Peer Review File

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Review comments

Reviewer A

This is an interesting study on lung cancer infiltrationg the chest wall although based on only 3 cases operated on with the uniportal VATS.
The article is well prepared and nicely illustrated.
Personally, I do not agree with the authors appraoch – I would operate such case with the solely open approach, through the opening created by resection of the chest wall performer at the initilal phase of the procedure – especially for the case C but also for case B.
The extent of rib resection was insufficient in my opinion – I would probably resect 3 ribs in case A and 4 ribs in cases B and C.
I am surprized that R0 resection was achieved in case C and I can hardly believe in that.
I am also surprized that the patients B and C did not received and neoadjuvant treatment.
The authors wrote that all three patients got adjuvant therapy – was it chemo or chemoradiation?
My critical remarks are not intended to discourage the value of the study, which is interesting in my opinion.

Reply: Thank you very much for your valuable feedback. Please find attached our answers in the table below.

Comment	Answer
Personally, I do not agree with the authors appraoch – I would operate such case with the solely open approach, through the opening created by resection of the chest wall performer at the initilal phase of the procedure – especially for the case C but also for case B. The extent of rib resection was insufficient in my opinion – I would probably resect 3 ribs in case A and 4 ribs in cases B and C.	**Open resection continues to be considered the gold standard approach for en bloc lung and chest wall resections in these cases. With greater experience in minimally invasive approaches, extended resections, especially through hybrid VATS as described by Berry et al., are feasible in selected cases and become more and more popular.**
I am also surprized that the patients B and C did not received and neoadjuvant treatment.	**All cases have been discussed by a multidisciplinary board, where indication for surgery was made.**

The authors wrote that all three patients got adjuvant therapy – was it chemo or chemoradiation?	**All three patients got adjuvant chemotherapy.**

Reviewer B

I thank the authors for sharing their work with us

The abstract is the important part of a study, this needs to more informative and should sound more attractive. This is an important part to be improved.

The mediastinal evaluation for TNM staging could be mentioned more clearly .Some patients are said to be N2 or N3 this makes them crossing the borfer for surgery I can understand that these are clinical but a better explanation would be glad.
For endoscope , thoracoscope fits better.
I disagree to have the all process without a skin incision on the tumour area as decribed in figure 1. In a malignant case with chest wall involvement ensuring a tumour free soft tissue area is important

Reply: Thank you very much for your valuable feedback. Please find attached our answers in the table below.

Comment	Answer
The abstract is the important part of a study , this needs to more informative and should sound more attractive. This is an important part to be improved.	**The abstract has been revised.**
The mediastinal evaluation for TNM staging could be mentioned more clearly .Some patients are said to be N2 or N3 this makes them crossing the borfer for surgery I can understand that these are clinical but a better explanation would be glad.	**The manuscript category has been changed to Surgical Technique and table 1 has been removed.**
For endoscope, thoracoscope fits better.	**This has been changed.**

I disagree to have the all process without a skin incision on the tumour area as decribed in figure 1. In a malignant case with chest wall involvement ensuring a tumour free soft tissue area is important	**Based on preoperative imaging, which determines tumor size and location as well as depth of suspected chest wall infiltration, the decision should be made preoperatively regarding feasibility of a minimally invasive approach (uVATS or hybrid VATS).**

Reviewer C

I would like to thank you for the opportunity to review the article "Uniportal and hybrid VATS chest wall resections - report of technique and own experience" submitted by Flury et al.

The authors report 17 anatomical lung resections with chest wall resections over a 5-year period from 2016 to 2020, which is 2% of the total number of anatomic lung resections performed at their institution. Additionally, the authors describe their preferred technique for minimally invasive en bloc lung and chest wall resection and concluded that in selected cases, uniportal or hybrid VATS chest wall resection is an excellent therapeutic option in patients with lung cancer and chest wall involvement. I agree with the above opinion and believe that the procedure you aim to perform in this paper is very important.

