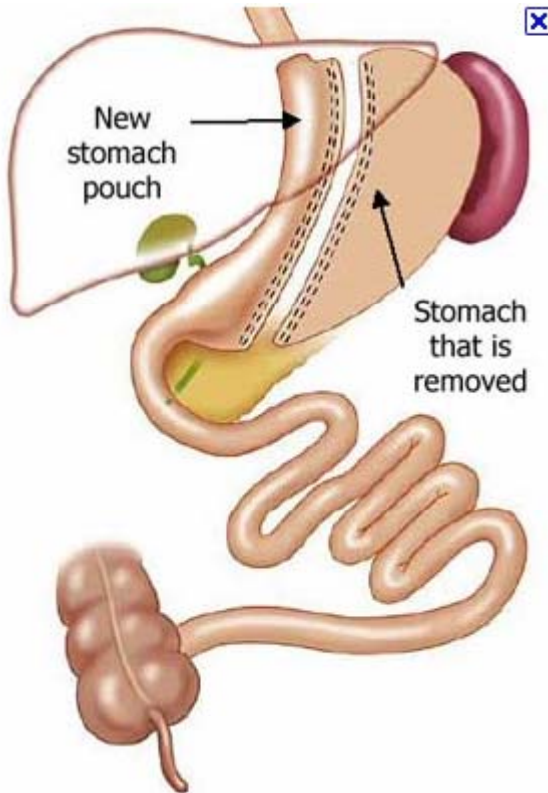




Abstracts from the current medical literature 11/2010
Compiled by Charles D. Callery, MD, FACS

Ann Surg. 2010 Aug;252(2):319-24.

Long-term results of laparoscopic sleeve gastrectomy for obesity.

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Comment in:

Nat Rev Endocrinol. 2010 Oct;6(10):534.

Abstract

OBJECTIVE: To determine the mid- and long-term efficacy and possible side effects of laparoscopic sleeve gastrectomy as treatment for morbid obesity.

SUMMARY BACKGROUND DATA: Laparoscopic sleeve gastrectomy is still controversial as single and final treatment for morbid obesity. Some favorable short-term results have been published, however long-term results are still lacking.

METHODS: In the period between November 2001 and October 2002, 53 consecutive morbidly obese patients who, according to our personal algorithm, were qualified for restrictive surgery were selected for laparoscopic sleeve gastrectomy. Of the 53 patients, 11 received an additional malabsorptive procedure at a later stage because of weight regain. The percentage of excess weight loss (EWL) was assessed at 3 and 6 years postoperatively. A retrospective review of a prospectively collected database was performed for evaluation after 3 years. Recently, after the sixth postoperative year, patients were again contacted and invited to fill out a questionnaire.

RESULTS: Full cooperation was obtained in 41 patients, a response rate of 78%. Although after 3 years a mean EWL of 72.8% was documented, after 6 years EWL had dropped to 57.3%, which according to the Reinhold criteria is still satisfactory. These results included 11 patients who had benefited from an additional malabsorptive procedure (duodenal switch) and 2 patients who underwent a "resleeve" between the third and sixth postoperative year. Analyzing the results of the subgroup of 30 patients receiving only sleeve gastrectomy, we found a 3-year %EWL of 77.5% and 6+ year %EWL of 53.3%. The differences between the third and sixth postoperative year were statistically significant in both groups. Concerning long-term quality of life patient acceptance stayed good after 6 + years despite the fact that late, new gastro-esophageal reflux complaints appeared in 21% of patients.

CONCLUSIONS: In this long-term report of laparoscopic sleeve gastrectomy, it appears that after 6+ years the mean excess weight loss exceeds 50%. However, weight regain and de novo gastroesophageal reflux symptoms appear between the third and the sixth postoperative year. This unfavorable evolution might have been prevented in some patients by continued follow-up office visits beyond the third year. Patient acceptance remains good after 6+ years.

Note: "Long-term" here refers to mean f/u of 3 years

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Surg Endosc. 2010 May;24(5):1005-10. Epub 2009 Oct 29.

Long-term effects of laparoscopic sleeve gastrectomy, gastric bypass, and adjustable gastric banding on type 2 diabetes.

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Abstract

BACKGROUND: This study aimed to compare the efficacy of laparoscopic sleeve gastrectomy (SG) with that of laparoscopic gastric bypass (GBP) and laparoscopic adjustable gastric banding (AGB) for glucose homeostasis in morbidly obese subjects with type 2 diabetes mellitus (T2DM) at a 3-year follow-up assessment and to elucidate the role of weight loss in the T2DM resolution after SG.

