

Peer Review File

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Reviewer A

Congratulations to the authors for the good work and the scientific contribution.

Excellent surgical cases that allow us to give solidity to the results. Good literature and writing. I ask the authors for a small targeted revision on the description of the surgical operators. Are they always the same for both uniportal and triportal or a different team? Since the uniportal interventions are minor and the operating times have no significant difference, what does this mean? Is the uniportal simpler as a learning curve or is it simple for experienced multiportal surgeons to switch to the uniportal?

Comment 1: I ask the authors for a small targeted revision on the description of the surgical operators. Are they always the same for both uniportal and triportal or a different team? Since the uniportal interventions are minor and the operating times have no significant difference, what does this mean? Is the uniportal simpler as a learning curve or is it simple for experienced multiportal surgeons to switch to the uniportal?

Reply 1 : At our center, the surgeons are from the same team, and until 2019, they mainly performed three-port thorascopes. After 2019, almost all surgeons switched from three-port to single-port operation, because the surgeons had rich experience in three-port thoracoscopic technology, so they could acquire the ability of single-port thoracoscopic operation faster. Although there was no significant difference in operation time between the two groups, the average operation time of uniport VATS was higher than that of three-port VATS. This is also consistent with the conclusions of the previous study by Martin-Ucar et al[1] on the comparison of learning curves between uniportal and three-portal VATS.

[1] Martin-Ucar AE, Aragon J, Bolufer Nadal S, Galvez Munoz C, Luo Q, Perez Mendez I, et al. The influence of prior multiport experience on the learning curve for single-port thoracoscopic lobectomy: a multicentre comparative study†. *Eur J Cardiothorac Surg* 2017;51:1183–7. <https://doi.org/10.1093/ejcts/ezx003>.

Changes in the text: we have modified our text as advised (see Page 6, 19 line 79-84 348-350)

Reviewer B

In their retrospective study the authors have compared short and long-term outcomes of patients underwent VATS basal segmentectomy by single versus multiport approach. The results suggest that both procedures are feasible and safe.

I read carefully and with interest the paper.

I have several comments:

Comment 1: Consider to rephrase the running title. Consider a language editing by a native English speaker

Reply 1: We have rephrased the running title as “uniport vs three-port basal segmentectomy”.

We have received your feedback regarding the quality of the English writing in my article, and we fully recognize my shortcomings in English writing, which is an important issue that cannot be ignored for a researcher. In order to address this problem, I have decided to seek the assistance of a native English speaker to ensure that the language expression in the article is more accurate and fluent. Through collaboration with a native English speaker, I have thoroughly revised the article and made efforts to align it with the norms and requirements of academic writing. I have rechecked the grammar, vocabulary, and sentence structures, and made appropriate modifications to the expression to ensure that the article is more comprehensible and reads smoothly.

Changes in the text: We have modified our text as advised (see Page 1, line 10)

Comment 2: CALGB140503 trial should be added in the references and inserted in both introduction and discussion.

Reply 2: we have added CALGB140503 in both introduction and discussion.

Changes in the text: We have modified our text as advised (see Page 4-5,15 17 line 56-59, 274-277 310).

Comment 3: Material and methods: how the patients had been “selected”? Were they consecutive patients or were haphazardly included? This could be a serious bias.

It would be better to use a sharper definition for sub-solid nodules, for example consolidation-tumour-ratio-CTR- (lines 77-78)

Reply 3: We included consecutive lung cancer patients who underwent intended thoracoscopic basal segmentectomy at the Department of Thoracic surgery, West China Hospital from April 2015 to May 2022. Clinic data were retrieved from our prospectively maintained database from September 2005, Western China Lung Cancer Database (WCLCD). The patients who underwent different port approaches are not selected, but from different periods. In our center, before 2019 surgeons mainly performed tri-port thoracoscopic surgery. In 2019, almost all surgeons switched to uniport thoracoscopic surgery from tri-port surgery. Also, we balanced for confounding factors between the two groups by PSM to avoid selection bias.

In our center, the proportion of GGO components was greater than 50%, which was calculated based on the ratio of the maximum diameter of the membrane glass component to the maximum diameter of the tumor, which is a similar index as CTR.

Changes in the text: We have modified our text (see Page 6 line 79-95).

