Peer Review File

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Reviewer A: The authors present an interesting case of a patient with a bronchial schwannoma which was successfully resected via robotic-assisted surgery (RATS) of the left main bronchus. As it was a case of bronchial segmental resection, the title, Figures and the main text should be corrected accordingly. To conclude, there are some formal issues to be corrected and the interesting case report would benefit from some minor improvements focusing on the Discussion.

1. ***The Abstract, keywords and Highlights are good.***

Response: Thank you so much for this comment.

2. ***The Introduction is a little too short. As one point of the Conclusion is, that RATS-Resection for schwannoma is feasible, some information of this should be given in the Introduction.***

Response: Thank you for pointing this out. We totally agree with this comment. We added a paragraph to introduce the advantage of RATS in the Introduction, which was "An increasing number of thoracic surgery cases were performed on the robotic platform in recent years. This new technique offers precise and flexible manipulation of multiple instruments, a three-dimensional visual field, and seated ergonomics, improving the surgeons' overall control of the operations to complete high technical required surgical procedures".

3. ***The Case presentation is well done. Histopathological details focus on the immunohistochemistry and pass over "classical" pathological features, which might be interesting as well, as there are sub-forms of schwannoma and would be worth pointing to the schwannoma entity resected in this patient.***

Response: Thank you for pointing this important advice. We totally agree with this comment. We add the "classical" pathological features into that part, which was "Histologically, the tumor was well circumscribed, but without fibrous capsule. It contained areas composed of fascicles of Schwann cells that have a spindle cell morphology (Antoni A pattern) and areas with more loosely textured and microcystic areas (Antoni B pattern). The Schwann cells presented with faintly eosinophilic cytoplasm, ovoid or spindle nuclei, and no sign of mitotic figures".

4. ***The Discussion is concise and covers all relevant points. Lines 97-108 deal with recurrence rates of schwannoma in relation to the type of resection. Table 1 gives an overview of open access-publications in English (search only for schwannoma but not for schwannoma AND neurilemmoma), which show recurrences exclusively in patients not***

treated by surgical resection. Commonly schwannoma present as sessile or pedunculated tumours. Surgical resection can address both forms equally, but endoscopic resection might be appropriate for pedunculated schwannoma. There might be a correlation between sessile schwannoma resected endoscopically and recurrences, but the actual macroscopic presentation of the schwannoma is not looked at in Table 1. So risk of recurrence and macroscopic anatomy of the schwannoma would both be an argument for surgical resection in this case. Contra-arguments against surgical resection should also be looked at in the Discussion. First, there are complication rates for complex resections to be considered. Then the patient status plays a role and compromised patients may profit from an endoscopic resection in case of pedunculated or partly pedunculated tumours.

Response: Thank you so much for this suggestion. We updated the overview of open access-publications in English with the combination of terms "("schwannoma"[Title] OR "neurilemmoma"[Title] OR "neurilemoma"[Title] OR "neurinoma") AND ("bronchus"[Title] OR "trachea"[Title] OR "tracheobronchial"[Title] OR "endobronchial"[Title] OR "bronchial"[Title] OR "endotracheal"[Title] OR "tracheal"[Title]). And we reviewed the cases and found that among the six recurrent endoscopically resected cases, three were sessile tumors, two were pedunculated tumors, and one was not mentioned for the shape. Thus, we believe the correlation between sessile schwannoma resected endoscopically and recurrences was not strong enough, but sessile schwannoma is an essential factor for the risk of endoscopic intervention related complications, helping to make the decision of the treatment. And the patients' status does play a role in decision making. As a result, we made some modifications. First, we clarified that the schwannoma in our case was sessile tumor in the Case Presentation, and described the process of making the treatment decision, which was "The shape and size of the nodule led to high risk of hemorrhage and bronchial perforation brought by endoscopic intervention. The patient's physical condition could tolerate the surgery under general anesthesia. Given these considerations, we believed in the necessity and feasibility of surgery. After adequate communication with the patient, we performed robot-assisted minimally invasive bronchial resection with primary anastomosis of the left main bronchus for her". Second, we added "Shape" in table 1 to demonstrate the actual macroscopic presentation of the schwannomas. Last, we added "The difference in mortality between the two treatments was not found. In addition, the shape of the tumor might be an essential factor for the choice of the treatment, for the sessile schwannoma might increase the risk of endoscopic intervention related complications" and "Moreover, patients' physical status must be assessed carefully for the tolerance of surgery. The risk of all kinds of surgical related complications should also be considered" into the Discussion.

5. Lines 109-112 address very shortly the issue of RATS and state, that the patient had "indisputably" profited from it. But that is not shown by the case presentation. The case shows that RATS resection of these tumours is feasible, but not that it is better than surgical

resection. Thus it does not proof a benefit. As the Discussion should address of pros and cons of an issue, the possible disadvantages (operating time, costs, and availability etc.) should also be covered in the Discussion.

