MP19-11: The role of BMI on Hospital Readmission after Minimally-invasive Radical Prostatectomy

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Introduction

Obesity is a significant problem in the United States, affecting approximately 60 million people. The number affected is projected to meet 50% of the population in 2030. Patient factors such as increased BMI can affect quality metrics like hospital readmission. Utilizing the National Surgical Quality Improvement Program Database (NSQIP), we sought to determine the relationship of BMI and readmission after minimally-invasive radical prostatectomy.

Methods/ Materials:

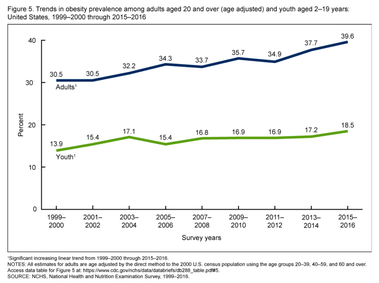
The Center for Disease Control (CDC) classifies obesity in a three-tiered manner based on Body Mass Index (BMI): I (30-34.9), II (34-39.9) and III (>40). Data for surgery years 2007-2017 were downloaded from the NSQIP and all records with Current Procedural Terminology (CPT) code 55866 were selected for inclusion. Association between BMI class and year of surgery was assessed using chi-square tests. Association between BMI (as a continuous measure) and readmission within 30 days was examined using logistic regression.

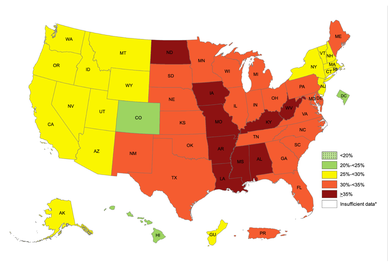
Results:

A total of 49,238 patients over 10 years (2007-2017) underwent minimally-invasive prostatectomy. Mean BMI for all years ranged from 28.5 to 29.2. 37.3% of patients who underwent surgery had BMI > 30. of patients were at least a BMI of 30. There were 13,130 Class I, 4,040 Class 2 and 1,180 Class 3 BMI patients. From 2007 to 2017 the proportion of patients with BMI ≥30 kg/m2 increased from 32% in 2007 to 38% in 2017 (P <0.0001). Risk of hospital readmission also increased as BMI increased (OR 1.16 per standard deviation increase in BMI; 95% CI 1.11 - 1.21; P<0.0001). Increasing severity of BMI (Class I, II and III) corresponded to an increase in the odds ratio for readmission (Table 1).

Conclusions:

Over a span of 10 years, an increasing number of patients undergoing minimally-invasive prostatectomy have a BMI > 30, which directly influences hospital readmission. In summary, urologists are increasingly operating on more obese patients and obesity negatively impacts quality metrics. Preoperative patient optimization and weight loss may be appropriate in select patients.





Figures 1&2: CDC trends for obesity over time and obesity by state.

Effect	Estimate	95% Confidence Limits	
Class I vs. BMI <30	1.112	1.045	1.184
Class II vs. BMI <30	1.257	1.142	1.384
Class III vs. BMI <30	1.731	1.486	2.015

Table 1. Odds ratios for readmission based on CDC class of BMI.

Acknowledgments:

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