

## Peer Review File

Article information: <http://dx.doi.org/10.21037/aoe-20-98>

Point-by-point authors' response to referees' comments on manuscript: AOE-2020-ATEH-02 (AOE-20-98)

Dear Editor,

We would like to thank you for your questions and remarks. Please find below our response to the comments and issues that were raised during our initial submission. We hope our revision adequately address your concerns and will lead to publication of our manuscript.

On behalf of all other authors,

Sincerely,

Eline de Groot

### Reviewer A

#### Comment 1

Is the presented technique standard of care in the authors center, meaning that: Were all patients in the given time operated using the handsewn technique or was the technique only used in selected cases? For example only distal tumors? This would mean a potential bias.

#### Reply 1

Thank you for this remark. The hand-sewn technique was indeed standard of care and used for all patients who underwent Ivor-Lewis. None of the patients received a mechanical anastomosis. We have made changes to the manuscript to clarify this (page 4).

#### Comment 2

Is the presented technique performed by a single surgeon or different surgeons? The technique is definitely only for advanced surgeons and I wonder if the results are generalizable? Please comment, as a stapled technique can be easily applied with the same good results by different surgeons.

#### Reply 2

The technique is performed by 2 experienced surgeons who both started to perform the hand-sewn anastomosis in 2016 and together developed the technique further since then. Although the technique is associated with a learning curve, surgeons who are proficient in robotic and upper GI surgery should be able to perform the standardized steps as described in the current paper. As this study shows the data from the surgeons who developed this technique, further studies are needed to evaluate whether the current outcomes can be reproduced by other surgeons. Changes have been made to the manuscript accordingly (page 4).

#### Comment 3

Do the authors have comparable results with a stapled technique? If so - do they give a recommendation which technique should be preferred? The RAMIE registry paper included mainly stapled anastomoses and I wonder if the authors have strong arguments for this very

individual approach. A stapled anastomosis in RAMIE patients has been reported with even lower leakage rates.

#### Reply 3

When we started performing esophagectomy by an Ivor Lewis approach in our center in 2016, no comparative data were available to make any assumptions concerning the optimal technique to create an intrathoracic anastomotic in RAMIE. As a three-stage approach with a hand-sewn cervical anastomosis was the standard of care in our center until then, we considered it to be the safest to adhere to a hand-sewn technique when transiting to an intrathoracic anastomosis in the context of the expected learning curve. The recent RAMIE registry paper is the first to show that most surgeons currently use a stapled anastomotic technique, which seems to achieve good results. Based on currently available literature, no clear advice can be given as to which technique is preferable in terms of anastomotic leakage rates. However, by showing that the current robotic hand-sewn technique achieves satisfactory outcomes in our center, this paper is valuable for surgeons who are looking for ways to increase their ability to tailor key elements of the intrathoracic anastomosis to their individual patients.

#### Comment 4

The authors say that "the hand sewn approach provides the surgeon full control and does not necessitate the presence of an experienced bedside assistant for the construction of the anastomosis"

I doubt this statement can be made. Others would argue that leaving the console for a bedside stapled anastomosis provides more control on the tension and quality of the anastomosis.

#### Reply 4

We agree with the reviewer that this statement is somewhat subjective. However, an experienced bedside surgeon is not a requirement to complete the hand-sewn anastomosis. The surgeon does not need to leave the console and is therefore fully independent and in control which could be considered as a benefit. We have nuanced the statement in the manuscript accordingly.

### Reviewer B

#### Comment 1

I think the reader will be interested in the evolution of technique since 2016 at your Center to the current standard which has resulted in good outcomes. This would enhance the paper.

#### Reply 1

We have published our initial results with all technical refinements that were made in a previous paper (De Groot et al, disease of the esophagus 2020). We have chosen for the current inclusion period since no additional refinements were made from November 2019 and onwards. We now believe that we have our final technique which we presented in the current manuscript.

#### Comment 2

A Table of leak rates from published RAMIE studies would also add to the value of this paper.

#### Reply 2

Thank you for this advice. We have added a Table of studies reporting on hand-sewn intrathoracic anastomosis during RAMIE to the Discussion section.

**Table 2.** Overview of articles reporting on robot-assisted hand-sewn intrathoracic anastomosis during RAMIE.

| <b>Study</b>       | <b>Year</b> | <b>Patients (n=)</b> | <b>Technique</b>          | <b>Anastomotic leakage rate n(%)</b> |
|--------------------|-------------|----------------------|---------------------------|--------------------------------------|
| Cerfolio et al.    | 2013        | 16                   | double layer, end-to-side | 0 (0%)                               |
| Trugeda et al.     | 2014        | 14                   | Double layer, end-to-end  | 4 (29%)                              |
| Bongiolatti et al. | 2016        | 8                    | Single layer, end-to-side | 2 (25%)                              |
| Egberts et al.     | 2017        | 52                   | Double layer, end-to-end  | 5 (10%)                              |
| Zhang et al.       | 2018        | 26                   | Double layer, end-to-end  | 2 (8%)                               |