

Response:

We thank Kountouras et al¹ for their interest in and comment on our study.² We understand and appreciate the authors' opinion with regard to *Helicobacter pylori*-related metabolic syndrome and the fact that *H pylori* infection is common in patients with obesity. A sample of 227 patients who underwent EGD before bariatric surgery found *H pylori* in 27% of patients.³ Several studies have suggested that *H pylori* does not affect laparoscopic sleeve gastrectomy (LSG) perioperative outcomes or postoperative weight loss.⁴ Additionally, a large study by Abu Abeid et al⁵ showed that *H pylori* eradication does not change the postoperative course. However, LSG may lead to eradication of *H pylori*.⁶ For those reasons, we believe that assessing for the presence of *H pylori* in asymptomatic candidates before LSG is unnecessary and would only add cost and patient discomfort. It is also worth noting that the American Society for Metabolic and Bariatric Surgery care pathway for LSG states that *H pylori* testing should be performed only at the discretion of the provider and based on patient history.⁷ Accordingly, our propensity score-matched comparative study did not assess *H pylori* before or after LSG or endoscopic sleeve gastroplasty.² Further studies are warranted before a conclusion can be drawn regarding *H pylori* testing in patients undergoing endoscopic gastroplasty.

DISCLOSURE

The author disclosed no financial relationships.

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Influence of learning curve and perioperative factors on the clinical success of gastric peroral endoscopic myotomy



To the Editor:

We read with interest the article by Hernández Mondragón et al¹ presenting the long-term outcomes of gastric peroral endoscopic myotomy (G-POEM) for refractory gastroparesis. They identified diabetic gastroparesis, diagnosis <24 months, nausea/vomiting symptoms, Gastroparesis Cardinal Symptom Index of 1.5 to 2.5 at 6 months, and a retention percentage at 4 hours <10% at 6 months as significant predictors of long-term success.¹ However, we would like to highlight certain points related to this study.

First, it should be highlighted that the G-POEM learning curve is critical for successful clinical outcomes but was not considered in the predictive model of this study. G-POEM is a technically challenging endoscopic procedure with a specific learning curve,² but there are limited data for the G-POEM learning curve. A comparable treatment, peroral endoscopic myotomy (POEM), has been widely studied. Teitelbaum et al³ found a negative correlation between case numbers and post-POEM outcomes, demonstrating that the operator's learning curve was a key predictor of clinical success. Thus, the learning curve should be considered for predicting the clinical outcomes of G-POEM.

Second, it should be mentioned that perioperative parameters crucial for successful clinical outcomes, such as intraprocedural adverse events, tunnel length, and total procedure time, were not included in this predictive model. Liu et al⁴ conducted a study to create a risk-scoring system, which enrolled several perioperative factors such as intraoperative injury, operation time, and adverse events to predict POEM outcomes, indicating that intraprocedural mucosal injury was a risk factor for clinical failure. These similar parameters should also be analyzed in the study by Hernández Mondragón et al.¹

Even though we may not yet have found a crystal ball to anticipate G-POEM outcomes, the authors of this study deserve our congratulations for their efforts in building a prediction model for the clinical success of G-POEM and for giving a foundation for further prospective work.

DISCLOSURE

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Response:



We thank Zhang et al¹ for their interest in our study entitled “Gastroparesis peroral endoscopic myotomy outcomes after 4 years of follow-up in a large cohort of patients with refractory gastroparesis.”² In this study, our main aim was to evaluate the long-term outcomes of this fascinating third-space technique in patients with refractory gastroparesis (RG).