However, patient B in this article suffered from postoperative pyothorax, and patient C developed prolonged air leakage and mesh anchor dislocation. Furthermore, patient B has suffered multiple local recurrences at 14 months. Although the information on these patients is limited in this article and the conclusions are difficult to draw, is it not necessary to examine whether surgery was appropriate? Based on only three examples, I believe the conclusion "in selected cases, uniportal or hybrid VATS chest wall resection is an excellent therapeutic option in patients with lung cancer and chest wall involvement." is overstated.

Therefore, I believe that the paper should be converted into a case report of 3 cases, with persuasive surgical video and discussions in detail on the appropriateness of the surgical method. For example, the chest wall reconstruction using Endo Close TM is very interesting. This case report with a video of the procedure would be very interesting.

The authors should separate the review article on anatomic lung resection with chest wall complications from this new technique article.

Reply: We very much appreciate your valuable feedback, thank you. Please find

attached our answers in red.

Comment	Answer
However, patient B in this article suffered from postoperative pyothorax, and patient C developed prolonged air leakage and mesh anchor dislocation. Furthermore, patient B has suffered multiple local recurrences at 14 months. Although the information on these patients is limited in this article and the conclusions are difficult to draw, is it not necessary to examine whether surgery was appropriate? Based on only three examples, I believe the conclusion "in selected cases, uniportal or hybrid VATS chest wall resection is an excellent therapeutic option in patients with lung cancer and chest wall involvement." is overstated.	**Compared to conventional lobectomy without chest wall resection, patients with additional chest wall resection show increased morbidity and mortality.** **The manuscript category has been changed to Surgical Technique, hence, the conclusion has been revised.**
Therefore, I believe that the paper should be converted into a case report of 3 cases, with persuasive surgical video and discussions in detail on the appropriateness of the surgical method. For example, the chest wall reconstruction using Endo Close TM is very interesting. This case report with a video of the procedure would be very interesting. The authors should separate the review article on anatomic lung resection with chest wall complications from this new technique article.	**The manuscript category has been changed to Surgical Technique.** **Not all procedures have been video documented, including the Endo Close approach.**

Reviewer D

1) The article by Flury, Diezi and colleagues is an interesting case series on the use of VATS to assist with chest wall resections. In fact, there report is essentially a smaller set of three cases embedded in an already small series of chest wall resections. As such it should be considered for a “how I do it” article or a case report rather than an original scientific manuscript. That being said, I have several recommendations for how to

improve upon this manuscript, in general.

2) One question that comes to mind is, how is a uniportal VATS truly better or different compared to a multiportal VATS approach, such as one that perhaps uses in the same intercostal space? They have not clearly elucidated an advantage or even a difference based upon the uniportal or hybrid approach. This point is important because they are trying to highlight the VATS approach as being unique or innovative.

3) In their figure 2, they have depicted a relatively small lesion. I would argue that for the bigger, bulkier tumors that are T3 and T4 by size, as they have discussed earlier in their introduction, would be more challenging to visualize and access by a uniportal approach. Therefore I would first suggest that they make their tumors bigger on their figures since they have focused on size in their text. Then, I would also recommend that they consider highlighting alternative strategies for how to handle the truly larger tumors that cannot be addressed exclusively with any VATS approach, uniportal or otherwise.

4) One issue that that needs to be addressed is what criteria is used to determine who undergoes an open versus a uniportal or multiportal VATS approach. It would seem that the minimally invasive approach became more popular with greater experience with the VATS approach, in general. Learning what criteria are used currently would be useful.

5) In their main text, the extent of the vertebral body resections for the VATS cases is unclear. It is not until the reader reviews table 3 that it is understand that vertebral bodies three and four were resected. Even with this understanding it is much later in the text that only 1/3 of each of these vertebral bodies were resected. Being more explicit in reporting this information earlier is important to gain a better understanding of what exactly was done.

