Laparoscopic Bariatric Surgery May Reduce Long-Term Medication Costs

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Obesity is increasing in the United States and has associated health care costs, including prescription drugs. Some studies suggest that health care costs may be lower after bariatric surgery, whereas other studies show no long-term cost reductions.

John M. Morton, MD, MPH, Stanford University, Stanford, California, USA, described an administrative claims-based retrospective study with the objective of determining long-term differences in pharmacy cost and utilization for severely obese patients who underwent laparoscopic bariatric surgery, compared with a nonsurgical control group. The study used the Truven Health MarketScan Commercial Claims and Encounters database of employer- and health plan–sourced medical and drug data, representing approximately 56 million covered lives from all 50 US states in the most recent full year of data (2013) [Danielson E. *Truven Health Analytics.* 2014].

Patients with a diagnosis of obesity between January 1, 2007, and December 31, 2008, were included. For these purposes, obesity was defined as a body mass index (BMI) ≥ 40 kg/m^2, a BMI 35 to 40 kg/m^2 with an obesity-related comorbidity, or morbid obesity with an obesity-related comorbidity. Patients were required to have a claim with a procedure code for lap band or laparoscopic Roux-en-Y surgery in 2008 (index date). Nonsurgical controls had no bariatric surgery during the study period. Surgical patients and nonsurgical controls were aged ≥ 18 years and had no inflammatory bowel disease, familial adenomatous polyposis, noninfectious colitis, or a malignant neoplasm of digestive organs or peritoneum in the preindex period.

Controls were selected via sex, obesity category, and length of follow-up. Surgery patients were matched 1:1 with a control by propensity score according to a nearest-neighbor matching technique based on age, baseline diabetes diagnosis, baseline total costs, Deyo Charlson Comorbidity Index score, and geographic region. The final cohort included 2700 patients in each group, which were well matched.

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Cost and utilization outcomes during the 1-year baseline presurgical period and 4-year follow-up periods included total pharmacy costs, the cost of prescriptions, the proportion of patients with prescriptions, and the number of antidiabetic, antihypertensive, or other cardiac prescriptions.

Of the 2700 surgery patients, 1833 had laparoscopic Roux-en-Y and 867 had lap band. Unadjusted pharmacy costs were 17.7% lower among surgery patients. Total pharmacy costs for the 2 groups at baseline and at 4 years are shown in Table 1.

After adjusting for preindex period pharmacy costs and comorbidities, the 4-year pharmacy costs were 23% lower among surgery patients when compared with controls. The number of prescriptions for cardiovascular, antihypertensive, or antidiabetic drugs increased at year 4 for all patients, but the increase was lower for surgery patients. After multivariate adjustments, the number of antidiabetic, antihypertensive, and cardiovascular prescriptions (excluding antihypertensives) were 73.7%, 48.3%, and 48.9% lower, respectively, among surgery patients as compared with controls.

Limitations of this study include incomplete matching on all relevant characteristics of surgical and nonsurgical patients, the use of administrative data (which code poorly for obesity), the inclusion of commercial insurance only, the lack of laparoscopic sleeve gastrectomy data, and the lack of drug copay or supplemental insurance costs.

The results of this study suggest that significant and sustained long-term medication cost savings may be achieved 4 years postsurgery in obese patients undergoing laparoscopic bariatric surgery when compared to those not undergoing it.

Table 1. Total Pharmacy Costs, $US

Period	Surgery Patients	Nonsurgical Controls
1-y baseline presurgical	3098	2303
4-y postindex	8411	9900

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