Peer Review File
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Reviewer A

Dr. Ahn and Dr. Moon reported a comparison of the short-term outcomes of simple and complex segmentectomy via U-VATS.
This retrospective single-institutional study is well conducted and this manuscript is well written.

Title:
Comment 1: How about revising as follows: A comparison of the short-term outcomes of simple and complex segmentectomy via Uniportal video-assisted thoracoscopic surgery.
Reply 1: Thanks for your good advice. As recommended, we have changed the title of the manuscript.
Changes in the text: A comparison of the short-term outcomes of simple and complex segmentectomy via Uniportal video-assisted thoracoscopic surgery (Page 1, line 1-2)

Keywords:
Comment 2: Abbreviations should not be included within keywords.
Reply 2: Thanks for your kind advice. We have changed VATS to video-assisted thoracoscopic surgery as you have recommended.
Changes in the text: video-assisted thoracoscopic surgery (Page 2, line 24)

Methods:
Patient population
Comment 3: How many patients who underwent segmentectomy resulted in R1 or R2 resection?
Reply 3: All patients who underwent segmentectomy for lung cancer achieved R0 resection (see page 4, line 20-22). During a retrospective review of 476 patients who underwent lung cancer surgery, we identified one R1 and one R2 resection event each involving patients who underwent lobectomy.
Changes in the text: There are no changes to the manuscript.

Surgical technique
Comment 4: How do the authors locate of the tumor during surgery? The location of the tumor during surgery can help prevent narrow surgical margins.
Reply 4: Prior to initiating the segmentectomy, our approach involved attempting to palpate the lesions and marking them with a marking pen if they were detectable by touch using a curved suction tip. In cases where the target lesion was not palpable, we would carefully review the CT scans and proceed with palpation after segment retrieval, assuming that the lesion would be located within the retrieved segments. When the resected margin is shorter than the size of the tumor, our usual course of action is to perform additional wedge resection in order to obtain a more resection margin.
Changes in the text: We have modified our manuscript (see page 5, line 12-17).

Comment 5: Lines 90-91: "Fine dissection was carried out to ensure an adequate resection margin." I do not understand the intent of this sentence. What do the authors want to state in this sentence?
Reply 5: While performing the surgical technique, it is important to note that delicate dissection is required to provide more space for dissecting the segmental vessels and bronchus. However, considering the context, it may not be necessary to include this particular sentence in the surgical technique.
Changes in the text: The sentence has been deleted.

Comment 6: Lines 92, 94, and 95: What is the difference between "mediastinal lymph nodal dissection" and "systemic lymph node dissection" as described by the authors? Also, isn't it "systematic", not "systemic"?
Reply 6: Thank you for the comment. We meant lobe-specific lymph node dissection and systematic lymph node dissection.
Changes in the text: We have modified our manuscript (see page 6, line 4, 6).

Discussion:
Comment 7: Lines 216-217: "These results suggest that, similar to Okubo et al., surgeons should pay close attention to ensuring adequate surgical margins during complex segmentectomy." This description alone is insufficient. Please provide specific suggestions on how to prevent close surgical margins.
Reply 7: While our institution currently lacks 3-dimensional reconstructed CT images, incorporating them during complex segmentectomy could be beneficial in achieving longer surgical margins by aiding in preoperative decision-making regarding the specific segments to be resected.
Changes in the text: The sentence and new reference are added (page 11, line 23-24; page 12, line 1-2; and page 14, line 35-37).

Table:
Comment 8: Table 2: Many variables of low importance are included. Please narrow down the variables and modify the layout to make it easier to read.
Reply 8: Family history of malignant tumors and Pulmonary function are deleted.
Changes in the text: Two variables of low importance are deleted (page 15). Two words are also deleted in the manuscript (page 8, line 5 and page 11, line 7).

Comment 9: Table 3: ICG is not used in all cases, but please also describe the intersegmental identification method when ICG is not used.
Reply 9: In situations where we have limited availability of ICG (indocyanine green) devices, we have implemented a lung inflation technique as an alternative method to delineate the intersegmental plane during surgeries that do not involve the use of the device.
Changes in the text: We have modified our manuscript (see page 5, line 25 and page 6, line 1).