Comment 4: Discussion: a possible reason to explain the recurrence pattern “local, but not along the resection margin” is the STAS positivity. Did the authors analysed STAS in the resected specimens?

Reply 4: Unfortunately, in our study, we did not perform pathological testing for STAS on the resected specimens. However, literature suggests that STAS is an independent prognostic factor for RFS and OS. The presence of STAS can partially explain why most of the recurrences in our study occurred within the same lung rather than at the surgical margin.

However, the study by Zhong et al[2]. showed that in GGO-present nodules, the presence of STAS did not affect patient prognosis, as there was no statistically significant difference in RFS between the STAS-positive and STAS-negative groups (P=0.65). Therefore, further

pathological studies on STAS are needed to investigate the reasons for tumor recurrence in our study. We will continue to explore this direction.

[2] Zhong Y, Xu Y, Deng J, Wang T, Sun X, Chen D, et al. Prognostic impact of tumour spread through air space in radiological subsolid and pure solid lung adenocarcinoma. *Eur J Cardiothorac Surg* 2021;59:624–32. <https://doi.org/10.1093/ejcts/ezaa361>.

Changes in the text: We have modified our text (see Page 17-18 line 318-323).

Comment 5: Highlight box: if the uniportal approach has comparable results compared to multiport, why the message should be that UTBS is recommended?

Reply 5: We have corrected the message in the highlight box.

Changes in the text: We have modified our text (see Page 4 line 49).

Reviewer C

The authors aimed to compare the perioperative outcomes and oncological prognosis between uniport thoracoscopic basal segmentectomy (UTBS) and three-port thoracoscopic basal segmentectomy (TPTBS). 300 patients who underwent thoracoscopic basal segmentectomy (TBS) at the West China Hospital of Sichuan University from April 2015 to May 2022. The primary outcome was recurrence-free survival (RFS). The secondary outcomes were overall survival (OS) and perioperative outcomes. Operation time, duration of chest tube drainage, postoperative hospital stay, and postoperative complications, were similar. Postoperative drainage was found to be higher in 3 portal patients. My concerns are as follows:

Comment 1: Lower lobe basal segmentectomy in combination with another segment from lower lobe was studied. The title and the manuscript did not present the study as this until reader sees the Tables. Please clarify a- in the title, b- in the abstract and c- in methods and results

Reply 1: Thank you for your valuable input. We have added data on both the combined basal segmentectomy group and the single basal segmentectomy group in the title, abstract, methods, and results sections.

Changes in the text: We have modified our text (see Page 2 line19-20, 37-39, 98-99, 210-211, 241-246).

Comment 2: Authors that claimed “Basal segmentectomy is the most difficult of all types of segmentectomies”. It is not the common basal segmentectomy, it is the single or combined segmentectomy from basal segments. Please clarify this in the abstract first sentence and introduction.

Reply 2: Thank you for your valuable input. We have made explicit mention of basal segmentectomy in the abstract and introduction.

Changes in the text: We have modified our text (see Page 2, 5 line 22-23, 65).

Comment 3: I believe the major problem here is the difficulty and rarity of the isolated segmentectomies such as “isolated segmentectomies 8-9-10” and also “combination of these segments” without including segments 6. I would rather love to learn the outcome differences between these segmentectomies without considering the type of approach. I really do not mind about the differences between Uni vs Three port differences.

Reply 3: Thank you for your response. We have previously reported on the outcomes and technical details of isolated segmentectomies such as "isolated segmentectomies 8-9-10" and those that exclude segment 6 (PMID:34766225, 36386453, 32152779, 31288018). In this study, our focus is on comparing the perioperative and survival differences between single-port and three-port approaches. In this era of minimally invasive surgery, we prioritize the perspective of the patients and strive for a minimally invasive approach. In clinical practice, patients are indeed concerned about the differences between single-port and three-port surgeries.

Comment 4: Please understand this "In the world, there is still not a standardized approach for isolated lower lobe segment resections and there are only a few surgeons performing these types of surgeries in North America and Europe. The rest of the world is still far away. For this reason, please study more on the isolated and combined basal segmentectomy of the lower lobes, which could also be your new title.

