70.
4. Dooley K, Chaisson RE. Tuberculosis and diabetes mellitus: convergence of two epidemics. *Lancet Infect Dis* 2009;**9**:737–46.
5. Burden AC, McNally PG, Feehally J, *et al*. Increased incidence of end-stage renal failure secondary to diabetes mellitus in Asian ethnic groups in the United Kingdom. *Diabet Med* 1992;**9**:641–5.
6. Petchey WG, Hickman IJ, Duncan E, *et al*. The role of 25-hydroxyvitamin D deficiency in promoting insulin resistance and inflammation in patients with chronic kidney disease: a randomised controlled trial. *BMC Nephrol* 2009;**10**:41.

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.¹ 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 deficiency² and type 2 diabetes,³ 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,⁴ national surveillance does not collect information on diabetes precluding us from assessing its role.

Jonathan P Crofts, Ibrahim Abubakar

Tuberculosis Section, Health Protection Agency Centre for Infections, London, UK

Correspondence to Mr Jonathan Crofts, Health Protection Agency Centre for Infections, 61 Colindale Avenue, London NW9 5EQ, UK; jonathan.crofts@hpa.org.uk

Competing interests None.

Provenance and peer review Not commissioned; not externally peer reviewed.

Accepted 25 August 2010

Published Online First 21 June 2011

Thorax 2011;**66**:731.

doi:10.1136/thx.2010.149823

REFERENCES

1. Kruishaar ME, Abubakar I. Increase in extrapulmonary tuberculosis in England and Wales 1999–2006. *Thorax* 2009;**64**:1090–5.
2. Martineau AR, Leandro AC, Anderson ST, *et al*. Association between Gc genotype and susceptibility to tuberculosis is dependent on vitamin D status. *Eur Respir J* 2010;**35**:1106–12.
3. Walker C, Unwin N. Estimates of the impact of diabetes on the incidence of pulmonary tuberculosis in different ethnic groups in England. *Thorax* 2010;**65**:571–2.
4. Crofts JP, Andrews NJ, Barker RD, *et al*. Risk factors for recurrent tuberculosis in England and Wales 1998–2005. *Thorax* 2010;**65**:310–14.

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.¹

In the normobaric hypoxic challenge, breathing 15% oxygen at sea level replicates the reduced PO_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.^{2,3} 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 (FiO_2) of 15%. As pure nitrogen is an asphyxiant gas, FiO_2 can fall dangerously low if Venturi mask ports become blocked or the nitrogen concentration becomes too high in an enclosed space. Furthermore, these