Reviewer B

The authors investigated 199 patients with lung cancer who uniportal VATS segmentectomy to compare simple and complex segmentectomies. Uniportal VATS complex segmentectomy resulted in a shorter duration of postoperative stay but a closer surgical margin distance. The authors concluded that the use of uniportal VATS complex segmentectomy is a safe and feasible treatment option compared to uniportal VATS simple segmentectomy.

The results of this study seem reasonable to me. The main results of this study were that uniportal VATS complex segmentectomy resulted in a shorter duration of postoperative stay but a closer surgical margin distance compared to uniportal VATS simple segmentectomy, however, these results might be changed depending on the institutional policies for deciding on the surgical procedure and the timing for discharge from the hospital. Thus, it is unclear whether this study is valuable to the readers of the journal.

Comment 1: As I mentioned above, a margin distance might be changed depending on how the authors decided on the surgical procedures, such as the segment(s) to be resected. The authors should describe in the Methods that the institutional policies for deciding for the segment(s) to be resected in uniportal VATS segmentectomy.
Reply 1: Segmentectomy is the surgical procedure of choice in our institution for patients diagnosed with peripheral non-small cell lung cancer (NSCLC) who meet specific criteria, including a tumor size of 2 cm or smaller and no evidence of lymph node involvement. The decision regarding which lung segment to remove is made by the surgeon after a meticulous review of the chest CT scan.
Changes in the text: We have modified our manuscript (see page 4, line 25 – page 5, line 1-4).

Comment 2: Surgical technique: The authors stated that patients diagnosed with clinical stage 1A NSCLC had segmentectomy planned as a surgical procedure. Did you perform uniportal VATS segmentectomy even for patients with a large tumor, such as a tumor >3 cm? Tumor size should have had a strong impact on a margin distance. The data of pathologically evaluated tumor size should be presented and compared between the uniportal VATS simple and complex segmentectomies.
Reply 2: In our institution, segmentectomy is performed on patients with peripheral NSCLC who have tumors measuring 2 cm or smaller and no detectable lymph node involvement. In line with the reviewer's suggestion, we have included the data on pathologically evaluated tumor size in Table 2. Our results indicate that there is no statistically significant distinction observed between uniportal VATS simple and complex segmentectomies in terms of tumor size as determined by CT scans.
Changes in the text: We have modified our manuscript and Table 2 (see page 8, line 12 and page 16).

Comment 3: Surgical technique: The authors described that patients with tumors showing pure ground glass opacity (GGO) and part-solid GGO underwent mediastinal lymph nodal dissection

and in patients with tumors displaying part-solid GGO and solid patterns with standardized uptake values (SUVs) higher than 2.5 on FDG-Positron emission tomography/computed tomography (PET/CT), systemic lymph node dissection was performed. The difference between mediastinal lymph nodal dissection and systemic lymph node dissection may be confusing. Because the extent and method of lymph node dissection might affect the incidence of postoperative complications, the method for lymph node dissection should be clearly explained. Moreover, the date of lymph node dissection should be presented and compared between the uniportal VATS simple and complex segmentectomies.

Reply 3: Thank you for the comment. We meant lobe-specific lymph node dissection and systematic lymph node dissection. In addition, lymph node dissection was performed after segmentectomy on the same day.

Changes in the text: We have modified our manuscript (see page 6, line 4, 6).

Comment 4: Results: The authors described that there were no cases where lobectomy or other extended resections were necessary due to the presence of N1 node metastasis or misidentified structures. In Figure 1, the patients who underwent lobectomy or other extended resections were excluded at first. The patients who underwent lobectomy or other extended resections due to the presence of N1 node metastasis or misidentified structures should have been recorded as patients who underwent lobectomy or other extended resections. How did you identify that there were no cases where lobectomy or other extended resections were necessary due to the presence of N1 node metastasis or misidentified structures?

