ELSEVIER

Surgery for Obesity and Related Diseases ▮ (2014) 00–00

SURGERY FOR OBESITY AND RELATED DISEASES

Review article

A systematic review of gastric plication for the treatment of obesity

Yun Ji, M.D., Yuedong Wang, M.D., F.A.C.S.*, Jinhui Zhu, M.D., Dijian Shen, M.D.

Department of General Surgery, Second Affiliated Hospital Zhejiang University College of Medicine, Hangzhou, China

Abstract

Background: Laparoscopic gastric plication (LGP) is a relatively new restrictive bariatric procedure that requires no gastrectomy or foreign body placement.

Objectives: The authors' aim in this article is to conduct a systematic review of the currently available literature regarding the outcomes of LGP for the treatment of obesity.

Setting: University Hospital, China

Methods: The authors' systematic review yielded 14 studies encompassing 1,450 LGP patients. Perioperative data were collected from each study and recorded.

Results: Mean preoperative body mass index (BMI) ranged from 31.2 to 44.5 kg/m^2, and 80.8% of the patients were female. Operative time ranged from 50 to 117.9 minutes (average 79.2 min). Hospital stay varied from .75 to 5 days (average 2.4 days). The percentage of excessive weight loss (%EWL) for LGP varied from 31.8% to 74.4% with follow-up from 6 months to 24 months. No mortality was reported in these studies and the rate of major complications requiring reoperation ranged from 0% to 15.4% (average 3.7 %).

Conclusion: Early reports with LGP are promising with a favorable short-term safety profile. However, it remains unclear if weight loss following LGP is durable in the long term. Additional prospective comparative trials and long-term follow-up are needed to further define the role of LGP in the surgical management of obesity. (Surg Obes Relat Dis 2014;▮:00–00.) © 2014 American Society for Metabolic and Bariatric Surgery. All rights reserved.

Keywords: Bariatric surgery; Gastric plication; Laparoscopy; Obesity

Gastric plication was first described in 1976 by Tretbar et al. [1] as a procedure for the treatment of morbid obesity and was performed in an open fashion. Recently, the laparoscopic approach to gastric plication was proposed by Talebpour and Amoli [2] and is attracting increasing interest as an alternative restrictive bariatric procedure. The purported advantages of the laparoscopic gastric plication (LGP) are that it successfully reduces the gastric volume and food intake, has the advantage of potential reversibility as well as the lack of foreign body placement or gastrectomy, and requires no expensive surgical staplers. The potential disadvantages of the LGP include the lack of long-term results that would allow comparison with other well-established bariatric procedures, unstandardized surgical technique that is still in the early stages of development, and unproved durability. The purpose of the present study was to systematically review the existing recent data regarding the outcomes of LGP for the treatment of obesity.

Methods

A review of the existing published data on LGP was performed using PubMed for articles published in English. The search terms included gastric plication, greater curvature plication, greater curve plication, and vertical plication. The search was conducted in June 2013 and was not limited to any date range. A total of 331 articles were identified, and 295 articles remained after duplicates were removed (Fig. 1). The titles and abstracts of the retrieved articles were assessed for applicability. Case series, comparison studies, prospective studies, and retrospective studies reporting on LGP as a treatment for obesity were included if they included data on either weight loss outcomes or postoperative complications.

*Correspondence: Yuedong Wang, M.D., F.A.C.S., Department of General Surgery, Second Affiliated Hospital Zhejiang University College of Medicine, 88 Jiefang Road, Hangzhou, 310009, China.

E-mail: wydong2003@hotmail.com; yuedongw@163.com

1550-7289/14/$ – see front matter © 2014 American Society for Metabolic and Bariatric Surgery. All rights reserved.
http://dx.doi.org/10.1016/j.soard.2013.12.003

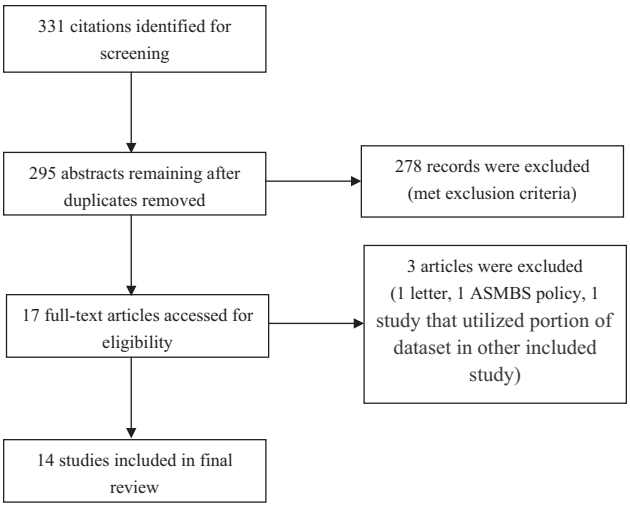

Fig.1. Study flow chart: Articles about gastric plication were identified and assessed for eligibility.