Reply 4: In our center, through unremitting efforts, we developed a single-direction thoroscopic lobectomy surgery (PMID:30505503, 30505502) and applied it to basal segment resection (PMID:32111428), which is considered the most difficult procedure among all the thoroscopic surgeries. In our early work, we published the largest case series of single-direction thoroscopic basal segmentectomy in the world (PMID: 32111428). Later, we continuously explored the uniport single-direction thoroscopic basal segmentectomy, and achieved good results (PMID: 36386453). We also established an overseas training course on single-direction thoroscopic lobectomy, to share our experience of single-direction thoroscopic lobectomy and segmentectomy with colleagues around the world. Thank you for your valuable feedback. We will continue to work in this field.

Comment 5: Please change the study to

- "Analysis of basal segment resections in both lung lower lobes either isolated or combined with other lower lobe segment/s"
- Compare uni vs three port in this context in uni and multivariable statistical tests.
- If you want to keep your manuscript as this " Please make the changes recommended above and make the readers understand what do you really want to study?"
- Please discuss with robotic surgery potentials.

Reply 5:

- Thank you for your valuable comments. We have added the subgroup analysis of basal segmentectomy in both lung lower lobes either isolated or combined with other lower lobe segment/s.
- We have compared uniport VS triport thoroscopic single or combined basal segmentectomy in the univariate and multivariate Cox proportional hazards regression statistical tests
- We sincerely thank you for your valuable feedback, which lead to a novel research direction. In our knowledge, there is no definite criteria for surgeons to determine whether a uniportal or triportal thoroscopic surgery should be performed when a basal segmentectomy is needed, which is regarded as one of the most difficult kind of segmentectomy, thus, we conducted this study to explore the differences on postoperative and oncological outcomes between uniportal and triportal thoroscopic surgery. We have rewritten this part in

introduction part.

- Robotic surgeries are increasingly used in minimally-invasive thoracic surgery, so we do agree on your suggestion that robotic surgery potentials should be discussed. We have added some references and discussed that in our manuscript.

Changes in the text: We have modified our text (see Page 2, 5, 14, 16 line 36-38, 70-75, 241-248, 262-264, 292-298).

Reviewer D

This report was interesting because the uniportal segmentectomy has been a topic in recent years, however, it has a few limitations.

Comment 1: Although the authors assessed OS and RFS in this study, I think that the observation term is too short to analyze these survival rates because the possibility of recurrence can be low after treatment for GGO-dominant tumors. If we evaluate these survival rates, we need more observation time. I wondered whether the collection of patients was correct because this study included patients who underwent segmentectomies between 2018 and 2022. I couldn't understand why the authors indicated three-years of PFS and OS.

Reply 1: We believe that it is an excellent suggestion which is very helpful for improving our manuscript, as well as the important guiding significance to our research. We admit that more observation time is needed and we have mentioned this as a limitation in the discussion part. The single-port group was mainly included after 2019. In fact, with a median follow-up of 17 months (range, 2-36 months) in the single-port group and 30 months (range, 13-65months) in the three-port group, 3-year RFS and OS were selected as outcome measures to maintain consistency between groups and consistency of the curves to avoid short KM curves in the single-port group. We will conduct further studies to evaluate long-term oncological outcomes of this cohort.

Changes in the text: we have revised the text (see page 12 line 216-217).

Comment 2: I wondered if the significantly low intraoperative blood loss depended on the effect of the learning curve.

Reply 2: Although the median operative blood loss was less in the single-port group than in the three-port group, the difference in this value was only 10ml, which we analyzed may be related to more incision bleeding in the three-port group than to the learning curve. At our center, the surgeons are from the same team, and until 2019, they mainly performed three-port thoroscopes. After 2019, almost all surgeons switched from three-port to single-port operation, because the surgeons had rich experience in three-port thoracoscopic technology, so they could acquire the ability of single-port thoracoscopic operation faster. Unfortunately, there is not enough sample size to draw the learning curve of the single-hole group in this paper, and we will work further in this direction in the future.

Changes in the text: We have revised the text (see page 16,19 line 290-291, 351-353).

Comment 3: Although the authors referenced JCOG 0802/WJOG 4607L in the discussion section, the JCOG 0802/WJOG 4607L included patients whose nodules were less than 50%

GGO. I think that the background of the subjected patients are different between this study and JCOG 0802/WJOG 4607L. Therefore, it is recommended for the authors to revise the comments in the discussion section.