Reply 4: Following a thorough review of chest CT scans, if enlarged N1 or N2 lymph nodes are suspected, a PET-CT scan is conducted to assess the likelihood of nodal metastasis. This additional imaging modality aids in predicting the presence of metastatic involvement in the lymph nodes.

Changes in the text: There are no changes to the manuscript.

Comment 5: Were there no patients who underwent basal segmentectomies of the lower lobe, such as right S7-10 segmentectomy and left S8-10 segmentectomy?

Reply 5: In Table 1, within the complex segmentectomy group, there were a total of 5 patients who underwent basal segmentectomies of the lower lobe such as right S7-10 segmentectomy and left S8-10 segmentectomy.

Changes in the text: There are no changes to the manuscript.

Comment 6: Discussion: The authors described that we concluded that the comparison of postoperative stay duration between the complex and simple segmentectomy groups was not significant due to the influence of patients' preference to stay longer in the hospital as well as the absence of constraints on hospitalization periods in Korea's medical insurance system. Although the duration of postoperative stay is affected by patients' preferences and Korea's medical insurance system, these conditions might be not different in patients who underwent uniportal VATS simple and complex segmentectomies. The authors may explain the reason for a significant difference in the duration of postoperative hospital stay between the two groups and consider it in the Discussion.

Reply 6: The duration of postoperative hospital stay also exhibited a statistically significant

difference between two groups. However, we consider this finding to have limited practical significance due to several factors. Firstly, patients' preferences to prolong their hospital stay, along with the absence of constraints on hospitalization periods within Korea's medical insurance system, influenced the results. Furthermore, there was no statistically significant difference observed in the duration of chest tube drainage between the complex and simple segmentectomy groups, further diminishing the meaningfulness of comparing postoperative stay duration.
Changes in the text: We have modified our manuscript (see page 12, line 3-5 and line 7-14).

Comment 7: Table 2: What do FEV1 (%) and DLCO (%) mean? These parameters should be explained.
Reply 7: We have excluded those parameters from the Table 2 as they were deemed to have low importance.
Changes in the text: Those variables of low importance are deleted (page 15).

Reviewer C

The purpose of this retrospective study is not clear. Authors compared perioperative conditions and surgical margins of the resected specimens between cases who underwent uniportal simple segmentectomy and complex segmentectomy. The surgeon selected the surgical procedure depending on the cases. What facts will become clear in the present study? What did the authors want to clarify in comparison between simple segmentectomy to complex segmentectomy? Prognosis or recurrence was not investigated. Appropriate selection of surgical procedures, simple segmentectomy, complex segmentectomy, and lobectomy, is the most important fact. Can this study contribute appropriate selection of procedures? In my impression, at a single institution, a single surgeon performed uniportal segmentectomy and complex segmentectomy appropriately with enough margins. That is a fact proven in the present study.
If the authors want to clarify the superiority or non-inferiority of uniportal segmentectomy, authors should compare the cases who underwent segmentectomy with open thoracotomy and uniportal VATS. If the authors want to present their outstanding surgical procedures, they should submit the draft to “surgical procedure” not to “original article”.
Comment 1: above.
Reply 1: In this study, our objective was not to establish the superiority or non-inferiority of uniportal segmentectomy compared to segmentectomy with open thoracotomy. It is important to note that our data lacks long-term follow-up, and we have yet to report on disease-free survival and recurrence-free survival rates. However, the purpose of this paper is to present our findings that demonstrate uniportal VATS complex segmentectomy as a viable and safe alternative for patients diagnosed with clinical stage 1A NSCLC. We aim to highlight that early surgical outcomes of uniportal VATS complex segmentectomy are comparable to those of uniportal VATS simple segmentectomy.
Changes in the text: There are no changes to the manuscript.

Reviewer D

A very well structured paper describing the early surgical outcomes of a single surgeon performing uniportal video-assisted thoracoscopic simple segmentectomy versus complex segmentectomy in lung cancer patients.