For this purpose, we decided to evaluate a large group of patients with RG of multiple causes: 141 diabetes (37.7%), 115 idiopathic (30.7%), 102 postsurgical (27.3%), and 16 other causes (4.3%). We found a general clinical success rate of 77.5% after 4 years of follow-up, patients with diabetes being those who showed the highest responses, with 86.5% (vs 72.5% idiopathic, vs 72.1% postsurgical, vs 68.8% other; $P < .05$). Finally, long-term predictors of success were cause of diabetes (OR = 5.11 [1.64-5.98]); early diagnosis of <24 months (OR = 2.45 [1.12-5.52]); nausea/vomiting subtype (OR = 3.54 [1.88-5.51]); gastroparesis cardinal symptom index (GCSI) score between 1.5 and 2.5 at the 6-month evaluation (OR = 3.61 [2.12-5.31]), and a retention percentage at 4 hours (RP4H) of <10% at 6 months (OR = 2.18 [1.43-4.23]).

We have carefully read the concerns of Zhang et al¹ about the long-term predictors of clinical success that we found in our study, specifically the lack of consideration of the learning curve (LC) and the adverse events (AEs) of G-POEM as potentially contributory factors that could have affected our results and therefore that should have been considered in our multiple logistic regression model. Regarding the LC, we agree with Zhang et al¹ that G-POEM is a very complex technique, being the second third-space procedure reported after POEM for achalasia. As mentioned by Zhang et al,¹ information is scarce, and Reja et al³ performed a retrospective study trying to determine the LC for G-POEM. They included 36 patients, most of them (44%) with idiopathic gastroparesis, and they determined a median procedure time of 60.5 minutes (35-136), with an increase in speed up to 45 minutes of total duration in their last cases. The cumulative sum control chart

showed that efficiency was reached after the eighteenth procedure, suggesting this as the potential cutoff in the LC for this procedure. However, there was no relationship among speed, lack of AEs during G-POEM, and clinical success. Therefore, the real effect of the LC of G-POEM on clinical success is not yet determined; however, it would be more appropriate to be based on a correct pyloric ring myotomy (PRM), which is supposed to be the most important objective when G-POEM is performed; or at least, this is the reason why this pyloric-targeted therapy was created. The same occurs with AEs during the procedure, in which their presence of course could affect not only the completion of G-POEM itself but also directly the clinical success, theoretically through 2 potential mechanisms: first, an incomplete PRM, or second, the formation of a consequently secondary scar at the surgical working area, potentially responsible for recurrence in these patients and also reported in patients with achalasia who have undergone POEM.⁴⁻⁷

Therefore, we consider that in spite of the fact that LC and AEs must be important points that should be considered when G-POEM is offered as an alternative option for RG in these patients, we doubt its role regarding a potential change in the results of our study. We mean that in our study, if LC could have had a potential effect on CS, we should have found different outcomes in the first G-POEM cases (at least in the first 20); however, this was not so. Of the 141 patients with diabetes included, with 15 recurrences, only 1 was part of the first 20. Of the 155 patients with idiopathic RG, with 25 recurrences, none of them were part of the first 20. Of the 102 patients with postsurgical gastritis, with 28 recurrences, none of them were part of the first 20 cases, and from the 4 recurrences in the other group, none of them were part of this group of first cases. Similar results were found in failures. Therefore, a clinical relationship between LC and CS seems unlikely. The same occurs with AEs, in which technical success was reached in 100% (we mean that all steps were completely performed, including the PMR), and all AEs were minor and endoscopically controlled during G-POEM. If AEs had been related to CS, we would have seen a relationship with failures or recurrences in our cohort, but this did not occur.

We have to remember that when a multiple logistic regression model is built, first a univariate analysis must be performed, including all of the potential clinical factors that we consider to be potentially related to the final binary outcome, in this case long-term success. From all included factors, even in our primary analysis, we did not find any relation between LC and AEs in our model, nor in either the univariate analysis or the multivariate analysis. This is not new; Gonzalez et al,⁸ Ragi et al,⁹ Mekaroonkamol et al,¹⁰ Abdelfatah et al,¹¹ Xu et al,¹² and Vosoughi et al¹³ have performed similar analyses searching for the potential predictive factors of CS. In general, gender, cause of RG, early CS (measured as a change in CSI or RP4H in the first months after G-POEM), duration of disease, RG subtype, body mass index, and age have been related to CS, and