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| **Long-term mortality in patients with chronic obstructive pulmonary disease requiring acute non-invasive ventilation with and without obstructive sleep apnoea** |
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| **Introduction/Aim:** COPD/OSA overlap syndrome (OVS) is associated with poor outcomes in studies conducted in ambulatory settings. However, little is known about the prognosis of patients hospitalised with acute hypercapnic respiratory failure (ARF) requiring NIV. The aim of this study was to compare the long-term prognosis of OVS patients compared to patients with COPD.**Methods:** In this retrospective cohort study, 129 patients with COPD and 52 OVS patients were treated with NIV for ARF and followed up for a median of 1.8 years (IQR 3.8). We compared patient characteristics and overall survival.**Results:** Compared to patients with COPD alone, OVS patients had higher prevalence of hypertension and type-2 diabetes mellitus. There was no difference in arterial pH, PaCO2 or serum bicarbonate at hospital presentation. Mortality was lower in OVS (HR 0.57, 95% CI 0.38-0.85) and remained lower after adjustment for age, gender, BMI, FEV1%predicted and comorbid cardiovascular disease. Median survival in OVS patients discharged home on NIV was significantly higher compared to OVS not discharged on therapy, as well as COPD patients, irrespective of home therapy prescription (p<0.01). **Conclusion:** OVS patients discharged on NIV had lower mortality compared to patients not discharged on NIV. Patients with COPD and ARF requiring NIV have overall higher mortality rates compared to OVS patients. These findings suggest that following hospital admission with ARF, OVS patients may benefit from ongoing home NIV.**Grant Support:** Nil. |