As accurately highlighted in the paper, performing complex segmentectomy via uniportal video-assisted thoracoscopic surgery is a more demanding and intricate procedure than simple segmentectomy or lobectomy. Despite this, the results presented in the paper show no significant differences between the two approaches for this single surgeon, except from a small, yet statistically significant, difference in resection margins.

The authors underline in their abstract and the results that uniportal VATS complex segmentectomy resulted in shorter duration of postoperative stay, however there is no real clinical relevance to this result, as the discharge of patients was guided by the patients' preferences rather than their medical fitness for discharge. Within that context, I don't think this result should have been highlighted as a significant outcome of this study. Furthermore, the absence of long-term data including disease-free survival and recurrence-free survival limit the finding of closer resection margins to a simple number reference, with unconfirmed clinical implications.

The study results are significantly limited by the fact that this is the work of a single surgeon. Concluding that use of uniportal VATS complex segmentectomy is a safe and feasible treatment option compared to uniportal VATS simple segmentectomy for patients with clinical stage 1A NSCLC, with no difference in operative times, conversions, blood loss etc speaks more of the single surgeon's good technical ability to perform these procedures rather than a real life comparison between the two across the spectrum of thoracic surgery. A more valid conclusion would be that "use of uniportal VATS complex segmentectomy is a safe and feasible treatment option compared to uniportal VATS simple segmentectomy for patients with clinical stage 1A NSCLC in the hands of an experienced uniportal VATS surgeon".

Due to the limitations highlighted above, even though this is an interesting paper to read, and the authors and surgeon should be congratulated for their work, I find that this study is not ready for publication at this time and in its current format.

Comment 1: above.
Reply 1: The objective of this study was to present the findings that support uniportal VATS complex segmentectomy as a viable and safe alternative for patients with clinical stage 1A NSCLC. In line with the recommendation from reviewer 1, We have revised the topic of the manuscript as followed: A comparison of the short-term outcomes of simple and complex segmentectomy via Uniportal video-assisted thoracoscopic surgery. While it is true that our data lacks long-term follow-up and we have yet to report on disease-free survival and recurrence-free survival rates, our main intention is to emphasize that the early surgical outcomes of uniportal VATS complex segmentectomy are comparable to those of uniportal VATS simple segmentectomy. We acknowledge that in the next five years, when we have access to long-term data, including disease-free survival and recurrence-free survival rates, our

findings of closer resection margins may become important key findings. We plan to address these aspects in a future manuscript.
Changes in the text: There are no changes to the manuscript.

Reviewer E

Dr. Seha Ahn, et al reported uniportal VATS simple segmentectomy versus complex segmentectomy regarding the safety and feasibility. They compared 67 simple segmentectomies and 132 complex segmentectomies from May 2019 to February 2023. There were no significant differences between the two group regarding patient background, operative outcomes, and postoperative outcomes, except for the surgical margin. And they concluded that uniportal VATS complex segmentectomy was safe and feasible treatment option compared to uniportal VATS simple segmentectomy for the selected clinical stage IA NSCLC. However, it is important to note that a short resection margin is problem in complex segmentectomy.

I agree with their conclusion. However, there are many omissions in this paper that need to be added and reviewed. The following issues are raised.

Comment 1: In the methods, line 91, the authors stated that patients with tumors showing pure GGN and part solid GGN underwent mediastinal LND. Is this correct?
Reply 1: Thank you for the comment. We meant lobe-specific lymph node dissection.
Changes in the text: We have modified our manuscript (see page 6, line 4, 6).

Comment 2: In the table2, How often was mediastinal LN dissection performed in both groups? The mediastinal LN dissection would increase the operative time and should be listed in Table 2; the AIS and MIA rates are higher in the complex segmentectomy group. Is it likely that many cases in this group omitted the mediastinal dissection?
Reply 2: In our institution, patients diagnosed with primary lung cancer who were scheduled for uniportal VATS segmentectomy underwent either lobe-specific lymph node dissection or systematic lymph node dissection following the segmentectomy procedure. All patients included in this study had undergone either lobe-specific lymph node dissection or systematic lymph node dissection. Furthermore, our analysis revealed no statistically significant differences between the two groups in terms of tumor subtypes.
Changes in the text: There are no changes to the manuscript.

