

High-resolution impedance manometry and 24-hour multichannel intraluminal impedance with pH testing before and after sleeve gastrectomy: de novo reflux in a prospective series

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Background

Laparoscopic sleeve gastrectomy (SG) is increasingly popular but concern regarding its effect on gastroesophageal reflux disease remain. The current literature is conflicting, and there have been little objective data.

Objectives

To objectively and more accurately assess the impact of SG on esophago-gastric physiology.

Setting

Centre of Excellence in Metabolic and Bariatric Surgery, Private Hospital, Australia.

Methods

Prospective cohort study of 31 patients undergoing SG with high-resolution impedance manometry (HRM), 24-hour multichannel intraluminal impedance combined with pH testing (MII-pH), and Gastroesophageal Reflux Disease Symptom Assessment Scale (GSAS) questionnaire 1 month before and 6 months after SG.

Results

There were 31 patients that underwent SG, 20 with synchronous hiatal repair and fixation, and 6 that were excluded. HRM demonstrated significantly increased intragastric pressures

(15.5–29.6 mm Hg) and failed swallows (3.1–7.5%) but no other change in esophageal motility. MII-pH did not demonstrate significant changes in acid exposure time (8.5%–7.5%) or number of reflux episodes, although the numbers of long reflux episodes (2.3–4.7) and weak acid reflux episodes were significantly increased (15.4–55.2). DeMeester and GSAS scores were not significantly changed. There was no significant difference in patients with preexisting reflux. However, for patients without preexisting reflux, acid exposure time increased significantly (1.3%–6.7%), as did DeMeester scores (5.8–24.5) and the numbers of long reflux episodes (.1–4.4) and weakly acidic episodes (22.1–89.2).

Conclusion

SG was associated with increased intragastric pressures, without changes in esophageal motility or acid exposure. For patients without preexisting reflux, there were increases in acid exposure time, long reflux episodes, weakly acidic reflux episodes, and DeMeester score.