Peer Review File

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Reviewer A

I would like to congratulate the authors with their manuscript entitled "A uniport subxiphoid approach with a modified sternum retractor is safe and feasible for anterior mediastinal tumors". The manuscript covers a very interesting and novel subject and is well-written.

I have the following minor comments:
- The terms and abbreviations "uniport subxiphoid video-assisted thoracoscopic surgery (USVATS)" and "unilateral video-assisted thoracoscopic surgery (UVATS)" are confusing and could be misinterpreted by the readership. Please consider to use the following terms: "uniportal subxiphoid VATS (USVATS)" and "unilateral multiportal VATS (mVATS)".
- Please try to condense the Abstract section in adherence to the author guidelines. The current word count is 395.
- Methods: please elaborate on the technical aspects and use of the modified sternum retractor in the methods section as well, since the reader only encounters the explanation of this in the discussion part. Consider to add a short technical video.
- Methods: did you use specific subxiphoidal uniportal VATS instruments, for example by Scanlan? Please elaborate.
- Methods: was this study approved by the local ethical committee? Please add number and date of approval.
- Methods: please report adherence to the STROBE guidelines.
- Table 2: VAS at 1 pod = VAS at POD 1
- What was your post-operative chest tube regimen? Since drainage durations of 2.9 and 3.5 respectively seem rather long?

Comment 1: The terms and abbreviations "uniport subxiphoid video-assisted thoracoscopic
surgery (USVATS)" and "unilateral video-assisted thoracoscopic surgery (UVATS)" are confusing and could be misinterpreted by the readership.
Reply 1: We used "LVATS" instead of "UVATS". "L" for unilateral.
Changes in the text: All "UVATS"s were replaced by "LVATS"s.

Comment 2: Please try to condense the Abstract section in adherence to the author guidelines. The current word count is 395.
Reply 2: Adjusted in the text.
Changes in the text: page 1-2, line 23-52.

Comment 3: please elaborate on the technical aspects and use of the modified sternum retractor in the methods section as well, since the reader only encounters the explanation of this in the discussion part. Consider to add a short technical video.
Reply 3: We added the elaboration of the use of the modified retractor in the methods section as advised.
Changes in the text: page 4, line 110-116.

Comment 4: did you use specific subxiphoidal uniportal VATS instruments, for example by Scanlan? Please elaborate.
Reply 4: We used the same instrument in USVATS surgeries as in LVATS ones.
Changes in the text: none.

Comment 5: was this study approved by the local ethical committee? Please add number and date of approval.
Reply 5: This study was approved by the Ethics Committee of Shanghai Chest Hospital (KS1970). It has been added in the text.
Changes in the text: page 10, line 304-305.

Comment 6: please report adherence to the STROBE guidelines.
Reply 6: Adjusted in the text.
Changes in the text: page 4-5, line 88-151.

Comment 7: Table 2: VAS at 1 pod = VAS at POD 1
Reply 7: Corrected in the text
Changes in the text: page 15-16, line 408, 413, 415, 423

Comment 8: What was your post-operative chest tube regimen? Since drainage durations of 2.9 and 3.5 respectively seem rather long?
Reply 8: The chest tube was usually withdrawn when the volume of the chest fluid decreased beneath 50ml each side.
Changes in the text: none.

Reviewer B

The purpose of this article is to explore the advantages and safety of modified sternum retractor for uniport subxiphoid mediastinal surgery compared with lateral thoracic approach, and to conclude that for larger tumors, modified sternum retractor can help to expand surgical space in anterior mediastinal surgery and reduce postoperative pain.
This is an interesting research manuscript which include exact data to demonstrate uniport subxiphoid mediastinal surgery is a feasible and safe procedure and making this research promising in many large tumors. But several questions need to be answered by authors:
1. This is a retrospective study and may have done a lot of prospective work in the process of data collection. In the process of data collection, whether have strict criteria for various indicators, the author only mentioned the exclusion criteria for patients. Please provide relevant instructions.
2. What analgesic measures should the patient take after surgery? What is the duration and effect? Extra medication after surgery? Please explain further.
3. Why this study has a lower pain score than the others studied need further discuss. The use of analgesic pump may be one of the possible reasons.
4. Supplementary hospital ethics review need to be provided.

Comment 1: This is a retrospective study and may have done a lot of prospective work in the process of data collection. In the process of data collection, whether have strict criteria for various indicators, the author only mentioned the exclusion criteria for patients. Please provide relevant instructions.
Reply 1: There was no exact inclusion criteria in our study. All the primary anterior mediastinal tumor in limited stage without previous thoracic surgery can be included.
Changes in the text: none.