Comment 3: How is the resection margin set - is it the same for AIS or MIA and IAC?
Reply 3: Our approach aimed to achieve adequate resection margins of at least 2 cm or tumor size observed on CT scans after segmentectomy. Our policies apply to patients with AIS, MIA, and IAC.
Changes in the text: We have modified our manuscript (see page 5, line 12-13).

Comment 4: Clinical stage and pathologic stage should be added in the Table 2 and 3.
Reply 4: Rather than including parameters such as clinical stage and pathologic stage, our analysis compared different tumor subtypes. The subtypes considered were AIS, characterized

by non-invasive lesions; MIA, where the invasive component measures 0.5 cm or less; and IAC, with an invasive component exceeding 0.5 cm. Our findings revealed no statistically significant difference between the uniportal VATS simple and complex segmentectomies for these tumor subtypes.
Changes in the text: There are no changes to the manuscript.

Comment 5: The difference between simple segmentectomy and complex segmentectomy is the time taken for dissection of the intersegmental plane, so the number of endoscopic staplers required for dissection of the intersegmental plane in both groups should be listed in Table 3.
Reply 5: We concur with the reviewer's comment that the key difference between simple and complex segmentectomies lie in the time required for dissection of the intersegmental plane. Additionally, the number of endoscopic staplers used for this dissection process could be an important factor, although we regret that we did not collect data on the exact number of endoscopic staplers used in this study.
Changes in the text: There are no changes to the manuscript.

Comment 6: What are some of the important factors in the choice of surgical procedure for securing the resection margin? Did the authors use imaging tools such as 3D CT?
Reply 6: Our approach involved attempting to palpate the lesions and marking them with a marking pen if they were detectable by touch using a curved suction tip. In cases where the target lesion was not palpable, we would carefully review the CT scans and proceed with palpation after segment retrieval, assuming that the lesion would be located within the retrieved segments. When the resected margin is shorter than the size of the tumor, our usual course of action is to perform additional wedge resection in order to obtain a more resection margin. Unfortunately, we currently lacks 3D CT in our institution.
Changes in the text: We have modified our manuscript (see page 5, line 12-17).

Comment 7: In complex segmentectomy group, what specific measures can be taken to ensure the sufficient resection margin? The authors may add this to the discussion.
Reply 7: While our institution currently lacks 3-dimensional reconstructed CT images, incorporating them during complex segmentectomy could be beneficial in achieving longer surgical margins by aiding in preoperative decision-making regarding the specific segments to be resected.
Changes in the text: The sentence and new reference are added (page 11, line 23-24 and page 12, line 1-2).

Comment 8: In the Table3, one procedure in the simple segmentectomy converted to open thoracotomy due to bleeding, but maximum blood loss was 50ml. Is this correct?
Reply 8: In Table 3, the estimated blood loss (ml) is presented as the median value along with the interquartile range (IQR), representing the range between the first and third quartiles. It is important to note that the values presented represent the central tendency and spread of the data, rather than indicating the maximum blood loss recorded.
Changes in the text: There are no changes to the manuscript.

Comment 9: Line 50; CALBG ⇒ CALGB
Reply 9: Thank you for your comment. We have corrected a typo.
Changes in the text: We have modified our manuscript (see page 3, line 8).

Comment 10: There are many omissions regarding the above. Specific precautions to ensure the surgical margins are not mentioned. The paper is not worthy of publication due to the lack of new knowledge the reader can gain from it.
Reply 10: Thank you for your thorough review of our paper and we would like to hear that you were satisfied with the major revisions we made. We appreciate your valuable feedback and your contribution to improving the quality of our work.
Changes in the text: There are no changes to the manuscript.

Reviewer F

I read with much interest. This manuscript will be the first paper combined with uniportal VATS and complex segmentectomy. I have several questions.