Animal studies, review articles, and articles not on the topic of LGP were excluded. Studies in which LGP was done in open approach or studies in which LGP was performed in combination with anther bariatric surgical procedure were also excluded. The full text of the remaining 17 articles was reviewed for eligibility. Fourteen [3–16] of the above 17 articles were selected for this review (Table 1). The authors excluded one article [17] which was a letter commenting on another article, one article [18] which reported American Society for Metabolic and Bariatric Surgery policy on gastric plication, and another article [2] which was a substudy of a larger series by the same group.

Results

The authors assessed the quality of these 14 selected studies, including 1 nonrandomized matched cohort analysis, 10 uncontrolled case series, and 3 case reports. These studies were published between 2007 and 2013. The main authors were from 11 different countries. Each extracted study included at least 1 of the outcomes of interest (i.e., weight loss data or complication data). Of the 14 studies, 11 reported LGP-associated outcomes data on weight loss and postoperative complications, and the other 3 (case report) documented complications of the LGP. The total number of patients who underwent LGP was 1,450. Mean preoperative body mass index (BMI) ranged from 31.2 to 44.5 kg/m^2, and 80.8% of the patients were female. Operative time ranged from 50 minutes to 117.9 minutes with an average time of 79.2 minutes. Hospital stays were from .75 days to 5 days, the average being 2.4 days.

Weight loss

The mean excessive weight loss (%EWL) after LGP was reported in 9 studies (n = 1,407) and ranged from 31.8% to 74.4% with follow-up from 6 months to 24 months (Table 1). Only Talebpour et al. [7] followed the patients for > 10 years and the mean %EWL at 3, 4,5, and 10 years was 66%, 62%, 55%, and 42% respectively. One study by Mui et al. [6] reported the weight loss in terms of the BMI decrease, and the percentage of BMI lost at 6 and 12 months was 66.4% and 60.2%, respectively. Brethauer et al. [12] compared anterior plication (AP) and greater curvature placation (GCP) and reported better weight loss with GCP at 12 months (%EWL of 53.4% versus 23.3% respectively). One prospective nonrandomized study by the authors' group was published which compared LGP to laparoscopic sleeve gastrectomy; results showed that compared with laparoscopic sleeve gastrectomy, LGP is inferior as a restrictive procedure for weight loss [4].

Co-morbidity reduction

Five studies provided postoperative co-morbidity data with a follow-up period of 6–12 months (Table 2). The data demonstrated resolution and improvement rate of type 2 diabetes mellitus after LGP ranging from 0 to 100%. Of the 5 studies, 4 clearly showed a significant improvement in type 2 diabetes mellitus after LGP, but the other one reported that LGP had little therapeutic effect on type 2 diabetes mellitus. Two of the 5 studies reported changes in hemoglobin A1 c (HbA1 c) levels. One study by Fried et al. [9] found that the HbA1 c levels had decreased from a baseline of 6.4% to a postoperative level 5.1%, and the plasma glucose levels had decreased from a baseline of 162.8 mg/dL to 112.6 mg/dL in 33 patients at 6 months, but the other one by Taha et al. [8] reported the HbA1 c levels was 7.5% in 55 patients at 12 months compared to 7.9% preoperatively, and no patients stopped their hypoglycemic medications. Although the data were scanty, some data suggested that LGP had some effect on the other components of the metabolic syndrome (i.e., hypertension and hyperlipidemia), as well as in sleep apnea and joint pain.

Peri-operative complications and mortality

No mortality was reported in any of the 14 selected studies. The rate of major postoperative complication requiring reoperation ranged from 0% to 15.4%, the average being 3.7% (Table 3). The 2 main reasons for reoperation were gastric obstruction and gastric perforation. In the 14 selected studies, gastrogastric hernia after LGP was reported in at least 3 patients. Some studies reported all minor complications (nausea, vomiting, and sialorrhea), and others did not, confounding analysis.

Surgical technique

So far, there is no standardization of the technique of LGP across different surgical teams (Table 4). The procedure involves 2 main steps: mobilization of the greater

Download English Version:

https://daneshyari.com/en/article/3319804

Download Persian Version:

https://daneshyari.com/article/3319804

Daneshyari.com