Comment 2: What analgesic measures should the patient take after surgery? What is the duration and effect? Extra medication after surgery? Please explain further.
Reply 2: An analgesic pump was usually provided to each patient for pain management but it would be removed in case of nausea and vomiting.
Changes in the text: none.

Comment 3: Why this study has a lower pain score than the others studied need further discuss.
Reply 3: The use of analgesic pump may be one of the possible reasons.
Changes in the text: none.

Comment 4: Supplementary hospital ethics review need to be provided.

Reply 4: This study was approved by the Ethics Committee of Shanghai Chest Hospital (KS1970). It has been added in the text.
Changes in the text: page 10, line 304-305.

Reviewer C

I reviewed with great pleasure the paper "A uniport subxiphoid approach with a modified sternum retractor is safe and feasible for anterior mediastinal tumors". It is a good work which deserves to be published, in my opinion. Congratulations for the authors!
Some suggestions:
• Row 110-111: Here, the authors should explain how CO2 can be used while performing USVATS. Or refer to the specific figure (Figure 1C). Even if the detailed explanation will be offered in Discussions, an amendment should be placed here.
• Row 197: I suggest "retrosternal space" instead of "post-sternum" space.
• Row 212: "but this does not work all the time" should be rephrased – for example: but this adjustment may not improve the access due to individual anatomical particularities.
• Row 274. One possible limitation is the fact that the study was conducted in only one department. The authors are encouraged to explain if there was only one surgeon or more surgeons using the retractor.
• Suggestion: A CT-scan of one of the largest tumor excised using this retractor should be presented.

Comment 1: Row 110-111: Here, the authors should explain how CO2 can be used while performing USVATS. Or refer to the specific figure (Figure 1C). Even if the detailed explanation will be offered in Discussions, an amendment should be placed here.
Reply 1: An amendment has been added in the methods section as advised.
Changes in the text: page 4, line 113-116.

Comment 2: Row 197: I suggest "retrosternal space" instead of "post-sternum" space.
Reply 2: Corrected in the text.
Changes in the text: page 7, line 208; page 5, line 125.

Comment 3: Row 212: "but this does not work all the time" should be rephrased – for example: but this adjustment may not improve the access due to individual anatomical particularities.

Reply 3: Corrected in the text
Changes in the text: page 7, line 221-222.

Comment 4: Row 274. One possible limitation is the fact that the study was conducted in only one department. The authors are encouraged to explain if there was only one surgeon or more surgeons using the retractor.
Reply 4: There was only one surgeon using the retractor and it has been added in the text.
Changes in the text: page 9, line 279-280.

Comment 5: Suggestion: A CT-scan of one of the largest tumor excised using this retractor should be presented.
Reply 5: It has been added in the text as suggested.
Changes in the text: page 14, line 392-398.

Reviewer D

A uniport subxiphoid approach with a modified sternum retractor is safe and feasible for anterior mediastinal tumors.
The authors describe different operative techniques for thymectomy and compare their experience in outcome between uniport subxiphoid video-assisted thoracoscopic surgery (USVATS) and unilateral video- assisted thoracoscopic surgery (UVATS) between September 2018 to December 2021.
The document is clearly written and structured. The photo documentation support the report.
For a better understanding the method should be described in more detail. The illustrations suggest, that the USVATS use 3 ports (one large midline incision and two chest tubes). Together they would have a length of 7 cm. Did the authors use the word uniport in a different way?
Furthermore, I am interested what kind of instruments next to the retractor they used for both procedures.
One benefit for USVATS the low pain level. What kind of local anesthetics do they use in the different methods?
The method should be described more detail.
Patients in different surgical group were in the same analgesic managements.

Comment 1: For a better understanding the method should be described in more detail. The illustrations suggest, that the USVATS use 3 ports (one large midline incision and

two chest tubes). Together they would have a length of 7 cm. Did the authors use the word uniport in a different way?
Reply 1: The two small incisions were made to place the two chest tubes to avoid a poor healing of midline incision at the end of the surgery. These two incisions passed through the rectus abdominis and entered the posterior sternal space, not through the costal space or under the costal margin.
Changes in the text: none.
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Comment 2: what kind of instruments next to the retractor they used for both procedures.
Reply 2: Mainly thoracoscopic grasping forceps and harmonic ultrasonic scalpel with a length of 36 cm or 45 cm. They were used in both procedures.
Changes in the text: none.

Comment 3: What kind of local anesthetics do they use in the different methods? The method should be described more detail.
Reply 3: Patients in different surgical group were in the same analgesic managements.
Changes in the text: page 5, line 133-134.