Comment 1: First, the data depends on a single surgeon in a single institute.
So, the operator's experience or learning curve should be disclosed for many readers who want to follow. Additionally, technical issues of the complex segmentectomy should be described.
Reply 1: To overcome the learning curve associated with uniportal VATS segmentectomies, it is recommended to perform more than twenty cases in our opinion. The technical challenges of complex segmentectomy arise from the deep location of vascular structures and bronchi within the lung parenchyma, as well as the presence of anatomical variations. Although our institution lacks 3-dimensional reconstructed CT images, a careful and meticulous review of CT scans can aid in overcoming the technical difficulties associated with complex segmentectomy.
Changes in the text: We have modified our manuscript (see page 10, line 15-19).

Comment 2: Second, most perioperative data are comparable between two groups.
Especially, surgical time is even shorter in the complex group.
Complex segmentectomy is thought demanding than simple segmentectomy.
Author should explain why the data is reverse.
Reply 2: In our institution, the number of cases in the complex segmentectomy group was twice as high as that in the simple segmentectomy group. This indicates that complex segmentectomy is no longer considered more demanding than simple segmentectomy. Furthermore, the median operation time for both the simple and complex segmentectomy groups was recorded as 105 minutes.
Changes in the text: There are no changes to the manuscript.

Comment 3: This definition was proposed in 2019, and how do you evaluate this proposal?
If the data is reliable and has reproducibility, discrimination between two groups is no more necessary. What do you think?
Reply 3: Experienced surgeons no longer require discrimination between simple and complex segmentectomy. However, prior to gaining experience with performing more than twenty

complex segmentectomies, there are several technical challenges that need to be addressed. Overcoming these technical issues is crucial in successfully conducting complex segmentectomies.
Changes in the text: There are no changes to the manuscript.

Comment 4: Order of the references are easier to read if historically described.
Reply 4: The references in our manuscript have been arranged in an orderly manner. We appreciate your advice.
Changes in the text: There are no changes to the manuscript.

Comment 5: In the line 82, scope size is described as 10mm, whereas 5mm in Figure 2.
Reply 5: In our institution, a 5-mm, 30° scope is predominantly used throughout the procedure, except during the intersegmental plane delineation phase involving the systemic injection of ICG. It is important to note that we do not currently possess a 5-mm, 30° scope equipped with near-infrared fluorescence imaging capabilities.
Changes in the text: We have modified our manuscript (see page 5, line 9 and line 20-24).

Reviewer G

The paper addresses the topic of uniportal thoracoscopic surgery, which is currently the focus of worldwide interest as an approach to thoracoscopic surgery, and the controversy between lobectomy and sublobar resection, as exemplified by JCOG 0802.

Major
Comment 1: The classification of simple or complex segmentectomy is used in much of the literature. However, as you also state in your discussion, I believe that segmentectomy of the lower lobe is complex and deserves a separate category. (basal segmentectomy)
The classification of simple or complex segmentectomy is used in much of the literature. However, as you also mention in your discussion, I believe that segmentectomy of the lower lobe is a complex and challenging procedure. I think that there should be a separate category.
(Although basal segmentectomy is also simple.)
Further categorization and description of the lower lobe segmentectomy help the reader understand it better.
Reply 1: To ensure comprehensive analysis, five cases of basal segmentectomy were included within the complex segmentectomy group, instead of excluding them or creating a separate category. This approach allows for a more inclusive evaluation of complex segmentectomy procedures in our study.
Changes in the text: We have modified our manuscript (see page 10, line 19-22).

Comment 2: Although the indication for surgery is listed as IA (Line 77)
Does this mean IA1-3 or less? The Table does not list tumor diameter or invasion diameter. Please add.
Reply 2: Segmentectomy is the surgical procedure of choice in our institution for patients diagnosed with peripheral non-small cell lung cancer (NSCLC) who meet specific criteria,

including a tumor size of 2 cm or smaller and no evidence of lymph node involvement. In line with the reviewer's suggestion, we have included the data on pathologically evaluated tumor size in Table 2 and invasive size in Table 3.
Changes in the text: We have modified our manuscript and Table 2 and 3 (see page 4, line 25, page 5, line 1-2 / see page 8, line 12, page 16 and 17).

