

PostScript

LETTERS TO THE EDITOR

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Management of COPD

In their recent review¹ MacNee and Calverley provided an excellent summary of the management of COPD. However, I question their assertions regarding domiciliary oxygen. Citing the work of Gorecka *et al*² and Chaouat *et al*,³ it is stated that domiciliary oxygen does not benefit patients with relatively mild hypoxaemia or isolated nocturnal desaturation.

Gorecka *et al* studied 135 patients with oxygen tension 7.4–8.7 kPa (56–65 mm Hg) randomised to domiciliary oxygen versus control.² As previously noted, this study was underpowered to detect potential significant mortality benefits.⁴ According to the method of Collett,⁵ the study had an 80% power (with 0.05 two tailed alpha) to detect a hazard ratio (HR) for death of 0.44. This HR is lower than those reported in studies of patients with severe hypoxaemia (HR 0.52, 0.67).^{6,7} The potential benefit of domiciliary oxygen in less hypoxaemic patients might be estimated with an HR of 0.7–0.9, requiring several thousand patients.⁴

Chaouat *et al* classified 94 mildly hypoxaemic patients (daytime oxygen tension 7.4–9.2 kPa [56–69 mm Hg]) as desaturators

(≥30% nocturnal recording time with saturation <90%) and non-desaturators.³ Mean pulmonary artery pressure (PAP) was similar in both groups and there was no association between nocturnal desaturation and PAP. This cross sectional design cannot provide evidence regarding the contribution of nocturnal desaturation to pulmonary hypertension. A prospective cohort study of adequate sample size and duration could refute this hypothesis (if desaturators did not develop pulmonary hypertension), while a randomised trial of oxygen versus control would be required to prove the hypothesis correct.

Given that domiciliary oxygen is the only treatment that has been proved to decrease mortality in COPD, we should not assume that the absence of evidence equates to evidence of absence of benefit in a broader patient population. An alternative position is that additional studies in patients with mild hypoxaemia and nocturnal desaturation are needed.⁸

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Authors' reply

We thank Dr Marras for his comment on our review. It is true that we have based our assertions on the use of domiciliary oxygen in patients with mild COPD on the two published papers which provide no evidence to support the use of oxygen therapy in COPD patients with relatively mild hypoxaemia or isolated nocturnal desaturation. We understand the criticisms expressed by Dr Marras of the studies by Gorecka *et al* and Chaouat *et al* based on statistical analysis which he has made previously.¹ We agree that absence of evidence does not equate to evidence of absence of benefit, but we cannot recommend oxygen for this group of patients in the absence of any evidence, a view which has been taken by the most recent evidence based guidelines on the management of COPD.²

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