Title: Respiratory depressants among patients undergoing noninvasive ventilation for hypoxemic-hypercapnic acidosis: Prevalence and impact on prognosis

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Body: Medical records show frequent psychoactive drug treatments among the elderly with respiratory depression as a potential side effect. We evaluate their impact in patients undergoing noninvasive ventilation (NIV) for acute hypercapnic respiratory failure (AHRF) with acidosis. Methods: Prospective study in 103 consecutive admissions (71 M, age 74.9±9 yrs) starting NIV for AHRF with acidosis in a Monitoring Unit (Oct.08-Jan.12) Two groups based on previous therapy with psychoactive drugs and significant sedative effect. Variables: pH, pO₂, pCO₂, pO₂/FiO₂ at admission(1), 2h of NIV(2) and 24h of NIV(3); in-hospital mortality and combined in-hospital and 30-day post-discharge mortality, length of stay (LOS) and intubation %. We recorded main diagnosis and thoracic comorbidities. Stat. analysis: χ²/MWW. Results: 39 pts (37.9%) received sedatives: M 22.5%, F 71.8%; BZDs 89.7%. Main diagnosis (% sedatives): COPD 48 (25%), OHS 20 (55%), Acute heart failure 16 (56.2%), Pneumonia 7 (28.6%), Acute pulmonary edema 6 (66.7%), Chest wall deformities 4 (25%). Comorbidity 55.3%. Group analysis (sedatives vs no sedatives): Sex (M) 41% vs 85.9% (p<0.001); age 77.4±8.1 vs 73.5±9.3 (p<0.05) In-hospital mortality 17.9% vs 10.9% (NS); in-hospital±30d mortality 23.1% vs 14.1% (NS); COPD prevalence 30.8% vs 56.2% (p<0.05). NS differences in LOS, intubation %, pH and pCO₂ evolution between groups: pH1 7.27±0.08 vs 7.26±0.59; pH2 7.30±0.09 vs 7.32±0.07; pH3 ≥7.35 (both groups) Conclusions: We found a high prevalence of respiratory depressants in patients with AHRF. Sedatives may worsen prognosis and early response to NIV, especially in elderly female patients without COPD.