

Peer Review File

Article information: <https://dx.doi.org/10.21037/med-22-41>

Reviewer A

Comment 1: Great case series showing the ability to resect large anterior mediastinal masses robotically. The arbitrary 5 cm limit needs to be pushed back as safe, oncologically sound resections are possible. I believe this paper, though not complex, needs to be added to the literature to expand the "approved" uses of robotics to give more patients the best outcomes. Overall, it is not ground-breaking, but does add the evidence of what is needed.

Reply 1: Thank you so much for your comment.

Changes in the text 1: None at this point.

Reviewer B

Comment 1: The article presents an interesting case series of very large anterior mediastinal masses that were resected via a minimally invasive robotic assisted approach. This represents an extent of the known literature in minimally invasive anterior mediastinal surgery, and calls to question well regarded beliefs that mediastinal masses larger than 5cm should be resected via an open approach. The article states that all of these patients underwent uncomplicated operations, and had no significant post operative issues and that their pathologies all represented thymomas. This I think is one of the primary issues with the publication, that as the size of the lesion increases, the chance of there being an underlying more aggressive malignancy that may require a large and more invasive surgical procedure to achieve a negative margin increases. The paper would be improved by providing a historical comparison to lesions removed via an open sternotomy, and what those histologies were and what the outcomes and follow up for those patients was.

Reply 1: Thank you for your valid comment. With regards to the negative margins, all resections were R0 and this is already mentioned in the manuscript. With regards to the proposed comparison, we went back to our database and were able to identify 9 cases of mediastinal masses >10 cm resected via a sternotomy. However, since this is a case series report, we are not sure how meaningful a comparison would be between 4 RATS and 9 sternotomy patients. To address this, we are preparing a comparison of >5 cm masses between RATS, VATS and sternotomy which will be submitted separately. If, however, the reviewer is adamant about the comparison, then we can produce it, as described before.

Change to text 1: None at this point.

Comment 2: I believe that the use of minimally invasive procedures for larger tumors is likely well warranted, but a comparison between the standard open operation needs to be made to truly move the needle forward from an academic standpoint.

Reply 2: Thank you for this comment. We totally agree with this and, as said previously, we are conducting a larger study comparing Robotic versus VATS versus sternotomy in masses > 5 cm. This manuscript is merely a case series and therefore its outcomes are very cautiously considered.

Change in text 2: None at this point.

Reviewer C

Comment 1: Congratulations for reporting your experience with large complex thymomas. I think this paper would contribute to increasing evidence that large thymoma may be resected safely using the robotic platform by experienced robotic surgeons. I have a few minor recommendations:

I would suggest to avoid the qualification of "huge" for thymomas larger than 10cm. Many surgeons who have operated on thymomas larger than 20cm may not consider a 10cm thymoma as huge/giant/etc. I would just use the accurate description of "thymoma larger than 10cm".

Reply 1: Thank you for this valid comment with which we totally agree. We apologize if any inconvenience was caused. We have changed all mentioning of huge/giant etc to "mass or thymoma larger than 10 cm" as you correctly suggested. Changes in text 1: Short title, Page 1, Line 5; Abstract, Page 2, Line 31 and Line 42; Key - words, Page 2, Line 46; Introduction, Page 3; Line 67; Methods, Study design, Page 4, Line 74; Discussion, Page 7, Line 151; Discussion, Page 7, Line 163; Discussion, Page 8, Line 185; Discussion, Page 9, Line 207 and 210.

Comment 2: You may be correct about "most" surgeons doing sternotomy for thymomas larger than 5cm, however I would use a different reference, such as one comparing VATS/RATS vs open for large thymoma using a large database (NCDB or International Thymic Malignancy Interest Group).

Reply 2: This is a correct comment. We have used a different reference ie the reference number 11.

Change in text 2: Reference 11 added in Discussion, Page 7, Line 16.

Comment 3: Line 109: I think missing i on "Xi" platform

Reply 3: Thank you for your comment. Our platform used for the presented resections was an X and not an Xi.

Change in the text 3: None at this point.

Comment 4: Line 128: a 4x4cm instead of "an".

Reply 4: Thank you for this correct comment. We have changed the required accordingly.

Change in the text 4: Methods, surgical technique, Page 6, Line 125.

Comment 5: Line 143: being discharged instead of "been"

Reply 5: Thank you again for the valid comment. We have changed the required accordingly.

Change in the text 5: Methods, outcomes, Page 6, Line 140.

Comment 6: Why was adjuvant radiotherapy offered in all cases? NCCN guidelines only supports to offer XRT in R0 if capsular invasion is present.

Reply 6: Very good comment and we thank the reviewer for this. The cases were discussed at the MDT and the oncologist present decided to offer adjuvant radiotherapy because of the size of the tumor under the fear of recurrence despite the R0 resection and the absence of capsular invasion. We merely followed the decision by the MDT.

Change in the text 6: Methods, outcomes, Page 6, Lines 144-145.

Comment 7: I encourage you to describe tips for an "easy" resection to support

sentence in line 167.

Reply 7: Thank you for this suggestion. The most important tip for a safe and complete resection is patience and perseverance. Also, bilateral docking is very helpful to achieve more angles and safely identify the important structures in the mediastinum for example big vessels, the phrenic nerves etc. Finally, we used contralateral ports for traction inferiorly of the mass which will allow better access to the superior mediastinum structures for example the left innominate vein, the thymic horns etc.

Change in the text 7: Added in the discussion, Page 7, Lines 164 – 169.

Comment 8: Also expand on reasons why RATS thymectomy may be "safer" than transternal. It may be associated with lower postop complications, wound infection, transfusion, etc, however in inexperienced hands, it may also be associated with a higher incidence of capsular rupture (not reported because unlikely bad outcomes would be reported), injury to great vessels, etc.

Reply 8: Thank you for this valid comment. We agree with the comment and we have added these remarks in the text.

Change in text 8: Added in the Discussion, Page 8, Lines 180 – 184.