Comment 3: Adequate surgical margins are essential for performing segmentectomy. The authors have found that complex segmentectomy results in a slightly shorter surgical margin.
We want to describe any procedural considerations or measures to address this or anything else that should be mentioned if the reader is to be the leading surgeon.
Reply 3: While our institution currently lacks 3-dimensional reconstructed CT images, incorporating them during complex segmentectomy could be beneficial in achieving longer surgical margins by aiding in preoperative decision-making regarding the specific segments to be resected
Changes in the text: We have modified our manuscript (see page 11, line 23-24 and page 12, line 1-2) with new reference.

Comment 4: For the complications in Table 4, a classification such as the Clavien-Dindo classification may be necessary to indicate the severity of the complication.
Reply 4: Given the low complication rate (7 out of 199 cases), we did not utilize the Clavien-Dindo classification to assess complications in our study. Additionally, it is important to note that no mortality or severe morbidity occurred among the patients who underwent uniportal segmentectomy during the study period.
Changes in the text: There are no changes to the manuscript.

Comment 5: Line 153-154 "One case in the simple segmentectomy group required conversion to thoracotomy due to bleeding." What was the procedure, and what was the location of the bleeding in this one case? Please describe in detail.
Reply 5: In the simple segmentectomy group, one case (specifically, upper division segmentectomy) necessitated conversion to thoracotomy due to bleeding resulting from a tear between the left main pulmonary artery and the apicoposterior segmental branch.
Changes in the text: We have modified our manuscript (see page 8, line 21-23).

Comment 6: Do you simulate pulmonary arteries and veins on 3DCT before surgery?
Do you mark the tumor location for nonpalpable nodules?
Please describe any tips you use to perform the Uniportal VATS segmentectomy effectively.
Reply 6: Our institution currently lacks 3-dimensional reconstructed CT images. Prior to initiating the segmentectomy, our approach involved attempting to palpate the lesions and marking them with a marking pen if they were detectable by touch using a curved suction tip. In cases where the target lesion was not palpable, we would carefully review the CT scans and proceed with palpation after segment retrieval, assuming that the lesion would be located within the retrieved segments.
Changes in the text: We have modified our manuscript (see page 5, line 12-17).

Minor

Comment 7: About Table 2, you should include a note about the Adenocarcinoma grade.

Reply 7: As per your recommendation, we have incorporated a note in Table 2 to provide information about the adenocarcinoma grade. Specifically, well-differentiated is indicated for grade 1, moderately differentiated for grade 2, and poorly differentiated for grade 3. This addition allows for a clearer understanding of the adenocarcinoma grading in the table.

Changes in the text: We have modified our Table 2 (see page 16).

Reviewer H

The author compared the postoperative outcomes between uniportal simple and complex segmentectomies and concluded that uniportal complex segmentectomy was safe and feasible, securing sufficient tumor margin. I have a few comments as below.

Comment 1: Do you think what the advantage of uniportal complex segmentectomy is, as compared to RATS and VATS approaches?

Reply 1: Uniportal VATS offers advantages over multiport VATS and RATS, including reduced postoperative pain attributed to a single incision. Furthermore, as surgeons gain experience in uniportal VATS surgery, the operation time appears to decrease, suggesting increased efficiency in performing the procedure.

Changes in the text: There are no changes to the manuscript.

Comment 2: Is uniportal VATS a standard approach in your institution? Your postoperative outcomes of uniportal complex outcomes was excellent, however I do wonder why the comparison group was not multiportal VATS or RATS for the population who underwent complex segmentectomy, since that is really the most relevant comparison group rather than uniportal simple vs complex segmentectomies.

Reply 2: Our institution, which was established in 2019, initially had only two highly skilled thoracic surgeons. Notably, there existed a variation in the surgical policy regarding the choice between segmentectomy and lobectomy among these surgeons. To ensure a more focused and accurate study analysis, the comparison group in our study did not include multiportal VATS or RATS procedures, as the majority of segmentectomies were performed using the uniportal VATS approach by one of the surgeons.

