



ELSEVIER

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

SURGERY FOR OBESITY
AND RELATED DISEASES

Original article

Is preoperative manometry necessary for evaluating reflux symptoms in sleeve gastrectomy patients?

Rena C. Moon, M.D., Andre F. Teixeira, M.D., Muhammad A. Jawad, M.D., FACS*

Department of Bariatric Surgery, Orlando Regional Medical Center & Bariatric and Laparoscopy Center, Orlando Health, Orlando, Florida

Received July 8, 2014; accepted July 28, 2014

Abstract

Background: The effect of laparoscopic sleeve gastrectomy (LSG) in gastroesophageal reflux disease (GERD) is controversial. However, it has been reported that up to 22% of patients presented with symptomatic GERD after LSG. The aim of our study was to evaluate the necessity of preoperative manometric testing in LSG patients.

Methods: We prospectively collected the data on LSG candidate patients who underwent preoperative manometric testing. The normal range for the lower esophageal sphincter (LES) pressure is 10.0–45.0 mmHg. Each patient was interviewed for the GERD score questionnaire (scaled severity and frequency of heartburn, regurgitation, epigastric pain, epigastric fullness, dysphagia and cough) at the time of the manometric study.

Results: Forty-nine patients were studied. The mean preoperative LES pressure was 13.2 ± 7.7 mmHg (range, 1.0–34.4). Eleven patients responded that they had 1 or more moderate to severe GERD symptoms >2–4 times a week, of which 9 had competent LES pressures. Thirteen (26.5%) patients had decreased LES pressures, and only 3 (23.1%) of these reported moderate to severe symptoms of GERD. In 26 LSG patients with postoperative results, the mean preoperative LES pressure was 14.8 ± 8.0 mmHg (range, 3.5–34.4), and the mean GERD score did not show a significant difference at 9 months after LSG. Twenty-two had normal LES pressures, and 16 (72.8%) of these patients reported reflux symptoms preoperatively. Only 2 (12.5%) of these symptomatic patients reported a higher GERD score postoperatively, but the difference was not significant. Of the 4 patients who had low LES pressures, only 1 patient complained of mild GERD symptoms preoperatively. However, this patient and another without preoperative symptoms developed severe GERD symptoms postoperatively.

Conclusion: Manometric study may be necessary in LSG patients to accurately evaluate GERD and the LES pressure. (Surg Obes Relat Dis 2014;■:00–00.) © 2014 American Society for Metabolic and Bariatric Surgery. All rights reserved.

Keywords:

Gastroesophageal reflux disease; Preoperative; Manometry; Sleeve gastrectomy; Symptoms of reflux

The abstract of this manuscript was accepted for poster presentation at ASMBS 30th annual meeting, Atlanta, GA, Nov 11–16, 2013. It was also selected as one of the “Top 15 Posters” and was awarded the “2013 Poster Session First Place Poster Award”.

*Correspondence: Muhammad A. Jawad, M.D., Department of Bariatric Surgery, Orlando Regional Medical Center & Bariatric and Laparoscopy Center, Orlando Health, 89 W Copeland Dr (1st Floor), Orlando, Florida 32806.

E-mail: muhammad.jawad@orlandohealth.com

<http://dx.doi.org/10.1016/j.soard.2014.07.014>

1550-7289/© 2014 American Society for Metabolic and Bariatric Surgery. All rights reserved.

Obesity is known to be associated with developing gastroesophageal reflux disease (GERD) symptoms, erosive esophagitis, and esophageal adenocarcinoma [1,2]. Some investigators argued that other factors such as the amount and type of dietary intake or hiatal hernia are the real causes of GERD symptoms in the obese population rather than obesity itself [3,4]. However, obesity proved itself as an independent risk factor for developing reflux symptoms [1,5]. It has been reported that weight loss can lead to complete resolution of GERD symptoms in the majority of

overweight/obese patients [5,6]. Consequently, almost 45% of obese patients, who are also candidates for bariatric surgeries, suffer from symptoms of GERD [7,8].

