Peer Review File

Article information: https://dx.doi.org/10.21037/jtd-23-1856

Reviewer A

A well written paper on an interesting issue.

Answer: Thanks.

Reviewer B

Congratulations to the authors on their early but impressive results for robotic-assisted Ivor Lewis esophagectomy for esophagogastric adenocarcinoma. The results are commendable as postoperative esophageal leak remains a devastating complication, and the authors showed excellent postoperative complication rates in their cohort of 72 patients. I have a few comments to help improve the quality of the mansucript.

Overall: There are some minor grammatical errors throughout the (e.g., pluralizing words that should be singular, and vice versa). Using a editorial program may help correct some of these.

Answer: OK. Thanks.

Introduction: I would steer clear of writing that any particular approach is consider the favored approach for performing the anastomosis. There are several described techniques, including handsewn and stapled, performed minimally invasively.

Answer: OK. Thanks.

Changes in text:

Please see line 88.

Methods: It is a significant limitation that only 24% of patients received preoperative neoadjuvant systemic therapy. With the advancement of endoscopic techniques for HGD and even T1a tumors and publications like the MAGIC trial showing increased survival for patients who received neoadjuvant systemic therapy, the number of patients who receive upfront esophagectomy should be quite low. I would expand on this in the discussion.

Answer: For patients with cT1N+ or cT2-4Nx, preoperative neoadjuvant therapy should be performed. This is a retrospective study and we also discuss the reasons why preoperative neoadjuvant therapy was not performed (see line 303-307).

Methods: Some steps of the operation are either missing or not completed in their technique. For example, there is no description in the abdominal phase about kocherization of the duodenum, pyloric emptying procedures, if a pedicled omental flap was created, etc.

Answer: This procedure does not have these operations about kocherization of the duodenum, pyloric emptying procedures, pedicled omental flap.

Changes in text:

Please see line 181.

Methods: Could comment on their use of angiography rather than contrasted fluoroscopy to

evaluate the anastomosis.
Answer: It's a writing error. It's been revised.
Changes in text:
Please see line 121 and 205.

Results: One in five patients who were supposed to receive a robotic procedure required conversion. This seems somewhat atypically high; can you comment on this more in the discussion? What were the complication rates of patients who required conversion?
Answer: In our hospital, this technique has just been developed, the anastomosis failure rate of the first 20 cases was high, and the indication of robotic surgery was relatively broad.
Changes in text:
Please see line 300-302.

Results: It might be more compelling to compare your outcomes data, including complications and operative outcomes, to that of the esophagectomies before implementing this technique.
Answer: see table 4. Thanks.

Results: Is there any oncologic data? E.g., proportion of R0 resection, number of lymph nodes retrieved, etc.
Answer: R0 resection was performed in all but 2 cases of exploration and the mean number of harvested LNs was 21±8, and the mean number of positive LNs was 3.75±5.18 (see line 260 and 261).
Changes in text:
Please see line 260-261 and 277-278.

Discussion: There is no paragraph discussing the limitations of the study, which is vitally important to include prior to the conclusion paragraph.
Answer: Multi-center studies with large samples are needed to confirm the long-term effects and outcomes of this procedure. Caution is advised when applying this procedure for Siewert type III AEGJ and patients who have undergone preoperative neoadjuvant chemotherapy.
Changes in text:
Please see line 386-389.

Reviewer C

I have carefully read the submitted text and I would like to express my gratitude for the opportunity. The document review has led to the identification of some critical issues that require a solution. In particular, the section on data analysis methodology needs to be expanded to provide more details on the statistical techniques used. Additionally, the conclusion section needs to be revised to clearly highlight the implications of the research findings. Finally, some lexical inaccuracies present in the text need to be corrected. I believe that a more accurate description of the surgical technique for anastomosis is necessary, as well as a more detailed presentation of the surgical results. For instance, I would suggest adding a detailed description with a corresponding table on the basic clinical characteristics of the study population (ASA?

BMI?...). Additionally, a summary table of the anatomopathological characteristics would be helpful. Furthermore, the surgical outcomes need to be more explicitly specified with regard to complications directly related to surgery, such as chylothorax, thoracic empyema, and cardiac arrhythmias. Anastomotic leak should be classified into types 1, 2, and 3. Therefore, in the Methods section, it would be appropriate to provide a better description of the inclusion and exclusion criteria. Lastly, the Conclusion section needs to be expanded with a mention of robotic surgery and its results. The authors can refer to the following work: doi: 10.1007/s11605-023-05616-w

Answer: As to statistical analysis, the chi-square test and Fisher's exact test were used to compare counted data and the *t*-test was used to compare measured data (see line 242-243). As to the conclusion section, the robot-assisted minimally invasive IL procedure with semi-mechanical IEA is both safe and feasible for AEGJ. As to the BMI of basic clinical characteristics, we refer to the writing methods of other articles, and many articles do not. As to the anatomopathological characteristics, we have the table 1 of Siewert classification (see table 1). As to the surgical outcome, please see table 5. There were only 2 cases of anastomotic leak, so there was no classification. In fact, the article is not about leaks. In the conclusion, the robot-assisted minimally invasive IL procedure with semi-mechanical IEA is the robotic surgery (see line 384-385).

