Are Results of Bariatric Surgery Different in the Middle East? Early Experience of an International Bariatric Surgery Program and an ACS NSQIP Outcomes Comparison

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BACKGROUND: Bariatric operations performed at the Bariatric and Metabolic Institute Abu Dhabi are submitted randomly from the entire surgery volume at Sheikh Khalifa Medical City to the American College of Surgeons (ACS) NSQIP. Our aim is to report our early experience and compare our bariatric surgery outcomes with ACS NSQIP hospitals of similar size.

STUDY DESIGN: We queried the ACS NSQIP database for bariatric surgery codes between August 2009 and August 2012 for hospitals with >500 beds. Statistical analysis was performed ($p < 0.05$).

RESULTS: We performed 275 bariatric operations compared with a total of 29,715 at other NSQIP hospitals. The ACS NSQIP bariatric surgery cohort at the Bariatric and Metabolic Institute Abu Dhabi represents 275 of 312 (89.3%) of our entire bariatric surgery volume. Our patients were statistically significantly younger (mean age 36 vs 44.8 years), healthier (American Society of Anesthesiologists scores 1 to 2 in 78.6% vs 35.7%), and heavier (body mass index 47.4 vs 45.5). In addition, we had fewer diabetic (18.5% vs 27.3%) and hypertensive (21.1% vs 52.2%) patients. We performed more Roux-en-Y gastric bypass (69.8% vs 54.5%) and sleeve gastrectomy (24.8% vs 17.2%) and fewer laparoscopic adjustable gastric banding (0.8% vs 22.7%). Outcomes were similar with regard to rates of reoperation, wounds, urinary tract infection, bleeding, thromboembolic, respiratory, and overall complications. We had lower septic, cardiac, and renal failure complications; lower mortality, and longer hospital stay by 0.4 days. We achieved 94.9% 30-day follow-up compared with 90.7% at other ACS NSQIP hospitals.

CONCLUSIONS: This is the first report comparing outcomes of an international bariatric surgery program (Bariatric and Metabolic Institute Abu Dhabi) with ACS NSQIP bariatric surgery programs. Our outcomes are equivalent to ACS NSQIP bariatric surgery programs. (J Am Coll Surg 2013;216:1082−1088. © 2013 by the American College of Surgeons)

Bariatric surgery is safe in experienced hands, and outcomes of bariatric surgery vary depending on patient demographics and the experience of the bariatric surgery team.[1,2] The Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP) is a recently formed joint program of the American Society of Metabolic and Bariatric Surgery and the American College of Surgeons (ACS) NSQIP. The MBSAQIP, as the name implies, is tasked with accreditation and quality improvement of bariatric surgery programs in the United States. Currently, the MBSAQIP does not include any international bariatric surgery programs. In contrast, the ACS NSQIP includes hospitals in the United States, Canada, and 2 international hospitals. Our hospital (Sheikh Khalifa Medical City [SKMC]) is 1 of only 2 international ACS NSQIP−participating hospitals since August 1, 2009. As an ACS NSQIP hospital, our bariatric surgery

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Abbreviations and Acronyms

ACS = American College of Surgeons
BMI = body mass index
LAGB = laparoscopic adjustable gastric banding
LSG = laparoscopic sleeve gastrectomy
MBSAQIP = Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program
RYGB = Roux-en-Y gastric bypass
SKMC = Sheikh Khalifa Medical City
UAE = United Arab Emirates

program, the Bariatric and Metabolic Institute Abu Dhabi contributes bariatric surgery data on a random case selection to the ACS NSQIP on an 8-day cycle. The outcomes of international bariatric surgery programs compared with US bariatric surgery programs participating in MBSAQIP are unknown. We wanted to compare our early 3-year experience and outcomes of bariatric surgery at the Bariatric and Metabolic Institute Abu Dhabi with ACS NSQIP hospitals of similar size (>500 beds).

METHODS

Our objective was to examine outcomes data from all bariatric operations submitted to the ACS NSQIP from August 2009 to August 2012. To determine what percent of our total bariatric surgery volume these data represent, we reviewed our prospectively collected Bariatric and Metabolic Institute Abu Dhabi database to determine the total number of bariatric surgery cases done at the Bariatric and Metabolic Institute Abu Dhabi during the same time period. The bariatric operations included in the ACS NSQIP at SKMC are randomly selected on an 8-day cycle of case selection as determined by the ACS NSQIP. The ACS NSQIP includes >400 US hospitals, a few hospitals in Canada, and 2 outside of North American (SKMC and a site in Lebanon). The ACS NSQIP is a prospective risk-stratified database with 30-day follow-up. This 30-day follow-up feature is unique when compared with most administrative databases. The data submitted to ACS NSQIP are regularly recorded and collected at each site by an independent, trained, surgical clinical reviewer in a random fashion using a secure online website. Outcomes data in the ACS NSQIP include preoperative patient demographics, mortality, reoperation, and morbidity data points. However, it does not include bariatric-specific outcomes data, such as leak, stenosis, internal hernia, or excess weight loss data. One of the features available to participating sites in the ACS NSQIP is the ability to query the database. This tool makes it possible to query, analyze, and compare patients' preoperative variables and surgical outcomes between different enrolled sites.

Preoperative patient evaluation

Bariatric surgery at the Bariatric and Metabolic Institute Abu Dhabi is offered to qualifying patients according to the National Institutes of Health Consensus Statement.[2] All patients are evaluated by a psychologist at least once and by the surgical team and bariatric dietitians at least 2 to 3 times. Certain patients are evaluated by other members of the Bariatric and Metabolic Institute Abu Dhabi team, including cardiology, pulmonology, gastroenterology, and endocrinology. Other patients are discussed by the whole Bariatric and Metabolic Institute Abu Dhabi team during the monthly team meeting.

Our preoperative cardiac evaluation is done for all patient older than 50 years of age, patients with signs of cardiac disease (eg, short of breath on exertion, palpitations), and patients with a chronic history of certain obesity comorbid conditions (eg, hypertension, diabetes mellitus, dyslipidemia, and obstructive sleep apnea).

All bariatric procedures at the Bariatric and Metabolic Institute Abu Dhabi are performed by one fellowship-trained bariatric surgeon (AAN). Every candidate is counseled about the 3 available bariatric operations offered at the Bariatric and Metabolic Institute Abu Dhabi (ie, laparoscopic Roux-en-Y gastric bypass [RYGB], laparoscopic sleeve gastrectomy [LSG], and laparoscopic adjustable gastric banding [LAGB]). The options, specific risks, benefits, potential complications, and published failure/reoperation rates, and our preprinted detailed educational material, are discussed with all patients. The final choice for bariatric surgery is left for the patient to make after discussion with the bariatric surgeon. Certain subgroups, for example, diabetics, extreme superobese patients, and those with gastroesophageal reflux are encouraged to consider RYGB.

Because of the relative newness of the concept and nature of bariatric surgery in the community, monthly obesity public lectures are held to raise awareness and acceptance among the public and deal with common misconceptions and myths prevalent in the community. Theses public lectures serve as our support group as well.

Surgical technique

Laparoscopic Roux-en-Y gastric bypass is similar to the technique described by Higa and colleagues.[3] In summary, a 20-mL gastric pouch completely separated from the remnant of the stomach is anastomosed to retrocolic or antecolic antegastric 100 cm (or 150 cm if body mass index [BMI; calculated as kg/m^2] is >50) Roux limb hand sewn around a 34F tube. The jejunojejunostomy is