METHODS: For this study, 60 morbidly obese T2DM patients (44 females and 16 males) who underwent AGB (24 patients), GBP (16 patients), or SG (20 patients) between 1996 and 2008 were retrospectively analyzed. Age, sex, body mass index (BMI), estimated weight loss (EWL), fasting glycemia, HbA1c, euglycemic hyperinsulinemic clamp, discontinuation of diabetes treatment, and time until interruption of therapy were evaluated.

RESULTS: In the study, 54 patients received oral hypoglycemic agents for at least 12 months before surgery, and 6 patients received insulin. The mean follow-up period was 36 months. The resolution rate was 60.8% for the AGB patients, 81.2% for the GBP patients, and 80.9% for the SG patients. The postoperative time until interruption of therapy was 12.6 months for the AGB patients, 3.2 months for the GBP patients, and 3.3 months for the SG patients. The hyperinsulinemic euglycemic clamp test was performed 12 months after surgery for the cured patients. Insulin resistance was restored to normal values in all the patients. The greatest improvement from preoperative values occurred in the SG group. For the not-cured GBP and SG patients, an improvement of 120 mg/dl in fasting plasma glucose was observed 3 months after the surgery, suggesting an enhancement in insulin sensitivity, which determines better medical control. The resolution rate remained constant at the 36-month follow-up evaluation in both the GBP and SG groups.

CONCLUSIONS: All three bariatric procedures are effective in treating diabetes, with a 3-year follow-up evaluation showing an effect that lasts. The AGB procedure was the least effective. The antidiabetic effect was similarly precocious after GBP and SG compared with AGB. This difference may indicate that a hormonal mechanism may be involved, independent of weight loss.

PMID: 19866235 [PubMed - indexed for MEDLINE]

 Publication Types, MeSH Terms, Substances

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Obes Surg. 2010 Sep 11. [Epub ahead of print]

Laparoscopic Roux-en-Y Gastric Bypass Versus Laparoscopic Sleeve Gastrectomy for the Treatment of Morbid Obesity. A Prospective Study of 117 Patients.

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Abstract

Laparoscopic Roux-en-Y gastric bypass (LRYGB) is one of the most widely used bariatric procedures today, and laparoscopic sleeve gastrectomy (LSG) as a single-stage procedure for the treatment of morbid obesity is becoming increasingly popular. In this study, we prospectively compared both techniques in order to establish whether there is any superiority of one over the other based on morbidity and effectiveness. From January 2008 to December 2008, 117 obese patients with indication for bariatric surgery were assigned by patient choice after informed consent to either a LRYGB procedure ($n = 75$) or a LSG procedure ($n = 42$). We determined operative time, length of stay, morbidity, co-morbidity outcomes, and excess weight loss at 1 year postoperative. Both groups were comparable in age, sex, body mass index, and co-morbidities. Mean operative time of LSG was 82 min while LRYGB was 98 min ($p < 0.05$). Differences in length of stay, major complications, improvement in co-morbidities, and excess weight loss were not significant ($p > 0.05$). One year after surgery, average excess weight loss was 86% in LRYGB and 78.8% in LSG ($p > 0.05$). In the short term, both techniques are comparable regarding safety and effectiveness, so not one procedure is clearly superior to the other.

PMID: 20835778 [PubMed - as supplied by publisher]

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Obes Surg. 2010 Jan;20(1):1-6. Epub 2009 Oct 3.

Comparison between the results of laparoscopic sleeve gastrectomy and laparoscopic Roux-en-Y gastric bypass in the Indian population: a retrospective 1 year study.

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Abstract

BACKGROUND: Laparoscopic sleeve gastrectomy (LSG) is gaining popularity as a procedure for the treatment of morbid obesity. Its indications and long-term results are currently under evaluation. Initially started as a first-stage procedure for superobese patients, it is now emerging as a standalone procedure in Asia and other parts of the world. Early results suggest that, at the end of 1 year, weight loss and resolution of comorbidities with LSG is comparable to laparoscopic Roux-en-Y gastric bypass (LRYGB). Whether LSG alone can replace LRYGB as a standard bariatric procedure is questionable. The aim of this study is to compare the results, resolution of comorbidities, and complications between LSG and LRYGB.

METHODS: A retrospective comparative analysis was done of 50 patients in each arm who underwent LSG and LRYGB from October 2007 to March 2008. Both groups were matched for age, sex, and body mass index. The resolution of comorbidities, percentage of excess weight loss (EWL), and complications were studied at 6 months and 1 year in our study.