Reply 3: Thank you for your valuable feedback. Your contribution has greatly enhanced the scientific rigor and precision of our article. We have revised the discussion section accordingly.

Changes in the text: We have revised the discussion section (see page 15 16 17 line 272-277 299-303 314-317)

Reviewer E

The authors reported that perioperative outcomes and oncological prognosis between uniportal segmentectomy and multiportal segmentectomy.

The manuscript showed detailed information on basal segmentectomy, and perioperative outcomes in uniport thoracoscopic segmentectomy is remarkable in the authors' institution. Unfortunately, this study includes selection bias because this study is a single institutional study and the authors did not show the criteria used to select UTBS and TPTBS.

I have some concerns as followings.

Major

Comment 1: This present study may have a strong selection bias. It is necessary to indicate the criteria used to select UTBS and TPTBS because

Reply 1: In our center, surgeons come from the same team. Before 2019 they mainly performed triportal thoracoscopic surgery. In 2019, almost all surgeons switch to uniportal thoracoscopic surgery from triportal surgery. The patients who underwent different approaches are not selected, but from different periods. We have depicted the trend curve in operation cases by year. Also, we balanced for confounding factors between the two groups by PSM to avoid selection bias.

Changes in the text: see page 6 line 81-84

Comment 2: The authors should describe an accurate classification of stage 1A cases. This classification would affect DFS. The difference in recurrence rates between this study and existing studies is discussed in the discussion. Referring to the Kaplan-Meier curve of this study, it can be said that many patients dropped out of follow-up and the data are not prognostic. Therefore, this study's unusually low recurrence rate cannot be explained solely by the venous antecedent. Prognosis should not be mentioned in data with a short follow-up period and many dropouts from follow-up.

Reply 2:

We provided accurate classification descriptions for patients with IA in the results section.

Thank you for reviewing our study and providing your valuable feedback. We appreciate your thorough evaluation of the Kaplan-Meier curve and your concerns regarding the follow-up period and dropouts in our data. We acknowledge the fact that there were indeed several patients who dropped out of follow-up, resulting in a substantial amount of censored data in the study. Some patients underwent surgery close to our follow-up endpoint, which did not allow for a 3-year follow-up period. As a result, there were many cases of censored data in the KM curve.

As uniport thoracoscopic segmentectomy was performed since 2019 in our center, patients who underwent UTBS could experience a relatively short term of follow-up, which could be a limitation, and it may have impacted the interpretation of our findings, particularly when considering the prognostic implications of the data. We apologize for any confusion caused by our initial statements regarding the recurrence rate and its association with the venous antecedent. Upon reevaluation, we agree that it would be premature to attribute the unusually low recurrence rate solely to the venous antecedent, given the limitations of the follow-up period and the significant number of dropouts. We understand that this aspect should not have been mentioned in the context of prognosis without a more comprehensive analysis. Your feedback has highlighted the need for further research to address these limitations and provide a more robust understanding of the factors influencing the recurrence rate in patients with IA. We appreciate your understanding of the challenges faced in conducting long-term follow-up studies and assure you that we will take your comments into consideration for our future investigations. Once again, we sincerely appreciate your insightful feedback and constructive criticism. Your guidance will undoubtedly contribute to the improvement of our research. If you have any additional suggestions or recommendations, we would be grateful to hear them.

Changes in the text: see page 13, 17 line 220-222, 311-319

Comment 3: Postoperative complications in UTBS (pulmonary infection, prolonged air leak, continuous drainage, cerebrovascular accident) are extremely low at 1.56%. Only four types of postoperative complications are presented, which may indicate that postoperative complications are underreported compared to existing studies.

Reply 3: Thank you very much for your review and valuable feedback on our study. After re-examining the data of the included cases, we have identified that our study indeed missed reporting three cases of pulmonary infection in the single-incision group. We sincerely apologize for this oversight and appreciate your observation.

We deeply regret this omission, as the objective of this study was to comprehensively and accurately report the occurrence of postoperative complications. We will ensure to strengthen the monitoring and reporting of postoperative complications in future studies to provide more complete and accurate data.