Reviewer D

The investigators of "clinical outcomes of the robot-assisted Ivor Lewis procedure for adenocarcinoma of the esophagogastric junction with semi-instrument overlap intrathoracic anastomosis" present their technique and results of the operation. Questions/comments below:

1. Unfortunately for the investigators, though they should be commended for their overall patient results in terms of perioperative complications, length of stay, and mortality rates, there is little ground broken or novel information in this report. There have been a large number of published manuscripts detailing the various methods of intrathoracic anastomoses and outcomes of robotic Ivor Lewis esophagectomy. Our group published a series of 85 patients in 2016, which is just one study. A brief review of the systematic review published by Manigrasso et al in 2021 lists many large studies not cited in this manuscript.

Answer: I have paid attention to your article, but we are studying cancer of the esophagogastric junction, not esophageal cancer.

Changes in text:

Manigrasso M, Vertaldi S, Marello A, Antoniou SA, Francis NK, De Palma GD, Milone M. Robotic Esophagectomy. A Systematic Review with Meta-Analysis of Clinical Outcomes. J Pers Med. 2021 Jul 6;11(7):640.
As to the robotic Ivor Lewis esophagectomy of esophagogastric junction cancer, it has not been reported (see line 93).

2. Many thoracic surgeons have adopted robotic or non-robotic minimally invasive Ivor Lewis esophagectomy and so the barriers and risks brought up by the investigators in the introduction seem archaic.

Answer: This article mainly studies esophagogastric junction cancer, not esophageal cancer.

Changes in text:

Please see line 93.

3. There is commingling of Methods and Results in the methods section. The methods section needs to be rewritten. The design of the study (eg. retrospective review) should be made clear. All results should be moved to the Results section.

Answer: This approach has not been reported in esophagogastric junction cancer, and has rarely been reported in esophageal cancer.

4. The operation described is confusing. The xi system uses 8 mm camera and operating ports. However the investigators state that they use 12 mm and 5 mm trocars.

Answer: we have revised. Thanks.

Changes in text:

Please see line 170, 171, 187 and 188.

5. Why did the investigators use a handheld stapler rather than the robotic stapler? Most surgeons prefer having control of the robotic stapler rather than relying on their assistant.

Answer: In China or in our hospital, there is no robotic stapler.

Changes in text:

Please see line 201-202.

6. Is the conduit completely disconnected from the esophagogastrectomy specimen at the end of the abdominal phase? This should be made clear in the methods section.

Answer: The severed esophagogastrectomy specimen was connected to the gastric conduit by silk suture. We have revised.

Changes in text:

Please see line 179-180.

7. “Angiography” (line 184) does not seem to be the right term.

Answer: It's a writing error. It's been revised

8. What type of suture was used to place the second layer? Also, I am not sure I understand how two full-layer closures were performed. The nature and purpose of performing a SECOND full-layer closure is unusual, and goes against conventional methods of visceral anastomoses, whether via open or robotic techniques.

Answer: The first and second stitches are the same. The purpose of the second suture is to reinforce.

Changes in text:

Please see line 234-235.

9. I am surprised that 11 patients had stage IV cancer and underwent esophagectomy.

Answer: 11 cases were cIVA not cIV and the article explained that endoscopy may be not accurate, which would result in incorrect staging.

Changes in text:

Please see line 309.

10. I am surprised that over 50% of patients had stage III cancer but only 24% underwent neoadjuvant treatment.

Answer: For patients with cT1N+ or cT2-4Nx, preoperative neoadjuvant therapy should be performed. This is a retrospective study and we also discuss the reasons why preoperative neoadjuvant therapy was not performed.

Changes in text:

Please see line 306-311.

11. Siewert type III cancers are not typically treated with Ivor Lewis esophagogastrectomy.

Answer: In the present study, 14 patients were diagnosed with Siewert type III AEGJ and the IL procedure was mainly used because of suspected mediastinal LN metastasis before surgery (see line 290-293).

12. The R0 resection rate for the series should be stated

Answer: R0 resection was performed in all but 2 cases of exploration.

Changes in text:

Please see line 260-261.

13. Table 5 should be updated with the larger studies in the literature.

Answer: In 2023, here's a new report, only 30 cases. Alessandra Marano, Sara Salomone , Luca Pellegrino , Paolo Geretto , Manuela Robella, Felice Borghi Robot-assisted esophagectomy

with robot-sewn intrathoracic anastomosis (Ivor Lewis): surgical technique and early results. Updates Surg. 2023 Jun;75(4):941-952.

Changes in text:

Please see table 5.

14. The conversion rate of this series seems exceptionally high.

Answer: In our hospital, this technique has just been developed, the anastomosis failure rate of the first 20 cases is high, and the indication of robotic surgery is relatively broad.

Changes in text:

Please see line 301-303.

15. The statement “therefore, the robot-assisted minimally invasive IL procedure with semi-mechanical IEA can prevent anastomotic stricture” (line 312) is not supported. This is not a comparative study. There are many factors in the development of anastomotic stricture that may not be related to anastomotic stricture, but rather conduit creation, blood supply, etc.

Answer: Misnomer, revised. Thanks

Changes in text:

Please see line 332.

16. Performing the anastomosis prior to the esophagus being transected is an interesting modification of conventional technique, but seems cumbersome and unnecessary. Many surgeons around the world routinely transect the esophagus prior to performing the intrathoracic anastomosis, with both open and minimally-invasive techniques. There is certainly some “shortening” of the esophagus after division but this can easily be dealt with.

Answer: We believe that it is more convenient to perform side-to-side gastroesophageal anastomosis first and then to cut the esophagus.

Changes in text:

Please see line 227-230.