

Results 41 patients with COPD were recruited (PLB n=22, control n=19); mean (SD) age 68 (11) years, mean (SD) FEV₁% predicted 47 (15.80)%. There was no statistically significant difference between groups in the primary outcome measures and in retrospect the RCT was insufficiently powered. Post hoc analysis found effect sizes for primary outcome measures were: CRQ-SR dyspnoea 0.05, mastery 0.48 and ESWT 0.44. For secondary outcome measures unpaired t-test showed a significant (p=0.02) reduction in oxygen desaturation on ESWT in favour of PLB group.

Conclusion This study showed PLB practised over 8 weeks resulted in reduced physiological stress with respect to oxygen desaturation when performing a standardised endurance walk. Additionally it raises questions regarding use of a health related quality of life dyspnoea tool when investigating PLB. To date beneficial effect of PLB on dyspnoea related to exercise has only been shown using the Borg breathlessness score (Nield *et al*, 2007).

NIV: COPD, neuromuscular disease and obesity

P266 LATE VENTILATION IS ASSOCIATED WITH HIGH IN-HOSPITAL MORTALITY IN PATIENTS HOSPITALISED WITH ACUTE EXACERBATIONS OF COPD

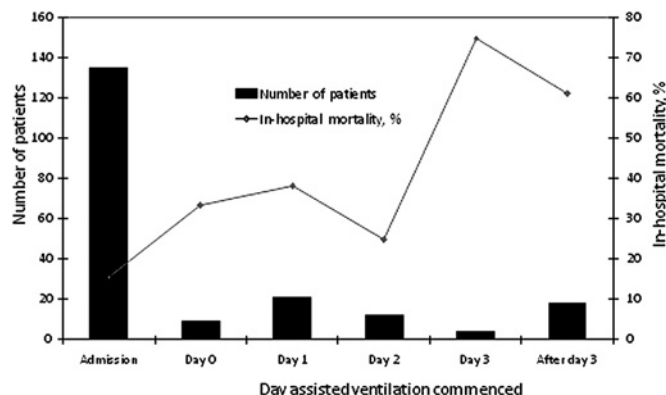
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Background Patients with severe acute exacerbations of COPD (AECOPD) often require treatment with non-invasive ventilation (NIV). The BTS audit reported that patients who develop respiratory acidosis and require NIV after 24 h in hospital have a high mortality risk but this relationship has not been investigated prospectively.¹

Methods Consecutive patients hospitalised with AECOPD and receiving assisted ventilation (NIV or IPPV) were identified. Demographic information, time from admission to commencement of ventilation, arterial blood gases at admission and at time of development of respiratory acidosis (if different), and outcomes of treatment were recorded.

Results 195 of 920 patients admitted with AECOPD were initially treated with NIV and four were ventilated invasively. Mean (SD) age was 73.6 (9.8) years, and most: were female (61.4%); had experienced frequent exacerbations in the previous year (median 3, IQR 1–4); were of normal weight (mean (SD) BMI 25.1 (7.0) kg/m²); and had severe airflow obstruction (mean (SD) FEV₁ 38.1 (16.1) % predicted). 27.6% of patients had received NIV previously for



Abstract P266 Figure 1 Time from admission to commencement of ventilation, and the associated in-hospital mortality.

treatment of AECOPD, and 81 (40.7%) patients had coexistent pneumonia on admission.

Median duration of ventilation was 4 days (IQR 1.5–5) and four of the patients who initially received NIV progressed to invasive ventilation. 49 (24.6%) patients died in-hospital. The risk of death increased with longer time from hospital admission to ventilation commencement (Abstract P266 figure 1), with more than 60% of patients who required ventilation after day 2 of their hospital admission not surviving to discharge.

Conclusion Mortality in AECOPD is particularly high in patients who deteriorate and require ventilation after day 2 of the admission. The time from admission to needing ventilation (NIV or IPPV) should inform clinicians considering the prognosis of patients hospitalised with AECOPD.

REFERENCE

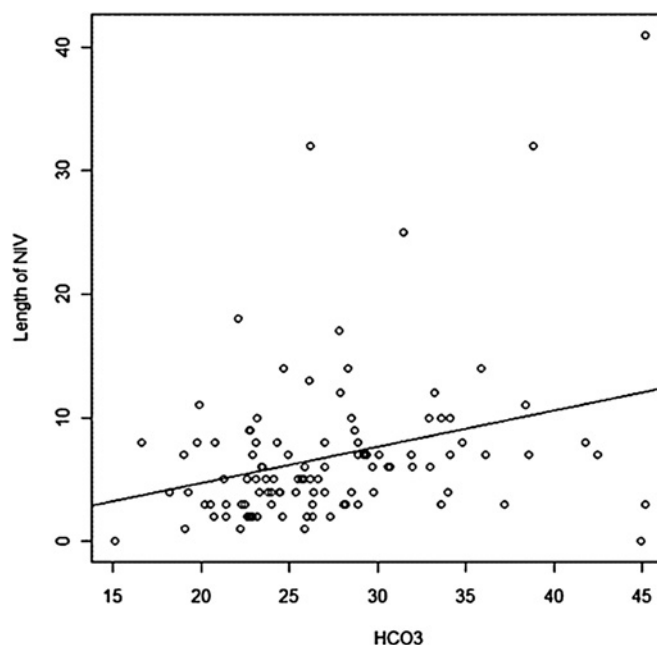
1. Roberts CM, Stone RA, Buckingham RJ, *et al*. Acidosis, non-invasive ventilation and mortality in hospitalised COPD exacerbations. *Thorax* 2011;**66**:43–8.

P267 ASSOCIATION OF THE LENGTH OF NON-INVASIVE VENTILATION (NIV) WITH ARTERIAL BICARBONATE LEVEL IN COPD PATIENTS WITH ACUTE HYPERCAPNIC RESPIRATORY FAILURE (AHRF)

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Introduction Following the British Thoracic Society (BTS) NIV audit 2011 we noted that our institution's length of stay was longer than the national average. Factors related to length of stay are complex and related to a lot of non-medical factors, however length (duration) of NIV treatment is not. Although the associations of mortality of COPD patients requiring NIV are well-documented (Non-invasive ventilation (NIV) in chronic obstructive pulmonary disease (COPD) exacerbations with AHRF with pH<7.26. Thomas



Abstract P267 Figure 1 Scatter plot of Length of NIV against HCO₃. p Value for HCO₃ is 0.00117, which suggests that HCO₃ is significant and has a positive effect on the length of NIV.