

Peer review file

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Reviewer A

In this case-series, the Authors provide a detailed explanation on how to perform uniportal VATS complex sleeve lung resection, describing their single-centre experience.

The article is very detailed, especially in the description of the technical aspects.

Minor points:

Comment 1: A significant linguistic revision could be necessary

Reply 1: We have revised the English by a native English speaker.

Comment 2: If possible, the images quality should be increased, providing also anatomical indications by means of arrows within the figures.

Reply 2: We have provided anatomical indications by means of arrows within the figures.

Comment 3: On line 291-292, please provide bibliographic references of the reports describing uniportal VATS complex sleeve lung resections

Reply 3: We have provided.

Changes in the text: We defined complex sleeve pulmonary resections on line 22-27.

Reviewer B

Comment 1: First of all, the description of the surgical technique, when you speak of "intruded upper lobe lingular segment ..." or "the bronchus of its own segment of the upper lobe ..." Certain technical passages should be better described perhaps with a revision of the English by a native English speaker.

Reply 1: We have revised the English by a native English speaker.

Comment 2: Second, I do not understand the rationale and the type of indication, from

an oncological point of view, in resecting the three segments of the left upper lobe by replanting the bronchus of the lingula on the origin of the left upper lobe bronchus. In this case the resection margins are minimal and probably not sufficient. Please, could you explain the rationale and the clear indication to surgery in cases like this.

Reply 2: The lesion grows in the segmental bronchus. It is mainly benign or low-grade malignant lesions. Some patients have poor lung function and cannot tolerate lobectomy.

Comment 3: Regarding the case described in point 6, looking at the CT scan in figure 3, it seems that a standard right upper sleeve lobectomy would have been sufficient and it is not clear why the tracheal carina plastic was needed.

Reply 3: The tumor grew on the carina. If we only performed the right upper lobectomy, the margin cannot be guaranteed to be normal.

Comment 4: I would also like to add that in the whole paper there is no iconography of a bronchoscopic control, which in my opinion must be added.

Reply 4: Before sleeve bronchial resection, anastomosis trimming, frozen pathological examination to ensure that there was no tumor infiltration at the incision margin.

Comment 5: From the text, it seems that no case has ever been converted into triportal VATS or open surgery, nor is there any mention of cases in which, after an attempt to perform surgery with the aim of saving parenchyma, it was then necessary to perform a pneumonectomy. I think all this must be specified in the text.

Reply 6: No case in this group has ever been converted into triportal VATS or open surgery.

Changes in the text: We have added in the text on line 242-243.

Comment 6: English is quite poor and should be revised by a native English speaker.

Reply 6: We have revised the English by a native English speaker.

Reviewer C

This article presents a total of 20 patients who underwent complex sleeve lung resection under uniportal VATS procedure. The authors demonstrated excellent short-term and long-term outcomes with detailed surgical techniques according to the type of sleeve resections, even though completing the procedure is challenging. It is unknown for this complex procedure actually to prevail among thoracic surgery communities. There were several concerns in this study.

Comment 1: English proofreading is mandatory thorough the paper.

Reply 1: We have revised the English by a native English speaker.

Comment 2: Introduction: the author stated that VATS has demonstrated outcomes not inferior compared to thoracotomy; please add appropriate references to back it up.

Reply 2: We have added it in the article.

Zhong Y, Wang Y, Hu X, Wang G, She Y, Deng J, Zhang L, Peng Q, Zhu Y, Jiang G, Yang M, Xie D, Chen C. A systematic review and meta-analysis of thoracoscopic versus thoracotomy sleeve lobectomy. *J Thorac Dis.* 2020 Oct;12(10):5678-5690. doi: 10.21037/jtd-20-1855. PMID: 33209400; PMCID: PMC7656351.

Comment 3: In Table 2, the authors performed uniportal VATS complex sleeve lung resection for two hamartoma cases. Though the authors have excellent skills, please discuss why benign cases had to be treated with the procedure in Discussion.

Reply 3: Especially for the possibility of intratubular malignant lesions or low-grade malignant lesions considered before surgery. But there is no clear basis for malignancy. We can consider sleeve segment resection of the lung. We had three hamartoma cases in our group.