RESULTS: It was seen that resolution of most comorbidities such as type 2 diabetes, hypertension, dyslipidemia, sleep apnea, joint pains, and percentage of EWL in both groups was comparable at the end of 6 months and 1 year. Though early resolution of type 2 diabetes was seen to be better in the LRYGB group, the results matched up at 1 year. There was increased incidence of gastroesophageal reflux disease in LSG patients. On comparison, it was also observed that the Asian studies have shown better results with LSG when compared to studies done in a largely Caucasian population.

CONCLUSIONS: Long-term studies are needed to evaluate the efficacy of LSG alone as a procedure for the treatment of morbid obesity and its comorbidities.

PMID: 19802646 [PubMed - indexed for MEDLINE]

 Publication Types, MeSH Terms

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Expert Rev Gastroenterol Hepatol. 2010 Feb;4(1):101-19.

Sleeve gastrectomy: a new surgical approach for morbid obesity.

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Abstract

While obesity and morbid obesity have reached epidemic proportions worldwide, bariatric surgeons continue to develop safer and more efficacious procedures to battle this lethal disease. Sleeve gastrectomy, a relative new surgical approach, was initially conceived as a restrictive component of the biliopancreatic diversion and duodenal switch in the era of open bariatric surgery. With the advent of minimally invasive surgery in the late 1980s, laparoscopic sleeve gastrectomy (LSG) has been proposed as a step procedure in high-risk patients, followed by a second step Roux-en-Y gastric bypass or biliopancreatic diversion and duodenal switch and, recently, as a standalone bariatric approach. This article reviews the literature and reports the results achieved with LSG performed either as the initial operation for high-risk, high body mass index patients followed by a definitive weight loss operation, or used as a final viable alternative to other well-established bariatric procedures. An extensive literature review was conducted and the information currently available surrounding LSG, such as history, indications and contraindications, mechanism of weight loss, technique and outcomes and controversial issues are discussed. LSG is an accepted procedure for the surgical management of morbid obesity. It is gaining popularity as a primary, staged and revisional operation for its proven safety and simplicity, as well as short-term and mid-term efficacy. Excess weight loss and remission of comorbidities have been reported to take place in a frequency comparable with other well-established procedures. Despite all of the above-mentioned factors, long-term results and larger series are pending.

PMID: 20136593 [PubMed - indexed for MEDLINE]

 Publication Types, MeSH Terms

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Minerva Chir. 2009 Jun;64(3):285-95.

Sleeve gastrectomy.

Rosen DJ, Dakin GF, Pomp A.

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Abstract

Much has been published over the last few years about sleeve gastrectomy. It is a bariatric operation that has evolved from both established restrictive and malabsorptive procedures. Originally used as a bridge to definitive surgery in high-risk patients, it has recently been forwarded as a stand-alone procedure. Technical details of laparoscopic sleeve gastrectomy (LSG) vary, but the premise is removal of the vast majority of the stomach, especially the fundus, leaving only a thin gastric tube between the esophagus and the duodenum. This results in weight loss from restrictive as well as neurohormal mechanisms. Review of the literature reveals an average expected excess weight loss (EWL) of 61%. Morbidity and mortality seem to be on par with laparoscopic adjustable gastric banding (LAGB), but with superior weight loss results and an improved long-term complication profile. Unlike popular mixed malabsorptive procedures like Roux en-Y gastric bypass (RYGB) and biliopancreatic diversion with duodenal switch (BPD-DS), there is no gastrointestinal segment exclusion, maintaining continuity for endoscopic interventions and surveillance. Comorbidity resolution with LSG is variable, though compares favorably with other bariatric procedures. While the early results seem promising, long-term data is still needed to define the place of LSG within the bariatric surgery armamentarium.

PMID: 19536054 [PubMed - indexed for MEDLINE]

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Revisional surgery after sleeve gastrectomy.

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Abstract

INTRODUCTION: Worldwide, morbid obesity incidence has increased dramatically in the last decade and surgery is at this moment recognized as the only effective treatment with long-term sustained weight loss and resolution or significant improvement in comorbidities. Laparoscopic sleeve gastrectomy (LSG) was successfully carried out by several groups as a bridge to future laparoscopic bariatric procedures with acceptable weight loss and reduction in comorbidities. LSG is considered a safe procedure with sporadically reported complications, such as bleeding or leakage from the staple line, strictures, delayed gastric emptying, gastric dilatation and vomiting. The aim of this publication is to describe complications of this procedure analyze different treatments of these events especially the surgical ones, reporting the technical management based on our experience and on the literature.