6) Another issue that is extremely important that requires addressing is explaining who undergoes an extrapleural dissection of the chest wall to the lesion, versus who undergoes and unblock the section from the onset. They should consider providing some proscriptive guidance regarding certain criteria, so that the reader does not interpret their approach as one in which all tumors should be attempted to undergo an extrapleural dissection first. This guidance could avoid the potential issue of tumor spillage into the pleural cavity when attempting an unnecessary extrapleural dissection.

7) The manner in which they present their 3 VATS cases is extremely fragmented and does not lend itself for easy reading. Reading about different aspects of their care in a fractured sense makes following the salient points of their message difficult. I would recommend that they present each of their cases in full detail serially.

8) It seems from their presentation that there were 3 patients in their total cohort of 17 patients that had superior sulcus tumors. One could argue that this disease process

is different. If nothing else, it at least is associated with strong clinical data that supports neoadjuvant therapy prior to resection. The authors may want to consider excluding this subgroup unless they can come up with a better justification for their inclusion.

9) When, describing their “our technique” there is too much detail that is unnecessary such as the use of a double lumen tube intubation as well as using the wound retractor. These are minor details are either obvious or are not critical. To this point as well, when describing the postoperative course, they do not need to add too much detail such as when the chest tubes were removed. Unless the postoperative details are related to the chest wall resections they should just focus on adhering to the salient points associated with the chest wall aspects specifically. If they are going to discuss matters such as chest tube duration because they feel it is relevant then they need to establish some comparative relevance as to why such as that which is associated with the type of reconstructive material and what the chest tube durations are like without chest wall involvement.

10) Their discussion has many issues. The paragraphs that include lines for 462-468 and 469-473 are largely unnecessary. These contain general facts which most in the thoracic oncology surgery community already know. In the paragraph that include lines 474-479 can be abbreviated substantially. Similarly, in the paragraphs that include lines 512-515, 524-529, and 530-534 are unnecessary also because these contain are general points that most people hold as common knowledge. The paragraph that includes lines 516-523 is superfluous also. In their discussion the paragraph that has lines 489-495 is an example of a discussion that is essential and really the crux of what they are trying to convey. The two paragraphs that span lines 501-511 just re-capitulates their results which do not need to be restated. Similarly, in the paragraphs that include lines 586-589 and 590-595 are more case related, and as such should be presented along with the case details when the actual cases are presented.

11) There are innumerable grammatical issues such as verb tense problems, phrases such as “older reported”, and several spelling mistakes such as arrosion. Also, various other language issues exist. The authors would benefit by having their manuscript reviewed by an English language proofreader.

Reply: We very much appreciate your valuable feedback, thank you. Please find attached our answers in red.

Comment	Answer

1) The article by Flury, Diezi and colleagues is an interesting case series on the use of VATS to assist with chest wall resections. In fact, there report is essentially a smaller set of three cases embedded in an already small series of chest wall resections. As such it should be considered for a "how I do it" article or a case report rather than an original scientific manuscript. That being said, I have several recommendations for how to improve upon this manuscript, in general.	**The manuscript category has been changed to Surgical Technique.**
2) One question that comes to mind is, how is a uniportal VATS truly better or different compared to a multiportal VATS approach, such as one that perhaps uses in the same intercostal space? They have not clearly elucidated an advantage or even a difference based upon the uniportal or hybrid approach. This point is important because they are trying to highlight the VATS approach as being unique or innovative.	**We added a paragraph addressing the different VATS approaches as now indicated in the presented manuscript. Lines 217-227.**
3) In their figure 2, they have depicted a relatively small lesion. I would argue that for the bigger, bulkier tumors that are T3 and T4 by size, as they have discussed earlier in their introduction, would be more challenging to visualize and access by a uniportal approach. Therefore I would first suggest that they make their tumors bigger on their figures since they have focused on size in their text. Then, I would also recommend that they consider highlighting alternative strategies for how to handle the truly larger tumors that cannot be addressed exclusively with any VATS approach, uniportal or otherwise.	**The manuscript category has been changed to Surgical Technique including description of preoperative as well as intraoperative decision making.**
4) One issue that that needs to be addressed is what criteria is used to determine who undergoes an open versus a uniportal or multiportal VATS approach. It would seem that the minimally invasive approach became more popular with greater experience with the VATS	**We added a decision tree for preoperative and intraoperative decision making.**