Comment 4: The authors showed that 200 standard uniportal VATS lobectomies and 20 open sleeve lobectomies are needed before surgeons try to perform uniportal VATS complex sleeve resections. It sounds challenging for common thoracic surgeons to be able to acquire the technique. Would the authors think surgical simulations support to shorten the learning curve to achieve the procedure? Please discuss it.

Reply 4: Uniportal VATS special sleeve lung resection needs to follow the conventional surgical technique of uniportal VATS sleeve lung resection, which has

been summarized in previous articles. We should apply special techniques according to the characteristics of special sleeve surgery

Changes in the text: We have added in the text on line 288-291.

Reviewer D

The authors reviewed clinical data of 20 patients after surgical treatment of neoplasm of the lung with complex sleeve resection performed via uniportal thoracoscopic surgery.

The authors present interesting results and the final outcome of the patients is very well. This survey displays the feasibility of complex sleeve resection by uniportal VATS and shows equivalence towards common surgical approach in an experienced surgical team in a small and heterogenous group of patients. The STROBE criteria are fulfilled.

You spend a lot of effort in giving a good overview in results of complex sleeve resection by uniportal VATS, but you made many careless mistakes in the manuscript.

I have several annotations and would ask to revise the manuscript in some issues.

Comment 1: According to “Author Instructions” there are no abbreviations allowed in the abstract.

Reply 1: We have made changes based on the recommendations.

Comment 2: Between lots of words a space is missing. Thus, reading of the manuscript is distressing

Reply 2: We have made changes based on the recommendations.

Comment 3: Several commas are missing in the whole manuscript.

Reply 3: We have made changes based on the recommendations.

Comment 4: The history of thoracoscopic surgery is presented well in the

introduction. Probably the authors might give a transition to sleeve resection.

Reply 4: We have made changes based on the recommendations.

Changes in the text: We have added in the text on line 55-56.

Comment 5: There don't need to be a dot after "a)" etc in the "Clinical data".

Reply 5: We have made changes based on the recommendations.

Comment 6: Is there a reason that MRI of the brain was not performed for all patients?

Reply 6: Brain magnetic resonance imaging (MRI) was performed in all patients.

Comment 7: There was good cardio-functional evaluation of the whole cohort.

Reply 7: Many patients undergo special sleeve resection surgery because of the specific growth site of the disease. These lesions have relatively little impact on the patient's cardiopulmonary function.

Comment 8: Probably the authors might change the expression "pulmonary toilet" in line 107.

Reply 8: We have change the expression "pulmonary toilet" to "sputum suction".

Comment 9: Misspelling in line 151 and 154.

Reply 9: We have made changes based on the recommendations.

Comment 10: The information which should be provided in Table 2 are missing completely (Line 243).

Reply 10: We have made changes based on the recommendations.

Comment 11: Numbers lower "10" should be written in letters (Line 256).

Reply 11: We have made changes based on the recommendations.

Comment 12: In the discussion, the construction of surgical instruments is described. But discussion of morbidity is missing.

Reply 12: Okada et al. reported a local recurrence rate of 8% after routine bronchus

sleeve lobectomy. Gezer et al. reported that the local recurrence rate was 11.7%. In this study, the incidence of local recurrence was 5%, which was similar to that after conventional bronchial sleeve lobectomy.

Changes in the text: We have added in the text on line 337-340.

Comment 13: The authors use the term “this means” way too often.

Reply 13: We have made changes based on the recommendations.

Comment 14: In the Discussion-Section the part between line 289 and line 334 is another description of the method. Additionally, the authors mention jet ventilation but any reference to “over the field ventilation” is missing.

Reply 14: We have made changes based on the recommendations.

Changes in the text: We have added in the text on line 320.

Comment 15: Discussion from line 334 up to 378 is well structured and the important facts are discussed.

Comment 16: The resolution of the figures is low. A vector graphic might improve this.

Reply 16: We have made changes based on the recommendations.

Comment 17: Most important issue of your manuscript is the weak grammar, general formulation and syntax. I have to ask you to revise the whole manuscript with a native-speaker.

Reply 17: We have revised the whole manuscript with a native-speaker.

In conclusion: You cover an interesting topic with good results and your discussion is partly well thought out, but you must review the language.