

Peer Review File

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Reviewer A

Your article describes achalasia diagnosis and pre-operative work-up; then your technique for POEM procedure and last, findings for outcome in the literature.

I recommend more up-to-date references be inserted and old redundant references be removed. example: Chicago classification 4.0.

Several references have been replaced with more recent references. The 2021 reference for the Chicago 4.0 classification has been added.

The abstract for this manuscript is bland and contains no interesting or new information to draw a reader to the article. Please include in the abstract why your technique for POEM is presented and what important outcome monitoring is indicated.

Additional information has been added to the abstract.

In the article you present your technique for POEM. Are you able to state how it differs from other POEM techniques? What are your published outcome findings with your technique?

We follow the standard technique for POEM. This was an invited manuscript on techniques for POEM, as such our outcomes are not integral to the manuscript. Even if we wanted to include this, the authors do not have enough experience at their current institution to share outcome data. We discuss variations in the technique throughout the "Technique of POEM" subsection and elaborate the use of an anterior vs. posterior myotomy in detail on pages 8-9.

The manuscript would be enhanced by ordering the findings on outcome data into short term and long term follow-up.

Discussion of outcomes after mid-term and long-term follow up has been placed after discussion of complications seen postoperatively and during short-term follow up.

Recommend formulation of a conclusion or recommendation, rather than a summary for the final paragraph of the article.

The last paragraph of the article has been modified.

The references require attention to address many errors of format and spelling, as well as missing details.

Thank you for bringing this to our attention. Many corrections have been made to the references

with the help of reference managing software.

Attached is also some annotations for your information.

Reviewer B

In the present paper, the authors describe their technique performing the POEM procedure as well as other procedure-related issues. They perform this in a conclusive and purposeful way.

Comments:

- One focus of POEM is certainly achalasia. What attitude do the authors take with regard to other motility disorders, e.g. Jackhammer?

We do offer POEM as an option for Jackhammer esophagus to symptomatic patients after extensive counseling. Because the focus of this article in POEM for achalasia, we have chosen not to mention other indications in the text.

- A decisive step for a good result in this procedure is complete myotomy beyond the GEJ. The authors use staining of the mucosa from the lumen of stomach on retroflexion. Is this subjective assessment sufficient for predicting treatment success? Should an objective measurement, e.g. impedance planimetry, be additionally considered?

Achieving a complete myotomy is the goal of POEM. We use the following tricks to identify the GEJ and ensure complete myotomy:

1. Endoscopically measuring the distances from incisors and making sure we cover the distance and pass beyond the GEJ.
2. Injecting dye in the submucosal space and checking endoscopically that we are beyond the GEJ.
3. The GEJ appears as a very tight space during myotomy and the space opens up beyond that, which helps in identifying the GEJ.
4. The so called “spermal vessels” in the gastric cardia help with confirming that myotomy is carried out beyond the GEJ.

We have added these tips to the review.

We follow these patients in the postoperative period with barium swallow and a QOL questionnaire and document their Eckerdt score at 2 weeks, 6 months, 1 year, 2 years, 5 years and 10 years after the procedure. If their Eckerdt score is > 3 or if they are symptomatic, then we recommend robotic-assisted Heller myotomy. We have now added these details of formal and quantitative symptom assessment after POEM to the review.

- With POEM LHM, RHM and PD there are several tools for treatment of achalasia. POEM is considered first choice in type III achalasia. On what factors do they make their choice of procedure

(Redo procedures, sigmoidal transformation of the esophagus treatment failures)? This should be explained in more detail.

- We do perform redo POEM if needed.
- To treat Type I and Type III achalasia, we prefer to do POEM
- If a patient with Type II achalasia has significant reflux symptoms, we counsel and offer them robotic heller myotomy with a modified Dor fundoplication

These practice preferences have now been added to the review.