

Article information: <http://dx.doi.org/10.21037/aoe-21-8>

Reviewer #1

It is interesting to read the surgical aspects and outcomes but I think this review would be better directed at looking at who should have a procedure and how they should be investigated. This would be far more useful to the reader and a much better contribution to the current body of literature particularly separating out the cases associated with a diverticulum. This data is very soft and it is difficult to make any useful conclusions.

Thank you very much for your comments.

This manuscript intended to review the indications, safety, and outcomes of surgical myotomy and toxin botulinum injection for UES disorders regardless of the etiology. Despite the scarce and heterogeneous available data in an unexplored field, we concluded that both treatment modalities are safe and effective for UES disorders. However, better long-lasting effects are achieved after surgical or endoscopic myotomy.

Reviewer #2

Overall, this is a succinct clinically meaningful update on treatment options in upper esophageal sphincter disorders.

Some points, however, need to be addressed:

1) please introduce a broad outline on how to clinically diagnose cricopharyngeal dysfunction (introduction section).

Thank you very much for your comment. A broad outline on how to clinically diagnose cricopharyngeal dysfunction was added to the manuscript as suggested.

“Patients with cricopharyngeal dysfunction may refer upper esophageal reflux, coughing, halitosis (especially if associated with a Zenker’s diverticulum) or progressive swallowing weakness in neurological disorders. Several studies can be used to reach the diagnosis, such as flexible endoscopy, manometry, videofluoroscopy, and manofluorography.”

2) please include in the Discussion section a short debate on endoscopic vs. surgical cricopharyngeal dysfunction

Thank you very much for your comment. We have included an expert commentary with a short debate on the current treatment modalities.

Reviewer #3

1. The authors submitted a narrative review of treatments of obstructive disorders of cricopharyngeus. The title suggests a comparison of two treatment modalities: cricopharyngeal myotomy and botulinum toxin injection (BTI), however, no direct comparison is made and it remains unclear in which setting each treatment should be used (in short the view among high-level experts is that botulinum toxin should not be used for fibrostenotic causes as there is no

theoretical basis for its use in this context). I would suggest changing the title to reflect that this is not a comparison but rather a review of these two treatment modalities (use and rather than vs.).

Thank you very much for your valuable comments. We agree with the reviewer. The title was changed as suggested.

“Cricopharyngeal Myotomy and Toxin Botulinum Injection for the Treatment of Upper Esophageal Sphincter Disorders: A Literature Review”

There are some questions after reading this review:

2. The review states as one of its aims the indications, however in most of the literature a "heterogeneous" group is described, and by implication, the reader is left no clearer on selecting patients appropriately for intervention. Although the authors report safe procedures it is possible that minor or even major complications may occur (as for any surgery) - the patient and surgeon both want reassurance regarding appropriate selection.

Do the authors think procedures done for fibrostenotic conditions such as Zenker's diverticulum should be grouped alongside neurogenic causes of dysphagia or separated out?

Thank you for your comments. We indeed agree that fibrostenotic conditions such as Zenker’s diverticulum and neurogenic causes of dysphagia involve significantly different pathophysiologic processes. However, we intended to included studies including all types of cricopharyngeal dysfunctions in order to give a broad view of this disorder, focusing on symptoms relief and quality of life improvement after different treatment modalities.

3. The rationale for the date range is unclear - presumably, this range followed on from that described by Buchholz in their review?

Thank you for your question. Yes, we have included Buchholz review in our manuscript. In addition, the rationale for the date range was based on the introduction of the toxin botulinum injection in the '90s.

4. The inclusion criteria (for studies) are not clearly defined so when the authors state they excluded studies that did not meet the inclusion criteria (page 4) I am unclear which ones were excluded and why. (Case studies were included so what was excluded)?

Thank you for your comment. Yes, case studies were included. We excluded studies describing UES disorders in pediatrics, in animals, and those not in English. In addition, studies describing only clinical, functional, imaging, or anatomical aspects (without including therapeutic options) of UES disorders were also excluded. This information was included in the methods section of the manuscript and the flowchart.

5. There is a narrative description of the surgery for the commonest techniques but the statement that open surgery has been replaced by endoscopic laser-based myotomy is not universally true and furthermore, additional novel procedures (e.g. Z-POEM) have been described and are not mentioned here.

Thank you for your interesting comment. We agree with the reviewer. A section mentioning Z-POEM was included in the expert commentary.

6. The outcome measures are unclear from the review - is it not true that in most cases these are self-reported improvements subject to recall bias with very few objective measures? At what time point or time points were these measured? While some objective measures are mentioned, the objective outcome is described for one study including an outcome for reflux, the significance which is entirely unclear to me - are you suggesting that reflux causes cricopharyngeal disorders? I remain somewhat confused on what basis single studies are selected for discussion (while others are not discussed) - would it not be better to group studies with similar underlying pathologies and discuss.

Thank you very much for your comments and questions.

Data regarding UES disorders are indeed heterogeneous. We have tried to discuss relevant studies on this topic with objective measurements. We are not suggesting that reflux causes cricopharyngeal disorders, but we think that the results of that study were relevant for the readership.

For me, at this stage, this narrative review does not provide enough guidance of treatments (in a complex and poorly understood area) and are missing elements of critical review (i.e. questioning?) and/or guidance on future directions (e.g. greater use of objective assessments).

Thank you very much. We have included an expert commentary section with a critical view of the current literature and highlighting the importance of objective assessments in future research.