Changes in the text: There are no changes to the manuscript.

Comment 3: Please describe the expertise and technical tips regarding the successful uniportal complex segmentectomy in the 'Discussion' section.

Reply 3: A crucial aspect emphasized in the Surgical Technique is the preoperative identification of the targeted segmental vessels and bronchus using chest CT scans. This meticulous process aids in ensuring the accurate indication for segmentectomy and contributes to the overall success of the procedure.

Changes in the text: We have modified our manuscript (see page 4, line 25, page 5, line 1-4, 12-17).

Comment 4: The resected segment should be described separately according to each side (right or left).
Reply 4: The size of the table can be greatly expanded by separately describing the resected segments on each side (right or left). The purpose of presenting Table 1 is to show how many different segments can be resected in complex segmentectomy group and whether more than one segment is resected to provide sufficient resection margin.
Changes in the text: There are no changes to the manuscript.

Reviewer I

I have read this manuscript with a lot of interest
This paper was about "Uniportal video-assisted thoracoscopic simple segmentectomy versus complex segmentectomy in lung cancer patients: early surgical outcomes" and was about a monocentric experience, reporting 199 consecutive patients (performed by one surgeron) who had complex (132) or simple (67) segmentectomies through Uniportal VATS and a comparison between both groups.

I have to congratulate authors for this interesting and comparative work.
Few studies have reported the results of U-VATS for Stage I NSCLC, but rare are those that studied the different outcomes with comparison of two different techniques of resection. Congrats for that.
I should also salute and congratulate the authors for the excellent iconography and the clarity of the provided figures and images in the manuscript.

Besides, I have to present some reflexions and other points should be taken under consideration:

Comment 1: above
Reply 4: We sincerely appreciate your kind words and positive feedback. Our utmost hope is that this paper proves to be informative and beneficial to the readers.
Changes in the text: There are no changes to the manuscript.

METHODS Section:
Comment 2: The definition of complex versus simple segmentectomies was well described at the beginning of the manuscript.
The operative technique as well as the surgical steps, and post operative management were very well described.
With regard segmentectomies programmation according to the tumor location, was there an established plan of the surgery course carried out on the data of the thoracic imaging with 3D reconstructions of the various bronchial, venous, or arterial divisions?
Reply 2: While our institution currently lacks 3-dimensional reconstructed CT images, a crucial aspect is to identify the targeted segmental vessels and bronchus using chest CT scans preoperatively. This meticulous approach plays a crucial role in ensuring the overall success and accuracy of the surgical procedure.
Changes in the text: We have modified our manuscript (see page 4, line 25, page 5, line 1-4,

12-17).

RESULTS Section:

Comment 3: Seven postoperative complications were noted in your series. Was there a statistical difference in terms of complications between the studied groups?

Reply 3: No statistically significant differences were observed in terms of complications between the simple and complex segmentectomy groups. This could be attributed to the low overall complication rate, with only 7 out of 199 cases experiencing complications. Furthermore, it is noteworthy to highlight that there were no instances of mortality or severe morbidity among the patients who underwent uniportal segmentectomy during the study period.

Changes in the text: There are no changes to the manuscript.

DISCUSSION Section:

The authors have included in the discussion part, two recent randomized trials to support the results found in this study and which support the fact that segmentectomies are not inferior to lobectomies.

The authors insisted on the fact that this series lacks data about long-term follow-up, overall survival, disease-free interval, and medium- or long-term tumor recurrence.

A follow-up of patients, with the publication of follow-up results at 5 years or more would be very beneficial to further support the results presented through this study, especially in terms of NSCLC.

Comment 4: above

Reply 4: We acknowledge the importance of long-term data, specifically disease-free survival and recurrence-free survival rates, in evaluating the effectiveness of our approach. We appreciate your suggestion and indeed, we are committed to conducting further research and publishing follow-up results at the 5-year mark. This will allow us to provide a comprehensive analysis of the outcomes and provide valuable insights into the long-term efficacy of our approach.

Changes in the text: There are no changes to the manuscript.