

Dear Editor,

Thank you very much for giving us the opportunity to revise our manuscript. I would like to thank the editor and the reviewer for their valuable comments. We have now carefully revised our manuscript according to the comments as indicated below.

Reviewer 1:

Thank you for your appreciation of our study! We agree with you that the picture of POEM procedure has been showed in many published articles, we wonder whether we can retain the figures as we described different myotomy depth of POEM procedure.

Reviewer 2:

Thanks for your appreciation. That is a good question, we agree with you that bias may exist but will not change the study conclusion. This is a retrospective study, some of the patients were lost of follow-up, refused to undergo pH test or HRM examination. So it is a pity that there is a high drop-out rate in our center. A randomized, prospective study with long-term follow-up is warranted for a confirmed conclusion and cost-effective analysis.

Reviewer 3:

Thank you for your valuable comments.

Major points:

1. In our early practice, simple circular myotomy was performed for all patients with achalasia, but we found that some patients did not receive satisfactory outcome. As completeness of myotomy involved both circular and longitudinal layers is a prerequisite for sufficient and long-term reduction of LES and is the basis for excellent results of conventional surgical myotomy, we began to perform full-thickness myotomy since March 2012. We have addressed this point to the manuscript.

2. All POEM procedures including circular myotomy and full-thickness myotomy were completed by a single senior operator (Liu DL) in our center.
3. There are totally 11 patients (6 in circular myotomy and 5 in fullthickness myotomy) having previous therapy in our study.
4. Four patients had a sigmoid megaesophagus, one of them underwent circular myotomy, and the other three were performed with full-thickness.
5. In circular myotomy, there are 5 achalasia type I, 24 achalasia type II and 3 achalasia type III. In full-thickness myotomy, there are 4 achalasia type I, 18 achalasia type II and 2 achalasia type III. Answer to question 3-5 was demonstrated in Table 1 of manuscript.
6. Patients in our study firstly underwent esophageal manometry to determine the LES pressure and location, and then were performed with 24-h pH monitoring immediately to record reflux parameters.
7. We feel sorry that not all the data of pH monitoring are presented and we agree with you the reflux parameters you recommended are key points to detect GERD and to differentiate physiologic and pathologic reflux. In our study, the difference of 24-h reflux parameters between circular myotomy and full-thickness myotomy did not achieve statistical significance (as in following table 1).

Table 1 24-h pH monitoring data measured ~5 cm above the EGJ

	Circular myotomy (<i>n</i> = 32)	Full-thickness myotomy (<i>n</i> = 24)	<i>P</i>
% Total reflux <4	3.4 ± 3.5	4.8 ± 4.7	0.18
% Upright reflux <4	3.8 ± 3.9	5.3 ± 4.9	0.19
% Supine reflux <4	3.2 ± 3.4	4.5 ± 4.2	0.18
Number of episodes > 5min	3.9 ± 4.0	4.8 ± 4.5	0.44
Longest episode (min)	7.3 ± 8.2	9.2 ± 9.3	0.41

8. "Antacid medications were withdrawn 7 days before the test" is a request

for an accurate PH measurement, and a total of 8 patients were treated with PPI or antiacid 7 days before the test.

9. We feel sorry that we cannot find a uniform standard for definition of “pseudorefluxes”. But according to our understanding, “pseudorefluxes” may happen in those with typical clinical symptoms like heartburn and regurgitation, and it is usually caused by mechanical obstruction, motility disorder, hyperaesthesia, etc. but not induced by gastric contents coming up from the stomach into the esophagus. The disease that “pseudorefluxes” may be considered as achalasia of the cardia, eosinophilic esophagitis, pill esophagitis, functional heartburn, cardiac disease and so on.

10. This is a good question and thank you for bring it up. We are now following up with those patients to monitor whether there are any symptoms or esophagitis, and we will report it once we get the result.

11. Thank you for your suggestion, we have modified the discussion in the revised manuscript.

Minor points:

1. Thank you for your advice. The manuscript has been edited by an English native speaker for better readability.

2. We agree with you, abnormal reflux is a better understanding, and we have changed it into “abnormal reflux” in the revised manuscript.

3. We have omitted “may” in this sentence in the revised manuscript.

4. We feel sorry for not clarify this. It means: one of aims in our study is to find the predictive factors of postoperative clinically relevant GERD. And we have added it in the revised manuscript for better understanding.

5-8. We feel sorry for the spelling mistakes, and we have corrected them in the revised manuscript.

The revision in the manuscript:

1. ABSTRACT: AIM and CONCLUSION section.
2. Audio core tip has been added in the word.
3. MATERIALS AND METHODS: Patients section Line 5 to Line 9.
4. COMMENTS have been provided below main text.
5. All blank spaces between reference and the before words have been deleted completely.
6. A copy of the full approved grant application form(s) has been provided to the BPG in PDF format.
7. Figure 1, 2 and 4 have been provided as separated images.
8. The grammatical mistakes in Figure 3 have been corrected.
9. Table 1: an explanatory note of "pH test +" has been added.
10. Besides the revision mentioned above, there are innumerable language revisions after polished by professional English language editing companies and A language certificate letter that could serve to verify that the language of the manuscript has reached Grade A has been provided.