At the same time, we would like to emphasize that the postoperative complication rates in our study are consistent with our previous study (DOI: 10.21037/tlcr-22-651). Our data showed an incidence rate of 6.0% (4/67) for combined complications such as pulmonary infection, prolonged air leak, continuous drainage, and cerebrovascular accidents following UTBS surgery. Although we did miss reporting some cases of pulmonary infection, it does not alter our overall assessment of the occurrence of postoperative complications (We re-cleaned and calculated the postoperative complication data).

Once again, we appreciate your review and correction. We will make improvements to address the shortcomings in the study and take appropriate measures to ensure the accuracy and completeness of future research.

Changes in the text: see page 14 18-19 line 250-252 336-345 Table 2 and 3

Comment 4: The various outcomes in this study are unusually favorable compared to those reported in existing studies, which may be a statistical bias caused by the small number of cases.

Reply 4: We admit that the number of cases is relatively low due to the specificity of single-direction surgery approaches in our study. We have already mentioned this aspect in the discussion part. We will further conduct deeper large sample size researches in the future.

Comment 5: We would like to know more information about the five recurrent cases. For example, which segment the tumor was located in, what procedure was performed, in which segment the tumor recurred, etc.

Reply 5: Thank you for your response and feedback. We have taken note of your request for additional details regarding the five recurrent cases. In our study, we recorded relevant preoperative and postoperative information of the patients and have presented the key findings in the main manuscript and Table S3. However, due to the unavailability of data on the specific site of tumor recurrence, we are unable to provide further recurrence details as requested. We appreciate your interest in our research and the valuable feedback provided during the review process. We will strive to improve our study and reporting to offer more comprehensive information.

Changes in the text: see page 14-15 line 258-263 Table S3

Comment 6: In general, uniport segmentectomy is more difficult than three-port segmentectomy. However, in the authors' institution, perioperative outcomes are better for uniport surgery than multi-port surgery. The authors should explain more about the reason for this.

Reply 6: In general, there are no statistical significance in the postoperative complications except intraoperative blood loss. We speculate that this may be associated with less oozing of blood in a single incision compared to a three-incision. Our study concluded that UTBS can be an alternative to TTBS, even if single-port is more difficult. A single incision can result in less postoperative pain and aesthetics, and is more acceptable to the patient. It is true that uniportal VATS surgery is more difficult than three-portal VATS, but for experienced surgeons who have qualification to perform thoracoscopic segmentectomy, conversion from three-portal to uniportal is easy. Unfortunately, there is also a lack of sufficient sample size to draw a learning curve to further explain the reasons for the differences in perioperative outcomes.

Comment 7: There were two distant metastases. Was there any difference in the quality of lymph node dissection, such as the number of lymph nodes dissected between uniport and three-port?

Reply 7: Thank you for your valuable feedback on our manuscript. We apologize for not including the information related to lymph node dissection in our initial submission. We have now included the information on the number and stations of lymph node dissection in our study and upon statistical analysis, it was found that there was no significant difference in the number ($p=0.856$) and stations ($p=0.561$) of lymph node dissection between the uniport and three-port groups.

Thank you again for your insightful comments and suggestions which have helped improve the quality of our research.

Changes in the text: see page 2 14 18 line 35 247-248 330-335 and Table 2

Minor

Comment 1: Was 3D-CT not used in determining the surgical procedure?

Reply 1: In practice, we do not routinely employ any assistant techniques for lesion localization when we plan to perform a segmentectomy; instead, we review the targeted segment by carefully reviewing the HRCT during the preoperative planning. Then, if we resect the planned segment, the nodule will be resected successfully. However, if the surgeon is not sure that he/she can localize the nodule, additional intraoperative localization techniques are encouraged.

Comment 2: The explanation of aberration in Table S2 is Insufficient.

Reply 2: We appreciate your valuable suggestion on insufficient explanation of aberration, and we have corrected it in the table S2.

Reviewer F

Comment: The manuscript was well written and almost acceptable. However, there were some typos or mistakes in the sentences. The manuscript should be proofread by the native experts.

Reply: We have already made the manuscript reviewed by a fluent English speaker carefully and typos found in the manuscript have been corrected.

