

Peer Review File

Article information: <https://dx.doi.org/10.21037/asj-22-42>

Reviewer A:

Nice summary of rare topic in the context of the Chicago 4 classification. Clearly and well written. I would suggest the following changes to increase impact of this paper. First, I appreciate the discussion in the context of Chicago 4 classification, but can the authors elaborate on the changes with the new classification and discuss the manometric findings for each disease process in more detail.

Manometric definition for each disease was included in the text.

Also:

Based on this assumption, surgeons have always emphasized the need for objective GERD evaluation in patients with suspected PEMD [4], but this was only acknowledged by the last Chicago Classification [5]. Also, the new classification acknowledged that manometric findings are not clinically significant unless symptoms are present and sometimes a second test (e.g. barium swallow) confirms the diagnosis [2].

As you have clearly pointed out, the patient selection is key for surgical interventions in these disorders, it would be nice to have those diagnostics discussed within the text in addition to the figures included.

Manometric definition for each disease and the need for the presence of symptoms and absence of GERD were included in the text.

Second, a brief sentence or two, summarizing the authors recommendations based on the data reviewed for treatment of each disease would be nice for readers.

We added the following sentence to conclusions:

Achalasia, even type III, is best treated by LHM or POEM, although POEM is linked to a high incidence of GERD. LHM and POEM are competing as the primary procedure for other PMED; however, good-quality data is still elusive since classification recently changed, POEM is a relatively recent technology, and these diseases are not common.

Lastly, if some detail to medical and lifestyle treatments in those disorders can be included where surgical therapy is not indicated. I believe this would give the reader who will be searching for treatment options, more context for clinical care and treatment for their patients.

We added the following sentences in conclusion.

If surgical therapy is not indicated, pharmacological therapy may be helpful even though results are not always good, side effects are common and medicine posology is usually inconvenient [36]. Speech therapy rehabilitation may be helpful as well.

Reviewer B:

In this manuscript, the authors aim to review surgical therapies for primary motor disorders of the esophagus. Overall, the manuscript is well done and provides a succinct and focused review of the literature and available evidence.

The manuscript can be improved by the following:

- For EGJOO, please define as some readers may not be familiar with this term.

Definition was added:

“Esophagogastric junction outflow obstruction (EGJOO) is defined by normal peristalsis and a defective relaxation of the lower esophageal sphincter or, in manometric parameters, an abnormal median integrated relaxation pressure (IRP) (supine and upright) with $\geq 20\%$ elevated intrabolus pressure (supine), and not meeting criteria for achalasia.”

- For EGJOO, would also recommend to the reader that extrinsic causes of LES non-relaxation be evaluated (e.g., hiatal hernia, mediastinal mass, etc)

We added the suggested examples as the original text already mentioned that mechanical causes could lead to EGJOO.

“Most cases of EGJOO (figure 5) are asymptomatic, self-limited, or associated to mechanical obstruction especially after operations in the area (e.g., hiatal hernia, mediastinal mass, etc.).”

- The use of EndoFLIP is playing an increasing role in the intra-operative management of PMED. Recommend including a brief description of this technology and evidence supporting its use, especially to gauge myotomy adequacy or to tailor myotomy length.

We added the following comment:

New technology is also available to diagnostics. Functional luminal imaging probe is a catheter-based measurement of the complacency of the distal esophagus with the purpose of assessing esophagogastric junction opening dynamics and the stiffness of the esophageal wall [7]. This tool has been enthusiastically used to evaluate physiology before an operation and to guide myotomy adequacy during the operation; however, high-quality data is still scarce and conflicting results are present when compared to esophageal manometry [8].

- Fig. 1 should specify that this is for type 1 achalasia.

We added this information in the figure legend.

Example shows achalasia type I.

- There are several grammatical and spelling errors throughout. Please carefully proofread or have a secondary review by an editor.

Language was revised throughout the text.