**Peer Review File**

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***# Reviewer A***

***My concern is about the accuracy of this technic with a deflated lung (whereas the 3D reconstruction is performed with an inflated lung...)? You should discuss this better please.***

**Response 1:**

Thank you very much for the constructive comment.

In response, we have incorporated the following information into the revised manuscript.

(Line 168, page 11)

Overlaying a 3D lung model with collapsed lungs caused by isolated lung ventilation requires attention to both technical and anatomical aspects, as well as expertise and experience. Although it is difficult to accurately reflect the degree of pulmonary collapse in the model, it was addressed by assuming that collapse is centered at the pulmonary hilum and applying a uniform shrinkage to the entire lung.

***# Reviewer B***

***Comment 1:***

***I would like to know the cost of Holoeyes XR. How much does it cost? Is it feasible to use Holoeyes XR even in a community hospital? The cost would be a burden to use this technology. The popular method, such as ICG injection and VAL-MAP, would be reasonable in terms of cost, and this is why these methods have been widely used. If Holoeyes XR were extremely expensive, this approach would not be widely spread.***

**Response 1:**

Thank you very much for the constructive comment.

However, in this study, we do not discuss the specific costs associated with Holoeyes XR as there is no affiliation or promotional intent between the authors and the Holoeyes company. The paper strictly reports on the utilization of the equipment without reference to pricing.

***Comment 2:***

***How many ports did authors make to perform the segmentectomy? Was this a uniportal approach or multi-portal approach?***

**Response 2:**

Thank you very much for the comment.

In response, we have added the following information into the revised manuscript.

(Line 93, page 7)

The clinical stage was diagnosed as c-TisN0M0 stage 0, and a right S2 segmentectomy was planned using four-port video-assisted thoracic surgery (VATS).

***Comment 3:***

***Regarding the image shown as Figure 1, was wide wedge resection not indicated? If I were the surgeon, I would rather choose wedge resection because the patient was old and some commorbidities. Pure GGN can be indicated for wedge resection. Why did authors decided to perform segmentectomy?***

**Response 3:**

Thank you for your valuable feedback.

The tumor exceeded 2 cm, and while the patient was in their 70s, the comorbidities were not significant enough to contraindicate segmentectomy. There is no strong evidence supporting partial resection for tumors of this size, and we based our decision on the evidence from the JCOG1211 trial, which suggests segmentectomy as the preferred approach.

(Line 94, page 7)

Based on the data from the JCOG1211 trial (3), we elected to perform a segmentectomy as the lesion was a pure GGN exceeding 2 cm.

***Comment 4:***

***I believe that this MR technique would not be feasible for a case with severe pleural adhesion. Overlaying was conducted when the lung was collapsed. How did they do if severe adhesion would prevent the lung's collapse? This issue would be another major limitation of MR technique. Unlike MR method, VAL-MAP would be resistant to the presence of adhesion as reported previously (Yanagiya M, et al. JTD 2020. PMID: 32642117). Authors should address this issue.***

**Response 4:**

Thank you so much for the important comment.

Since this is a case report and there was no adhesion in this case, we did not extensively discuss its limitations. In the presence of severe adhesions, this technique is indeed difficult. However, it is possible to overlay MR images after detachment of the adhesions.

(Line 70, page 11)

As the second limitation, the MR imaging technique may be compromised in the presence of severe adhesions, although feasible after detachment of the adhesions.

***Comments 5:***

***Regarding the Figure 3B and 3C, authors should clarify directions of surgical field such as caudal side and ventral side.***

**Response 5:**

Thank you very much for your comment.

We have revised the manuscript to provide clarification regarding the directions of the surgical field, as detailed below.

(Line 216, page 14)

**Figure 3**:Intraoperative findings during segmentectomy. The right side of the images represented the head direction, while the left side corresponded to the caudal direction.

***Comment 6:***

***Is this MR technique useful for wedge resection for intraoperatively unidentifiable pulmonary nodule?***

**Response 6:**

Thank you very much for your valuable comment.

In accordance with your suggestion, we have included additional information in the revised manuscript as detailed below.

(Line 174, page 11)

Furthermore, it is worth mentioning that MR can be applied to wedge resection as well.