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Original article

A retrospective comparison of early results of conversion of failed gastric banding to sleeve gastrectomy or gastric bypass

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Abstract

Background: Laparoscopic adjustable gastric banding (LAGB) is associated with high long-term failure rates requiring conversion to alternative procedures. Operative conversion to laparoscopic sleeve gastrectomy (LSG) or laparoscopic Roux-en-Y gastric (LRYGB) bypass is associated with higher complication rates than primary procedures.

Objectives: To compare results for converting failed LAGB to LSG versus LRYGB.

Setting: University Hospital, United Kingdom, National Health Service.

Methods: All patients undergoing conversion of LAGB to LRYGB and LSG from July 2006 to September 2012 were included. A retrospective analysis of our prospectively maintained database was performed to identify differences in death rates, complication rates, length of hospital stay, and weight loss. Within this study LRYGB was the preferred choice for conversion and LSG was only considered in the presence of significant intraabdominal adhesions, because of patient choice, or in patients with contraindications to LRYGB.

Results: Eighty-nine patients with failed LAGB underwent conversional surgery within this period. Of these, 64 patients underwent conversion to LRYGB and 25 underwent conversion to LSG. There was no statistical difference in percentage of excess weight loss at 1 or 2 years after conversional surgery to LSG or LRYGB. Conversion to LRYGB was carried out as a single procedure in 51/64 (80%) compared with 10/25 (40%) for conversion to LSG ($P = .003$). One postoperative complication occurred requiring reoperation after conversion to LRYGB.

Conclusion: There was no difference in complication rates, hospital stay, and early weight loss when converting failed LAGB to LRYGB or LSG. Both procedures are appropriate for conversion from LAGB, although a staged approach is often needed, especially for LSG. (Surg Obes Relat Dis 2014;▮:00–00.)

Keywords: Conversion; Revision; Failed gastric band; Gastric bypass; Sleeve gastrectomy; Complications

Laparoscopic adjustable gastric banding (LAGB) has been the most commonly performed bariatric operation worldwide in the last decade. Longer-term experience with LAGB has revealed potentially high failure rates requiring conversional surgery [1–5]. The choice of surgery for failed bands lies between band salvage procedures, which are generally associated with poor outcomes, or conversion to laparoscopic Roux-en-Y gastric bypass (LRYGB) or laparoscopic sleeve gastrectomy (LSG) [6,7]. We have previously published our experience with LAGB-to-LRYGB conversion, showing comparable outcomes to primary LRYGB for mortality, length of stay, morbidity, and excess

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weight loss [8]. These results are consistent with other published reports on LAGB-to-LRYGB conversion [9–12]. The International Sleeve Gastrectomy consensus statement advised that LRYGB should be the procedure of choice for conversion after failed LAGB rather than LSG [13]. Despite this advice, a cohort of patients with failed LAGB seek conversions but have relative contraindications to LRYGB (e.g., significant intraabdominal adhesions).

Reports comparing outcomes from LAGB to LSG and LRYGB are limited; however, a systematic review of 15 LRYGB studies (588 patients) and 8 LSG studies (286 patients) found that these procedures were associated with short-term complication rates of 8.5% and 15.7%, long-term complications of 8.9% and 2.5%, and a need for reoperation of 6.5% and 3.5%, respectively [14]. As a result, LSG's role as a conversion procedure after failed LAGB remains controversial, with little published data comparing the 2 procedures from the same unit. This study reports our experience of conversion operations for failed LAGB, comparing conversion to LSG and LRYGB for morbidity, mortality, and weight loss.

Methods

A prospective database has been maintained for all patients undergoing bariatric surgery from 2000 to the present. Results were compared for patients undergoing conversion operations from July 2006 to September 2012. All patients undergoing conversion operations had originally undergone their initial band placement at the same hospital. Conversion was only considered if the patient still met the criteria for primary bariatric surgery (body mass index [BMI] >35 kg/m^2 with co-morbidity, BMI >40 kg/m^2) at the time of band removal. Patients presenting with emergency band complications had the band deflated or removed before being discussed at the multidisciplinary team (MDT) meeting composed of surgeons, dieticians, bariatric nurse specialist, and psychologist. Failure of LAGB was classified as because of inadequate weight loss, band infection, acute band slippage or chronic pouch dilation, dysphagia, band leakage, or band erosion. Inadequate weight loss was not precisely defined, although this indication was documented in the patient's notes at the time of MDT discussion. All these patients had a conversion BMI of >35 kg/m^2 at the time of the decision to convert.

Within the time frame of the study LRYGB remained the preferred choice of procedure for conversion after failed LAGB. Gastroesophageal reflux disease was regarded as a contraindication for primary LSG, and this remained true for conversions. All patients underwent upper gastrointestinal video endoscopy before conversion to assess for gastroesophageal reflux disease and exclude a band erosion. LSG was performed for patients with relative contraindications to LRYGB, including significant intraabdominal adhesions (as noted at the time of band removal), celiac disease, preexisting hypocalcaemia, and pernicious anemia. For high-risk patients with severe co-morbidities LSG was considered if the MDT felt the shorter operative time of LSG was beneficial and the patient had a dietary history of bulk eating. Patient choice remained the final consideration in the selection of the procedure, but LSG was only considered if the patient had proven, effective weight loss with the initial restrictive procedure (LAGB). Patients without reflux who were felt to be suitable for RYGB were informed that LSG would be considered if intraoperative findings of adhesions meant that RYGB was not possible.

Emergency band complications were always converted as staged procedures. Although the final decision about the elective conversions in 1 or 2 stages was made intraoperatively, chronic pouch dilation and active inflammation were regarded as strong indications for adopting a 2-staged approach. However, for patients with poor weight loss but a nondilated pouch, 1-stage conversion was recommended.

Operative procedures are described in Appendix 1. Postoperative care was standardized. Patients were allowed sips of water on the day of surgery, 1 L of water on postoperative day 1, and pureed diet on postoperative day 2. Postoperative blood tests were performed on day 1 and patients discharged if clinical observations and examinations and inflammatory markers did not raise concern and the patient was tolerating a pureed diet. Postoperative outpatient follow-up was scheduled for 6 weeks, 6 months, 1 year, and 2 years in a combined surgical and dietetic bariatric clinic.

The cohorts were analyzed to look for differences in weight loss (percentage excess weight loss [%EWL] and reduction in BMI), morbidity, mortality, and length of stay between conversion to LRYGB or LSG after failed LAGB. Weight loss was analyzed using the initial preband weight, the weight at the time of conversion, and postconversion surgery weights. Chi-square and independent t tests were used as appropriate to compare the groups. Results were considered to be statistically significant if the P value was $<.05$.

Results

A total of 89 patients underwent LAGB conversion; 64 were converted to LRYGB and 25 to LSG. All procedures were performed laparoscopically. Poor weight loss (51.7%) and chronic pouch dilation (19.1%) were the main indications for conversion (Table 1). Conversion from LAGB to LSG was performed in 1 stage in 40% (10/25), compared with 80% (51/64) for LRYGB. This difference was statistically significant ($P = .03$). All 6 patients presenting with acute slippage had emergency band removal followed by interval conversion surgery after 3 months. Eighty-nine percent (41/46) of patients whose band was removed for poor weight loss underwent a single-stage removal and conversion, which was more often a conversion to LRYGB