



Postoperative Complications in Patients With Unrecognized Obesity Hypoventilation Syndrome Undergoing Elective Noncardiac Surgery

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BACKGROUND: Among patients with OSA, a higher number of medical morbidities are known to be associated with those who have obesity hypoventilation syndrome (OHS) compared with OSA alone. OHS can pose a higher risk of postoperative complications after elective noncardiac surgery (NCS) and often is unrecognized at the time of surgery. The objective of this study was to retrospectively identify patients with OHS and compare their postoperative outcomes with those of patients with OSA alone.

METHODS: Patients meeting criteria for OHS were identified within a large cohort with OSA who underwent elective NCS at a major tertiary care center. We identified postoperative outcomes associated with OSA and OHS as well as the clinical determinants of OHS (BMI, apnea-hypopnea index [AHI]). Multivariable logistic and linear regression models were used for dichotomous and continuous outcomes, respectively.

RESULTS: Patients with hypercapnia from definite or possible OHS and overlap syndrome are more likely to experience postoperative respiratory failure (OR, 10.9; 95% CI, 3.7-32.3; $P < .0001$), postoperative heart failure (OR, 5.4; 95% CI, 1.9-15.7; $P = .002$), prolonged intubation (OR, 3.1; 95% CI, 0.6-15.3; $P = .2$), postoperative ICU transfer (OR, 10.9; 95% CI, 3.7-32.3; $P < .0001$), and longer ICU (β -coefficient, 0.86; SE, 0.32; $P = .009$) and hospital (β -coefficient, 2.94; SE, 0.87; $P = .0008$) lengths of stay compared with patients with OSA. Among the clinical determinants of OHS, neither BMI nor AHI showed associations with any postoperative outcomes in univariable or multivariable regression.

CONCLUSIONS: Better emphasis is needed on preoperative recognition of hypercapnia among patients with OSA or overlap syndrome undergoing elective NCS.

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