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SURGERY FOR OBESITY
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Letter to the Editor

Reply to “Comment on: The effect of laparoscopic sleeve gastrectomy with or without hiatal hernia repair on gastroesophageal reflux disease in obese patients”

To the editor:

We thank Khorgami et al. for their interest in our paper [1] aiming to study whether laparoscopic sleeve gastrectomy (LSG) alone or combined with hiatal hernia repair (HHR), whenever hiatal hernia (HH) was present, could improve gastroesophageal reflux disease (GERD) symptoms in obese patients diagnosed on the basis of a standard definition of GERD [2]. Khorgami et al. correctly pointed out that “in this study there were no data on the percentage of GERD symptoms if SG (without HHR) was performed in morbidly obese patients who have HH. It is possible that SG causes GERD in a considerable percentage of patients in the postoperative period if HH is not repaired.” This possibility is consistent with the literature, which documented that small HH that are not repaired at the time of bariatric surgery may get larger with weight loss and the loss of fat around the gastroesophageal junction [3]. In addition, Soricelli et al. [4] recently reported that the incidence of the postoperative development of “de novo” reflux symptoms was significantly greater in patients who underwent LSG alone compared to patients undergoing LSG with HHR (22.9% versus 0%; $P < .01$), suggesting that HHR associated with LSG was an effective option for the management of morbidly obese patients with GERD, with remission or improvement of reflux symptoms in 92% of patients. They concluded that the presence of a crural defect should not be considered a contraindication to LSG.

However, Pomp [5] emphasized that HHR combined with LSG is in no way standardized, and that substantial differences exist in the technique of hiatal dissection and the subsequent alterations in the sling fibers at the angle of His. He also listed the major weaknesses of the published studies, which include relatively small series and short follow-up. In fact, it should be mandatory to have 3- and 5-year follow-up. In our opinion, another point of weakness is the lack of a standardized assessment of GERD symptoms. [6] In fact, one of the strengths of our study is objective evaluation of GERD in obese patients before bariatric

surgery [7]. In addition, we think that the method to diagnose HH and its size should be further delineated, a controversial issue.

We agree with Khorgami et al. that further studies are needed to recommend LSG with HHR in all patients with intraoperative evidence of HH. Our data indicated a lack of significant improvement of overall GERD prevalence after HHR, and the frequency-intensity scores of heartburn and regurgitation did not change in 13 of 30 (43.3%) patients with preoperative evidence of GERD and HH. Conversely, in patients with GERD without HH who underwent LSG, we observed a significant decrease in GERD prevalence and typical GERD symptoms intensity-frequency scores, confirming the results of a recent longitudinal study that showed a significant (41.7%) improvement in GERD [8]. As Khorgami et al. highlighted, a systematic review on the effect of SG on GERD has been recently published [7]. Among a total of 11 studies that had both preoperative and postoperative data, 4 studies reported an increase in GERD after SG, and 7 studies found a decreased prevalence of GERD after SG.

Hopefully, further randomized studies in similar obese patients with GERD and HH with a complete assessment of GERD and HH (i.e., using standardized questionnaires, esophageal manometry, and 24-h pH-measurements) before and after surgery at scheduled long-term follow-up intervals, combined with an intraoperative assessment of the size of HH, are needed to compare LSG and LSG + HHR to give us more insight on how to tailor HH management.

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