As the prevalence of obesity has increased over the last several decades, so has the number of bariatric surgeries performed. Among various bariatric procedures, sleeve gastrectomy has gained popularity and increased tremendously from 2003–2011 [9]. Merits of laparoscopic sleeve gastrectomy (LSG) include simplicity of the operative technique, resolution of obesity-related co-morbidities, and satisfactory weight loss outcomes [10–12]. Of several complications LSG potentially has, worsening of or newly developed GERD symptoms in the postoperative period seems to be one of the most common that remains in the debated area. Many now relate LSG as the cause of postoperative GERD symptoms, although there are contradicting reports [13–17]. In our practice, patients were deterred from LSG if they reported symptoms of GERD preoperatively. However, we still found patients developing intolerable GERD or de novo symptoms of reflux after LSG. Therefore, we started evaluating preoperative lower esophageal sphincter (LES) pressures in patients undergoing LSG, as it has been hypothesized that manipulation in the proximity of the LES during LSG procedure had an effect on the competence of the LES [18]. The aim of this study was to describe the correlation between the LES pressure and reflux symptoms, and evaluate the necessity of preoperative manometric study in LSG candidate patients.

Methods

All patients undergoing bariatric surgery at Orlando Regional Medical Center were required to participate in preoperative medical, psychological, nutritional, surgical evaluations, and education. After Institutional Review Board approval and following Health Insurance Portability and Accountability Act guidelines, 50 LSG candidate patients were enrolled in this study between October 23, 2012 and March 6, 2013.

All data for age, body mass index (BMI), and scores are demonstrated as mean \pm standard deviation, unless otherwise noted. Statistical analysis was performed using descriptive analysis and 2-tailed Student's *t* test with $P < .05$ regarded as statistically significant.

Manoscan 360 technique

These 50 patients underwent preoperative evaluation of the LES pressure utilizing Manoscan 360 Motility Visualization System (Given Imaging, Duluth, Georgia, USA). A motility catheter with 36 circumferential sensors on 1-cm spacing was inserted transnasally after application of topical anesthesia to the nasal passage. The catheter was positioned so that at least 2 distal sensors were in the stomach and 2 proximal sensors were located above the LES. A 5-minute

acclimation period was provided followed by 10 wet swallows of 5 cc water. The normal range for the LES pressure is 10.0–45.0 mmHg. All manometric studies were performed and analyzed by 1 trained personnel. When the manometric study could not be tolerated, patients were sent for upper gastrointestinal imaging (UGI) study.

The definition of incompetent sphincter was LES pressure ≤ 8.0 mmHg. When the patient was suspected of incompetent sphincter, he/she was sent for additional UGI study to identify reflux and hiatal hernia.

GERD score questionnaire

These 50 patients were interviewed regarding their GERD symptoms using the GERD score questionnaire. This questionnaire has been previously validated by Allen et al. [19,20] and Howard et al. [21]. Patients were inquired of the severity and frequency of their reflux, regurgitation, epigastric pain, sensation of fullness, dysphagia, and cough symptoms preoperatively at the time of the manometric study (Fig. 1). Severity was classified as not at all (0), mild (1), moderate (2), and severe (3). Frequency was classified as absent (0); once a month (1); once a week (2); 2–4 times a week (3), and daily (4). The scores for severity and frequency were multiplied together, resulting in a score from 0–12 per inquiry. Then the inquiry scores were added together, resulting in a score from 0–60. Cough category was scored separately. All questionnaires were inquired, filled out, and analyzed by 1 interviewer.

Results

Out of 50 patients, 1 patient was unable to tolerate the manometric study and was excluded from the study. A total of 36 female and 13 male patients were included in this study with a mean age of 43.6 ± 12.1 years (range, 19–67). The mean BMI at the time of the manometric study was 46.0 ± 7.2 kg/m² (range, 35.5–62.6). Demographic characteristics of the patients are listed in Table 1 including the mean of their GERD and cough scores.

Preoperative manometry results

A total of 13 patients were found to have low LES pressures (≤ 8.0 mmHg). Patients with low LES pressures and normal LES pressures were clinically comparable from the aspects of gender, age and preoperative BMI (Table 2). The mean GERD score was 5.0 ± 8.0 (range, 0–24) in patients with low LES pressures, and 4.8 ± 6.3 (range 0–24) in patients with normal LES pressures. No statistical difference was present in GERD scores between these 2 groups of patients ($P > .91$). The mean cough score was $.4 \pm 1.0$ (range, 0–3) in patients with low LES pressures, and 1.1 ± 2.2 (range, 0–8) in patients with normal LES pressures, also presenting no significant statistical difference ($P > .19$).

Of the 13 patients with low LES pressures, 5 (38.5%) reported having no symptoms of reflux (GERD score 0),

Download English Version:

<https://daneshyari.com/en/article/3319940>

Download Persian Version:

<https://daneshyari.com/article/3319940>

[Daneshyari.com](https://daneshyari.com)