MATERIAL AND METHODS: From March 2003 to December 2009, 294 patients underwent LSG in our Department. Complications are reported prospectively.

RESULTS: In our series 294 patients were operated and stapler line leak was observed in 11 patients (3.7%). The mean time from the first surgery up to the first reintervention was 15.6 ± 22 days (2 to 78). Only 2 patients (0.68%) had to be operated owing to severe reflux related with the sleeve gastrectomy and the symptomatology was solved with the gastric bypass. Intraabdominal bleeding was observed in 7 patients (2.38%), being reoperated 3 (1.02%) of them. All patients were reoperated by laparoscopic approach and the bleeding vessel was identified in all of them. We identified 3 of 294 patients with strictures (1.02%). One of them was located in the gastroesophageal junction and the other 2 had a central location. The patient with high stenosis required endoscopic dilatation and the other 2 were resolved by a gastric bypass cutting the stomach proximal to the stricture. The global mortality was 0%. All of the patients were reoperated by laparoscopy.

CONCLUSION: LSG is a feasible bariatric procedure carried out increasingly in the last few years with low postoperative complications. Regardless, the knowledge of the potential complications associated to LSG and their management is crucial for patient's safety.

Surg Obes Relat Dis. 2010 Aug 6. [Epub ahead of print]

Sleeve gastrectomy and type 2 diabetes mellitus: a systematic review.

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Abstract

BACKGROUND: Existing evidence has suggested that bariatric surgery produces sustainable weight loss and remission or cure of type 2 diabetes mellitus (DM). Laparoscopic sleeve gastrectomy (LSG) has garnered considerable interest as a low morbidity bariatric surgical procedure that leads to effective weight loss and control of co-morbid disease. The objective of the present study was to systematically review the effect of LSG on type 2 DM.

METHODS: An electronic data search of MEDLINE, PubMed, Embase, Scopus, Dare, Clinical Evidence, TRIP, Health Technology Database, Conference abstracts, clinical trials, and the Cochrane Library database was completed. The search terms used included LSG, vertical gastrectomy, bariatric surgery, metabolic surgery, and diabetes (DM), type 2 DM, or co-morbidities. All human studies, not limited to those in the English language, that had been reported from 2000 to April 2010 were included.

RESULTS: After an initial screen of 3621 titles, 289 abstracts were reviewed, and 28 studies met the inclusion criteria and the full report was assessed. One study was excluded after a careful assessment because the investigators had combined LSG with ileal interposition. A total of 27 studies and 673 patients were analyzed. The baseline mean body mass index for the 673 patients was 47.4 kg/m² (range 31.0-53.5). The mean percentage of excess weight loss was 47.3% (range 6.3-74.6%), with a mean follow-up of 13.1 months (range 3-36). DM had resolved in 66.2% of the patients, improved in 26.9%, and remained stable in 13.1%. The mean decrease in blood glucose and hemoglobin A1c after sleeve gastrectomy was -88.2 mg/dL and -1.7%, respectively.

CONCLUSION: Most patients with type 2 DM experienced resolution or improvement in DM markers after LSG. LSG might play an important role as a metabolic therapy for patients with type 2 DM.

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Laparoscopic Sleeve Gastrectomy-Radiological Assessment of Fundus Size and Sleeve Voiding.

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Abstract

BACKGROUND: Laparoscopic sleeve gastrectomy (LSG) is now considered an effective bariatric procedure (American Society for Metabolic and Bariatric Surgery statement). We attempted to assess the size of the gastric fundus remaining after LSG and gastric voiding rate (fast/slow) by radiological upper gastrointestinal series (UGS) with a water-soluble contrast medium (CM). The findings were compared with weight loss data.

METHODS: Seventy-four obese patients underwent LSG. Radiological UGS were used to measure the remaining fundus size in 28 of 74 patients 24-72 h after the procedure, with the aid of Matlab software and a library image processing toolbox (MathWorks(R)). Sleeve voiding was measured in 57 of 74 patients, based on the patients' radiological reports.

RESULTS: The mean volume of the remaining fundus was 17.56 ml (range 1.00-77.03 ml). The mean percent excess BMI loss (%EBL) was 39.5%, 53.7%, and 60.8%, respectively, 3, 6, and 12 months after LSG. Sleeve voiding was fast in 49 of 57 patients (85.96%) and slow in eight (14.03%).

CONCLUSIONS: No correlation was found between the estimated volume of the remaining gastric fundus and weight loss (%EBL) after LSG. Patients showing a rapid gastroduodenal transit of the CM achieved a better weight loss than patients with a slow voiding rate.

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