even more difficult in such circumstances, especially if profound hypoxaemia exists. Fortunately, at least 30% of patients meeting the criteria for domiciliary oxygen after 1 month of apparent stability no longer met the same criteria after an additional 3 months of observation.¹³

In the last 25 years there have been exciting advances in the management of chronic lung diseases. Therapeutic modalities effective in reducing COPD related impairments have received attention, often in randomised trials. Such is the case for home oxygen therapy which is tertiary prevention. Early detection and intervention on individuals at risk for the late consequences of COPD (secondary prevention) and continuing antismoking campaigns (primary prevention) must not be forgotten. Smoking cessation falls into the latter two categories. Otherwise the cost effectiveness of our tertiary prevention interventions may be jeopardised.

Thorax 2006;**61**:374–375.
doi: 10.1136/thx.2006.060749

Authors' affiliations

Y Lacasse, J LaForge, F Maltais, Medical Directors, Respiratory Home Care Programme, Centre de Recherche, Centre de Pneumologie, Hôpital Laval, Institut universitaire de cardiologie et de pneumologie de l'Université Laval, Québec, Canada

Correspondence to: Dr Y Lacasse, Centre de Pneumologie, Hôpital Laval, 2725 Chemin Ste-Foy, Ste-Foy, Québec, G1V 4G5, Canada; Yves.Lacasse@med.ulaval.ca

Funding: none.

Competing interests: none declared.

REFERENCES

- 1 **West GA**, Primeau P. Nonmedical hazards of long-term oxygen therapy. *Respir Care* 1983;**28**:906–12.
- 2 **Cornette A**, Petitdemange I, Briancon S, *et al*. Assessment of smoking in patients with severe chronic respiratory failure treated with oxygen for long periods at home (in French). *Rev Mal Respir* 1996;**13**:405–11.
- 3 **Lacasse Y**, Lecours R, Pelletier C, *et al*. Randomised trial of ambulatory oxygen in oxygen-dependent COPD. *Eur Respir J* 2005;**25**:1032–8.
- 4 **Medical Research Council Party**. Long-term domiciliary oxygen therapy in chronic hypoxic
- cor pulmonale complicating chronic bronchitis and emphysema. *Lancet* 1981;*i*:681–6.
- 5 **Nocturnal Oxygen Therapy Trial Group**. Continuous or nocturnal oxygen therapy in hypoxemic chronic obstructive lung disease: a clinical trial. *Ann Intern Med* 1980;**93**:391–8.
- 6 **McSweeney AJ**, Grant I, Heaton RK, *et al*. Life quality of patients with chronic obstructive pulmonary disease. *Arch Intern Med* 1982;**142**:473–8.
- 7 **British Thoracic Society**. Information on the new home oxygen service. London: British Thoracic Society, 2006. Available at <http://www.brit-thoracic.org.uk>.
- 8 **Royal College of Physicians**. Domiciliary oxygen therapy services: clinical guidelines and advice for prescribers. London: Royal College of Physicians, 1999.
- 9 **Calverley PM**, Leggett RJ, McDerry L, *et al*. Cigarette smoking and secondary polycythemia in hypoxemic cor pulmonale. *Am Rev Respir Dis* 1982;**125**:507–10.
- 10 **Wijkstra PJ**, Guyatt GH, Ambrosino N, *et al*. International approaches to the prescription of long-term oxygen therapy. *Eur Respir J* 2001;**18**:909–13.
- 11 **Guyatt GH**, McKim DA, Austin P, *et al*. Appropriateness of domiciliary oxygen delivery. *Chest* 2000;**118**:1303–8.
- 12 **Lacasse Y**, Ferreira IM, Brooks D, *et al*. Critical appraisal of clinical practice guidelines targeting chronic obstructive pulmonary disease. *Arch Intern Med* 2001;**161**:69–74.
- 13 **Levi-Valensi P**, Weitzenblum E, Pedinielli JL, *et al*. Three-month follow-up of arterial blood gas determinations in candidates for long-term oxygen therapy: a multicentric study. *Am Rev Respir Dis* 1986;**133**:547–51.

LUNG ALERT

Vitamin D3 and response to glucocorticoids in steroid resistant asthmatics

▲ **Xystrakis E**, Kusumakar S, Boswell S, *et al*. Reversing the defective induction of IL-10 secreting regulatory T cells in glucocorticoid-resistant asthma patients. *J Clin Invest* 2006;**116**:146–55

This study showed that human IL-10 secreting regulatory T cells (Tregs) inhibit cytokine production from allergen specific Th2 cells in an IL-10 dependent manner. They therefore have the capacity to inhibit the immune response implicated in the pathogenesis of asthma. In steroid resistant asthmatics the failure of T cells to significantly induce IL-10 synthesis in response to dexamethasone was enhanced by the addition of vitamin D3. This restored levels of IL-10 to those seen in steroid sensitive individuals stimulated by dexamethasone alone. Potential mechanisms were explored and it was shown that dexamethasone downregulated glucocorticoid receptor expression, which could be reversed by the addition of vitamin D3. In addition, IL-10 was shown to increase glucocorticoid receptor expression. This suggests potential mechanisms by which poor glucocorticoid responsiveness can be overcome. Oral administration of vitamin D3 in seven steroid resistant asthmatics enhanced the IL-10 response to dexamethasone.

The authors conclude that induction of IL-10 synthesis may contribute to the clinical efficacy of glucocorticoid therapy in asthma. Patients who fail to respond clinically to glucocorticoids also fail to respond *ex vivo* to induction of IL-10 synthesis and this may be useful as a predictive tool. Induction of IL-10 secreting Tregs in this group of glucocorticoid resistant patients is an appealing therapeutic area. Vitamin D3 enhances IL-10 synthesis in glucocorticoid resistant patients, and there may be potential benefit in administering vitamin D3 in asthmatic patients other than as prophylaxis against glucocorticoid induced osteoporosis.

S Kon

Clinical Fellow, University College Hospital, London, UK; Samanthakon@aol.com