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Abstract Group: 2.2. Noninvasive Ventilatory Support
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Title: Co-morbidities and cardiovascular medications are the best predictors of mortality in patients with obesity-associated hypoventilation treated with long-term non-invasive ventilation

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Body: Rationale: NIV is largely used to treat patients with obesity-associated hypoventilation (OH). The impact of comorbidities, their medications and NIV compliance on survival of these patients remain unexplored. Methods: A Cohort of OH patients initiated on NIV between March 2003 and July 2008. Anthropometry, diurnal and nocturnal respiratory parameters, comorbidities, medications, conditions of NIV initiation and NIV compliance were used as covariates. Survival curves were estimated by the Kaplan–Meier method. Univariate and multivariate Cox models allowed estimating predictive factors of mortality. Results: In 107 patients (56% women, mean follow-up of 43±14 months) NIV was initiated in acute conditions in 36%. The 1, 2, 3-year survival rates were 99, 85, 82% respectively. In univariate analysis, death was associated with older age (>61 yrs), low FEV1 (<66% pred value), male gender, concomitant COPD, initiation of NIV in acute condition, use of inhaled corticosteroids, β-blockers, nonthiazide diuretics, angiotensin-converting-enzyme inhibitor and combination of cardiovascular agents (one diuretic and at least one other cardiovascular agent). In multivariate analysis, combination of cardiovascular agents was the only factor associated with a higher risk of death (HR= 5.3; 95% CI: 1.18; 23.9). In contrast, female gender was associated with a lower risk. Conclusion: Cardiovascular comorbidities represent the main factor predicting mortality in NIV-treated OH patients. In this population, NIV should be used among a combination of treatment modalities allowing a reduction in cardiovascular risk.