

## Peer Review File

**Article Information:** <https://dx.doi.org/10.21037/jtd-22-84>

### **Reviewer A:**

This was a well written and interesting case report of a surgical technique.

### **Response to the Reviewer A**

We sincerely appreciate and thank you for highly valuable comments. Reviewer A suggested no specific revisions. We would like to further investigate and refine our method. Thank you again for your kind consideration for our manuscript.

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### **Reviewer B:**

The manuscript and the video are interesting. However, I have some questions to the authors:

1. You mentioned that there was a N2 node (or nodes) discovered - which station (s) were these nodes?
2. What was the mediastinal staging before surgery?
3. What was the extent of lymphadenectomy? - it seems that removal of station 7 could be difficult from this approach? it should be discussed by the authors

### **Response to the Reviewer B**

We sincerely appreciate and thank you for highly valuable comments and suggestions. We have tried to revise the manuscript in order to make the necessary corrections in line with the reviewer's suggestions and comments as much as possible.

**Comment 1:** The reviewer inquired about the station of pN2.

**Answer 1:** Thank you for your inquiry. The pN2 station is #5. And #12u was also positive. Accordingly, we have added this information in the revised manuscript.

**Revisions 1:** page 3, lines 21-25.

**Comment 2:** The reviewer inquired about the method of preoperative determination of the presence of mediastinal lymph node metastasis.

**Answer 2:** With the PET findings, we radiologically estimated that the patient was in cT3N0(-1)M0, stage IIB(-IIIA) disease condition. Accordingly, we have revised the

video, so that the PET findings in the video include the hilum and subcarinal zone. Please see the revised video.

**Revision 2:** page 2, line 24 - page 3, line 1, and radiological images in the Video 1.

No mediastinoscopy or EBUS-TBNA was performed.

we have briefly mentioned these points in the revised manuscript using relevant references above.

**Comment 3:** The reviewer inquired about the extent of lymph node dissection. The reviewer then asked whether lymph node dissection of the tracheal bifurcation would be difficult using this approach.

**Answer 3:** Because, as mentioned above, no subcarinal lymph node metastasis was suspected on preoperative PET, and because of his frail physical condition, we performed a ND2a-1 lymph node dissection and omitted the subcarinal zone. As the reviewer suggested, this approach may provide a slightly limited view for lymph node dissection of the subcarinal zone. We have added this point in the revised version of the manuscript.

**Revision 3:** page 4, lines 15-16.

Thank you again for your valuable comments and kind consideration for our manuscript.

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**Reviewer C:**

The case report of a patient with non-small cell lung cancer of upper lobe on left ventral first rib is extremely rare and the surgical access used by the authors for the resection of the posterior part of the first rib is original. As it turned out, the rib was finally removed through the anterior chest ventral skin incision of the hook approach through the cranial side of the nipple with elongated incision to the midline of the clavicle. Importantly, entering the left pleural cavity through the third intercostal space spared the pectoralis major muscle. Thanks to this, the left upper lobectomy was successfully performed and after incision of the surrounding myofascial structures and ligaments, resection of the first rib infiltrated by the tumor was made. Surgery was safely performed, without complications from large vessels and nerves in the left subclavian region, and the severed second and third ribs were firmly fixed using rib pins. Final histopathological examination diagnosed pleomorphic carcinoma with invasion of the rib cortex and

metastasis to the mediastinal lymph node pT3N2M0 stage IIIB.

The patient's subsequent post operative course was uneventful, and no restriction in shoulder function was noted. Unfortunately, due to the high baseline stage of lung cancer after 7 months, multiple distant metastases to the bone and the liver were discovered.

The most important advantage of the surgical access described by the authors is that it is less invasive than in classic approaches, such as: posterolateral approach, Masaoka technique, hook approach, and hemi clamshell thoracotomy. As it turned out, it provided, apart from the upper left lobectomy, a sufficiently comfortable and safe view of the ventral first rib and thoracic outlet as well as the intrathorax. There was no collision with subclavian vessels and nerves. The dynamically developing thoroscopic and robotic surgeries are used more and more often. However, they are reserved for tumors of low local advancement.

Summing up, I believe that the method of access to first rib resection with non-small cell lung cancer infiltration described by the authors is an interesting and safe alternative in selected cases, which increases the arsenal of possibilities of resection of the ribs of the upper thoracic opening.

I rate highly the value of this scientific report on the modification of surgical technique in terms of accesses in thoracic surgery. The manuscript is written well and clear on its merits and the attached illustrations and video clearly explain the aspects of the operation from this original access.

### **Response to the Reviewer C**

We sincerely appreciate and thank you for highly valuable comments.

Reviewer C made a relatively long comment and then summarized the main points of our report. No specific revision was suggested.

We would like to further investigate and refine our method. Thank you again for your kind consideration for our manuscript.