Functional Capacity as a Significant Independent Predictor of Postoperative Mortality for Octogenarian ASA-III Patients


Department of Anesthesiology, University at Buffalo, Buffalo, New York


BACKGROUND: The American Society of Anesthesiology’s (ASA) 6-point physical status classification remains one of the most significant predictors of perioperative morbidity and mortality and is the most widely used risk stratification tool worldwide. Its utility is significantly limited for octogenarians, however, as the majority of these patients are classified as ASA-III. Thus, for patients aged 80 or older, we hypothesized that incorporating patients’ functional status, defined by the ability to perform activities of daily living independently, would improve perioperative risk stratification.

METHODS: All data were extracted from the Veterans Affairs Surgical Quality Improvement Program, a perioperative prospectively maintained computerized database. ASA-III patients were reclassified into subgroups IIIA or IIIB, with IIIA representing functionally independent patients and IIIB representing partially or fully dependent patients. Functional status was self-reported during preoperative assessments. In this database, mortality data (primary outcome) was reliably available for all patients for the duration of the 96-month follow-up period, as were other perioperative patient data.

RESULTS: Seven hundred and fifty-nine (72.4%) patients were classified as ASA-III A, and 290 (27.6%) patients were ASA-IIIB. Thirty-day and long-term survival was significantly better in the ASA-III A group, irrespective of type of surgery (hazard ratio 1.87, confidence interval 1.55-2.25, p < .001). ASA-IIIB hazard ratios for mortality were greatest for orthopedic and vascular surgery patients, but a significant divergence in survival between ASA-III A and IIIB patients was observed in all surgical specialties.

CONCLUSION: As evidenced by Kaplan-Meier and multivariate analyses, functional capacity was a significant independent predictor of mortality for ASA-III patients older than 80 years of age.