BMI Associated With Short-Term Post-Op Mortality Rates

Body Mass Index (BMI) appears to be associated with 30-day mortality risk following surgical procedures, and patients with a BMI of less than 23.1 appear to be at highest risk of death, according to a report published Online First by *Archives of Surgery*, one of the JAMA/Archives journals.

"Recent reports suggest that the prevalence of obesity among U.S. adults has increased more than 100 percent since 1990," the authors write as background information in the article. "This analysis examines the relationship between obesity and surgical mortality." Using data from the American College of Surgeons National Surgical Quality Improvement Program, Florence E. Turrentine, Ph.D., R.N., and colleagues with the University of Virginia, Charlottesville, examined the relationship between BMI and 30-day mortality among 189,533 patients who underwent general or vascular surgical procedures at one of 183 sites in either 2005 or 2006.

Of the 189,533 patients included in the analysis, 3,245 died within 30 days of surgery. The authors found that the percentage of deaths among patients with a BMI less than 23.1 was over twice that of the percentage of deaths among patients with a BMI of 35.3 or higher. Additionally, patients with a BMI of less than 23.1 had statistically significant increased risk of death, with 40 percent higher odds of death than patients with mid-range BMI.

When examining data by procedure category, the authors also found that patients who underwent exploratory laparotomy had the highest percentage of death (13.9 percent) compared with patients in all other categories of principal surgery, and patients who underwent breast lumpectomy had one of the lowest overall mortality percentages (0.1 percent). The authors also found a statistically significant interaction between BMI and procedure category, indicating that the association between BMI and mortality was statistically different for patients who underwent these procedures (including colostomy, wound debridement, musculoskeletal system procedures, upper gastrointestinal procedures, colorectal resection, hernia repair, among others) compared with patients who underwent laparoscopy.

"These results indicate that BMI is a significant predictor of mortality within 30 days of surgery, even after adjusting for the contribution to mortality risk made by type of surgery and for a specific patient's overall expected risk of death," the authors conclude.

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