al. recently published a summary explaining the conflicting results [*Thorax* 2012]. The duration of CPAP, patient age, comorbidities, and the severity of OSA and intermittent hypoxia all appear to be critical factors in the relative success of CPAP in treating OSA.

Statin Use Improves Respiratory-Related Mortality in Patients With COPD

Written by Phil Vinall

There is mounting evidence for an association between statin use and reduced all-cause mortality among patients with chronic obstructive pulmonary disease [Lahousse L et al. *Pulm Pharmacol Ther* 2013; Young RP et al. *Eur Respir Rev* 2009; Janda S et al. *Chest* 2009; Young RP et al. *Postgrad Med J* 2009]. Robert P. Young, MD, PhD, University of Auckland, Auckland, New Zealand, presented results from an observational study indicating that this benefit is of particular significance in terms of respiratory-related mortality.

Prof. Young reported the results of a subanalysis of the data from a recent study, which reported a 30% reduction (HR, 0.69; 95% CI, 0.58 to 0.84; p<0.01) in all-cause mortality after 4 years of follow-up in COPD patients taking statins [Lawes CM et al. *Prim Care Respir J* 2012]. The study comprised 1687 patients (596 statin users; 1091 nonusers; mean age 70.6 years) who were admitted to any New Zealand public hospital during 2006 and had a discharge diagnosis of first episode of COPD. Cases of COPD were identified through national hospital codes. Medication usage was based on a national drug-dispensing database and outcomes for those patients taking statins were compared with patients not taking statins, adjusted for confounding using a propensity score approach. Cause of death was ascertained through death certificate documentation up to the end of 2012 and sub-grouped (respiratory, cardiovascular, and other deaths).

Statin users were significantly more likely to be men (58.4%) and to have a history of cardiovascular disease (58.6%) compared with non-statin users (48.5% and 25.1%, respectively; both p<0.001). Significantly more statin users were taking furosemide (which was used as a proxy for heart failure; 47.7% vs 24.5%) and significantly more had been diagnosed with diabetes (35.4% vs 11.6%; both p<0.001) than statin non-users. The proportion of deaths was similar between the two groups: 242 deaths (40.6%) in the statin group versus 429 deaths (39.3%) among those non-statin users. After adjustment for age, sex, ethnic group, history of cardiovascular disease, diabetes, and prescription for furosemide, the hazard ratio for statin users versus statin non-users for all-cause mortality was 0.69 (95% CI, 0.58 to 0.84; p<0.01).

For their follow-up analysis, Prof. Young and colleagues obtained the specific cause of death for those who died during the follow-up period of 6 years in the Lawes study [Lawes CM et al. *Prim Care Respir J* 2012]. A significant reduction was noted in respiratory death (chest infection, COPD exacerbation, pneumonia, respiratory failure) and "other deaths" with adjusted HRs of 0.55 and 0.55 respectively (95% CI, 0.43 to 0.78 and 0.35 to 0.85; p=0.0009 and p=0.008, respectively). Within the "other deaths" category there was a significant reduction in cancer deaths but no reduction in cardiovascular death.

The investigators concluded that statin therapy confers a benefit on mortality in COPD for respiratory complications leading to death. They noted that although two randomized studies of statin use in patients with COPD have shown significant improvement in exercise tolerance and quality of life [Lee T-M et al. *Am J Cardiol* 2008; McDonald VM et al. *Thorax* 2013] a reduction in mortality is even more important. The results of this study support the hypothesis that the systemic immune-modulatory effects of statins are beneficial in COPD and suggest a need for a randomized controlled trial to assess the role of adjunct statin therapy in reducing systemic and pulmonary inflammation in patients with COPD.

Addition of Spironolactone to Ambrisentan May Be a Novel Treatment Strategy to Improve Outcome in Patients With PAH

Written by Maria Vinall

Bradley Maron, MD, Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts, USA, presented the results of a retrospective study that demonstrated a trend toward additional clinical improvement when spironolactone was added to ambrisentan for the treatment of patients with pulmonary arterial hypertension (PAH).

In patients with PAH, levels of the mineralocorticoid hormone aldosterone are increased in the pulmonary arterial circulation and correlate positively with hemodynamic measures of pulmonary vascular remodeling [Maron BA et al. *Eur J Heart Fail* 2013]. In addition, results from recent basic and translational models of PAH suggest that hyperaldosteronism modulates a pulmonary vasculopathy by promoting endothelin receptor type-B (ET_B) dysfunction in pulmonary endothelial cells [Maron BA et al. *Circulation* 2012; Maron BA et al. *Am J Cardiol* 2013. In press], which is required for