approach, in general. Learning what criteria are used currently would be useful.	
5) In their main text, the extent of the vertebral body resections for the VATS cases is unclear. It is not until the reader reviews table 3 that it is understand that vertebral bodies three and four were resected. Even with this understanding it is much later in the text that only 1/3 of each of these vertebral bodies were resected. Being more explicit in reporting this information earlier is important to gaina better understanding of what exactly was done.	**The manuscript category has been changed to Surgical Technique.**
6) Another issue that is extremely important that requires addressing is explaining who undergoes an extrapleural dissection of the chest wall to the lesion, versus who undergoes and unblock the section from the onset. They should consider providing some proscriptive guidance regarding certain criteria, so that the reader does not interpret their approach as one in which all tumors should be attempted to undergo an extrapleural dissection first. This guidance could avoid the potential issue of tumor spillage into the pleural cavity when attempting an unnecessary extrapleural dissection.	**We added a paragraph addressing extrapleural resection as now indicated in the presented manuscript. Lines 170-173 and 265-268.**
7) The manner in which they present their 3 VATS cases is extremely fragmented and does not lend itself for easy reading. Reading about different aspects of their care in a fractured sense makes following the salient points of their message difficult. I would recommend that they present each of their cases in full detail serially.	**The manuscript category has been changed to Surgical Technique.**
8) It seems from their presentation that there were 3 patients in their total cohort of 17 patients that had superior sulcus tumors. One could argue that this disease process is	**The manuscript category has been changed to Surgical Technique.**

different. If nothing else, it at least is associated with strong clinical data that supports neoadjuvant therapy prior to resection. The authors may want to consider excluding this subgroup unless they can come up with a better justification for their inclusion.	
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10) Their discussion has many issues. The paragraphs that include lines for 462-468 and 469-473 are largely unnecessary. These contain general facts which most in the thoracic oncology surgery community already know. In the paragraph that include lines 474-479 can be abbreviated substantially. Similarly, in the paragraphs that include lines 512- 515, 524-529, and 530-534 are unnecessary also because these contain are general points that most people hold as common knowledge. The paragraph that includes lines 516-523 is superfluous also. In their discussion the paragraph that has lines 489-495 is an example of a discussion that is essential and really the crux of what they are trying to convey. The two paragraphs that span lines 501-511 just re-capitulates their results which do not need to be restated. Similarly, in the paragraphs that include lines 586-589 and 590-595 are more case related, and as such should be presented along with the case details when the actual cases are presented.	**The discussion has been revised.**
11) There are innumerable grammatical issues such as verb tense problems, phrases such as "older reported", and several spelling mistakes such as arrosion. Also, various other language issues exist. The authors would benefit by having their manuscript reviewed by an English language proofreader.	**Typos and grammatical issues have been fixed.**

Reviewer E

I read with great interest the article entitled "Uniportal and hybrid VATS chest wall resections - report of technique and own experience."
In their article, the authors present their experience in the field of minimally invasive lung resection in the case of tumors infiltrating the chest wall and review the current literature on this topic. The article is written very clearly, contains valuable illustrations and photos, and is supplemented with tables summarizing the results. The literature review is very thorough, which makes the educational value of the manuscript very high.
Although the number of patients enrolled is very small, the article may be of great value

to thoracic surgeons treating chest lung cancer invading the chest wall. In my opinion the article does not require corrections and I suggest its publication in the VATS journal.

Reply: Thank you very much for your valuable feedback.