Reviewer G

Study is a retrospective assessment of uniportal versus multiportal segmentectomy for lung cancer in basal segments. Cohort is 300 patients (67 uniportal and 233 triportal), with 1:1 matching (64 patients in each group), mostly for mid-age patients (mean age around 50), with a predominance of non-smoker (>80%), and most cases are micro-invasive adenocarcinoma (>50%).

My comments are below:

Comment 1: English of the manuscript need minor revision as there are some typos.

Reply 1: We have already made the manuscript reviewed by a fluent English speaker carefully and typos found in the manuscript have been corrected.

Comment 2: I congratulate the authors for the study results, especially no postoperative death with 100% OS at 3 years and the low rate of postoperative complications (<5%). These results are potentially explained by the stage of the disease (mostly MIA) and the minimally-invasive approach. Can authors comment on this?

Reply 2: We have reexamined the data from the Western Lung Cancer Database and found 3 cases of postoperative lung infection that were previously missed. Based on our recalculation, the rate of postoperative complications is 6.25%, which is consistent with our previous results and with other studies. Although we did miss reporting some cases of pulmonary infection, it does not alter our overall assessment of the occurrence of postoperative complications (We re-cleaned and calculated the postoperative complication data). However, due to the relatively short 3-year follow-up period, it may be difficult to detect any postoperative deaths, we found some similar OS results, for example, see Nomori H, Yamazaki I, Machida Y, Otsuki A, Cong Y, Sugimura H, Oyama Y. Lobectomy versus segmentectomy: a propensity score-matched comparison of postoperative complications, pulmonary function and prognosis. Interact

Cardiovasc Thorac Surg. 2022 Jan 6;34(1):57-65. doi: 10.1093/icvts/ivab212. Epub 2021 Oct 25. PMID: 34999814; PMCID: PMC8743134. So we will continue to monitor the patients to determine the long-term efficacy of the surgery.

Regarding the relationship between our study results and the disease stage and minimally invasive surgery, we agree that these factors can indeed affect patient risk and treatment outcomes. The majority of patients in our sample did have early-stage lung cancer or MIA, which generally have a good surgery prognosis. Additionally, we utilized minimally invasive surgical techniques that can reduce surgical trauma and bleeding risks, thus further reducing the risk of postoperative complications for patients. Thank you for your interest in our study and for bringing up these important questions.

Changes in the text: see page 14 17 line 250-252 312-319

Comment 3: No patients were switched from uniportal toward triportal surgery. Were some procedures switched toward biportal surgery?

Reply 3: No uniportal surgeries were converted to biportal surgeries. In cases where patients had chest adhesions, we modified the electric cautery hook or scalpel into a suitable curved shape to break down the adhesions. Under normal circumstances, uniportal thoracoscopic operation can be competent for basal segment resection through a single-direction manner.

Comment 4: Conversion rate is 0% (0 conversion for emergent and non-emergent cause (oncological, technical issue)). I am surprised to see such a result, in a cohort of 300 procedures of complex segmentectomy. Were those patients excluded? Can authors comment on this low rate?

Reply 4: In our study, no uniportal surgery was converted to triportal or thoracotomy. Triportal thoracoscopic surgeries were also not converted to thoracotomy, and we are happy to have achieved this incredible result. We have reported the result in our previous studies (DOI: 10.21037/tlcr-22-651, 10.1016/j.jtcvs.2020.01.028). We believe it is due to our preoperative CT planning of the surgical trajectory and accurately identifying the adjacent structures and vascular relationships. In our opinion, anatomic segmentectomy can be considered a lobectomy with deeper localized hilar structures and completely hypoplastic fissures. In the single-direction manner, it is possible to accomplish all cases of single or combined basal segmentectomy through an inferior pulmonary ligament approach, which is the preferred approach in our practice, without worrying about the fissures.

Comment 5: In some cases, a basal segmentectomy may be switched toward a full basilar segmentectomy (S7,S8,S9,S10) or a lower lobectomy. This is not mentioned in the manuscript or supplemental table 1. Did this case never happened in your full cohort? Or where those patients excluded?

Reply 5: In our study, the left S8+9+10 resection and the right S7+8+9+10 resection were considered common basal segment resection and were not included in the study. It is worth mentioning that there were no patients in our study who required common basal segment resection.

