

The Obesity Paradox: Body Mass Index and Outcomes in Patients Undergoing Non-bariatric General Surgery

The Problem

There is widespread bias against obese individuals in healthcare settings that can adversely affect the quality of their medical care. Obesity has long been considered a risk factor for poor outcomes from a variety of surgical procedures yet data in support of this assumption are lacking. In fact, recent studies of critically and chronically ill patients suggest that overweight and obese patients may paradoxically have better outcomes than “normal” weight patients. Therefore, the regressive attitude about overweight and obese patients undergoing general surgery may not be justified.

Aim/Goal

We sought to examine the effect of body mass index (BMI) on 30-day morbidity and mortality in a large cohort of patients undergoing non-bariatric general surgery.

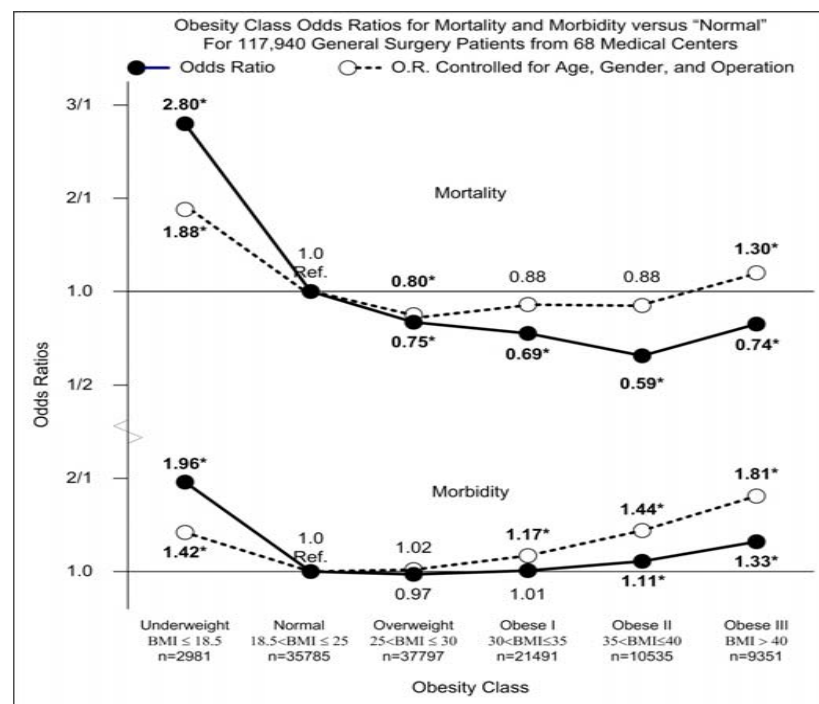
The Team

John Mullen, MD, Dept. of Surgery, BIDMC
Jonathan Mills, RN, QI Specialist, Dept. of Surgery, BIDMC
Matthew Hutter, MD, Dept. of Surgery, Massachusetts General Hospital
Daniel Davenport, PhD, Dept. of Surgery, University of Kentucky
Donald Moorman, MD, Dept. of Surgery, BIDMC

The Interventions

- Prospective, multi-institutional, risk-adjusted cohort study
- American College of Surgeons National Surgical Quality Improvement (NSQIP) participant use database from 2005 – 2006 queried
- 118,707 patients undergoing non-bariatric general surgery
- Outcomes and risk variables compared across NIH-defined BMI class using ANOVA, Bonferroni multiple comparisons of means tests, and multivariable logistic regression analysis

The Results



Lessons Learned and Next Steps

In patients undergoing non-bariatric general surgery, the underweight and morbidly obese are at increased risk of complications and death. Paradoxically, overweight patients have a lower risk of death than patients at a “normal” weight. There was a progressive increase in the likelihood of a complication with increasing obesity class, almost entirely due to increasing rates of wound infection. The regressive attitude about overweight and obese patients undergoing general surgery is not justified. Understanding the mechanisms of this “obesity paradox” as well as of the increased risk of wound infections amongst obese patients are important next steps to improve the quality of surgical care delivered to all of our patients.