Changes in the text: see page 6 line 95-96

Comment 6: In my humble opinion, it is statistically incorrect to assume “similar perioperative outcomes and oncological prognoses” only on the absence of difference between two approaches with a very small number of events to compare.

Reply 6: Thank you for your comment. We appreciate your concern regarding the statistical basis of our study. While we acknowledge that the sample size of our study is limited, we carefully analyzed our data and used appropriate statistical methods to compare the perioperative outcomes and oncological prognoses between the two different surgical approaches. We understand that the absence of a statistically significant difference between the two groups does not necessarily indicate that they have similar outcomes, but we believe that our study provides important preliminary evidence and highlights the feasibility and safety of uniportal thoracoscopic surgery for the treatment of early-stage lung cancer. However, we recognize the need for further research with larger sample sizes to validate our findings and draw more definitive conclusions. Thank you again for your valuable feedback and insights.

Comment 7: The surgical approach impact the surgical gesture (hilar dissection, fissural dissection, vessel dissection and lymph node dissection). I miss data regarding the quality of surgery in both groups (number of lymph node harvested, number of lymph node station explored), and especially the uncertain resection status, as described by Smeltzer et al. JAMA Oncol. 2018 Jan 1;4(1):80-87. doi: 10.1001/jamaoncol.2017.2993 ; and also more recent work on quality metrics on segmentectomy in Logan et al study: J Thorac Cardiovasc Surg. 2023 Jan;165(1):351-363.e20. doi: 10.1016/j.jtcvs.2022.05.050. Epub 2022 Aug 5.

Please consider adding data and comment on that.

Reply 7: Thank you for your valuable feedback on our manuscript. We apologize for not including the information related to lymph node dissection in our initial submission. We have now included the information on the number and stations of lymph node dissection in our study and upon statistical analysis, it was found that there was no significant difference in the number ($p=0.856$) and stations ($p=0.561$) of lymph node dissection between the uniport and three-port groups. The detailed outcomes were shown in revised Table 2. Forty-three patients underwent lobe-specific hilar and mediastinal lymph node dissection in the UTBS, while in the TTBS group, 127 patients underwent the same procedure. Systemic hilar and mediastinal lymph node dissection was conducted for 19 cases in the UTBS group and 77 cases in the TTBS group. Systemic hilar and mediastinal lymph node sampling was performed for 5 patients in the UTBS group and 29 patients in the TTBS group. Postoperative pathology revealed that two patients were occurred lymph node invasion (1 case each of N1 and N2). Both patients declined adjuvant therapy and were followed regularly. The extent of lymphadenectomy differed among patients because of the difference in their clinical staging and the surgeons' choice. As for resection margin status, we set a priori that the surgical margin was more than 2 cm or greater than the maximum diameter of the tumor and Specimens were sent for intraoperative frozen-section pathology to determine if the resection margins were adequate. A final pathologic examination confirmed the radical resections with free surgical margins in all the patients.

Changes in the text: see page 13 14 18 line 220-230 247-248 331-336

Comment 8: While blood loss is significantly different within the two groups, I believed that the measured difference has no impact on patient perioperative outcomes (20 vs 30ml).

Reply 8: We completely agree on your opinion. In the article we described the fact objectively instead of implying the impact of blood loss on postoperative and oncological prognosis. A possible reason could be that one incision in UTBS oozes less blood than three incisions in TTBS.

Comment 9: The main issue with this manuscript in my humble opinion is that the comparison of one versus several port is an old surgical debate, which should be supplanted by the comparison of technical aspect in segmentectomy itself, to ameliorate the oncological metrics of this procedure, in the light of the JCOG trial.

Reply 9: In the revised manuscript, we not only compared single-port and triple-port procedures but also added subgroup analysis comparing sublobar resection and lobar resection. We appreciate your valuable feedback and will continue to investigate single-direction thoracoscopic surgery in our future studies.

Comment 10: Lastly, the known benefit in uniportal surgery is pain reduction. This aspect is not reported in this study.

Reply 10: We think this is an excellent suggestion. However, because of the retrospective design of our study, we didn't obtain the severity of pain postoperatively. We have added this aspect in discussion.

Changes in the text: see page 19 line 357-360