Response: Thank you for pointing this out. We totally agree with this comment. We expended that paragraph into "The bronchial anastomosis and reconstruction of this surgery required high technique for surgeon. The high-definition three-dimensional video of Da Vinci robotic system provided the surgeon with a clear picture of anatomic structures, helping to reduce the visual fatigue of surgeons during the operation. Furthermore, with tremor suppression and better maneuverability of instruments, it contributed to the precise sutures and knotting in a narrow anatomical space during the process of the primary anastomosis of this surgery, indisputably. However, like other surgical technology, the Da Vinci robotic system also has limitations. First of all, robotic surgery is still a new technology and lacks enough long-term follow up studies to well establish its uses and efficacy. And the multiple incisions may increase patients' injury, which will be optimized by single-port robotic surgery with Da Vinci SP robot surgical system. Other disadvantages are the size and cost of this system. We believe all the disadvantages will be remedied with the development of technology".

6. The Conclusion is also a little short. Feasibility of RATS bronchial sleeve resection in tracheobronchial schwannoma is the main point and should be expressively highlighted.

Response: Thank you so much for this comment. We remodified the Conclusion into "In conclusion, primary tracheobronchial schwannomas are extremely rare. Surgical resection is the first choice for these tumors, which may offer a better prognosis than endoscopic intervention. We reported the first sleeve resection for bronchial schwannoma using Da Vinci surgical robotic system. The application of Da Vinci Si robot surgical system benefited the process of this surgery, undoubtedly. Hopefully, more case reports and clinical trials will shed light on the clinical details of tracheobronchial schwannoma, and help with the guidelines production to achieve more systematic diagnosis and treatment".

7. References are extensive, Pictures are a little dark, maybe they could be brightened up a little.

Response: Thank you for pointing this out. We brightened the pictures.

Reviewer B:

A few observations were made, and corrections are hereby offered.

1. The general title of the problem being described can be stated as "tracheobronchial schwannomas", but since the location of the lesion treated by your group was in the left

main bronchus, it becomes appropriate to refer to it specifically as "bronchial schwannoma". I have highlighted areas in the text where I believe that this naming should be changed. Similarly, the operation performed was a "bronchial resection", the term "tracheal resection" should be corrected in your manuscript. See lines: 36, 48, 57, 66, 111, 114.

Response: Thank you so much for this suggestion. We totally agree with this comment. The statistical results for these trials have been supplemented in detail in our revision.

2. ***line 51: remove the highlighted text (. And)***
3. ***line 69: remove the highlighted text (was)***
4. ***line 83: correct to read: "can be located"***
5. ***line 101: delete the date***
6. ***line 103: correct the sentence***
7. ***line 110: remove the highlighted text (stereo).***

Response: Thank you so much for these corrections. We corrected these in our revision.

8. I have suggested corrections to the terminology and made a few revisions to the grammar. The corrected file is attached.

Response: Thank you so much for the Corrected File. We corrected these in our revision.

Reviewer C:

I have a few observations:

1. As you mention in the paperwork, endoscopic treatment is possible: can you please mention whether this alternative was discussed with the patient?

Response: Thank you so much for pointing this out. We added this part into the Case Presentation, which was "The shape and size of the nodule led to high risk of hemorrhage and bronchial perforation brought by endoscopic intervention. The patient's physical condition could tolerate the surgery under general anesthesia. Given these considerations, we believed in the necessity and feasibility of surgery. After adequate communication with the patient, we performed robot-assisted minimally invasive bronchial resection with primary anastomosis of the left main bronchus for her".

2. Regarding alternative treatments, you mentioned that endoscopic treatment might have a higher recurrence rate, but can you mention if you found any difference in morbidity and mortality?

Response: Thank you for pointing this out. The difference in mortality between the two treatments was not found. We made some modifications for the Discussion, and mentioned this point.

3. Would be interesting to have a picture of the endoscopic appearance of the anastomosis.

Response: Thank you for this suggestion, but the intra-operative and post-operative endoscopic examinations for the anastomosis was performed by fiberoptic bronchoscopy, the pictures could not be exported. And the patient didn't receive bronchoscopy examination for follow-up, because of her own will. As a result, unfortunately, we are not able to demonstrate the endoscopic appearance of the anastomosis.

Reviewer D:

I read your manuscript entitled "Robot-assisted minimally invasive tracheal resection with primary anastomosis for schwannoma arising from left main bronchus: a case report". I want to ask for some clarifications and comments.

1. What kind of needle did you use for transbronchial biopsy? 22-18 G needle can retrieve a kind of cytological specimen representing a challenging pathologist diagnostic material. I ask for extra comments or clarification about the preoperative diagnosis exams (e.g., cytoinclusion - cell block).

Response: Thank you so much for this question. we used single-use pulmonary biopsy forceps for transbronchial biopsy. We added this information into the Case Presentation.

2. After resection, did you ask for intraoperative margins?

Response: Thank you for pointing this out. Surgical margins were reported clear on final histopathology. We added this description into the Case Presentation.

3. Can you comment on your port placement configuration? Many centres apply the W configuration that allows a very good exposition of the posterior hilum, especially on the left side. Please comment on the pros and contras of your configuration compared to other common port configurations.

Response: Thank you so much for this advice. This port placement configuration was usually used in our center for RATS. It allows flexible movement of robot arms and reduces damage to the intercostal nerve of patients. We added this into the Case Presentation. As the disadvantages, all types of port placement configuration may increase patients' injury, because of the multiple incisions. This will be optimized by single-port robotic surgery with Da Vinci SP robot surgical system. We added this point into the Discussion.

4. I would recommend adding an edited video of the surgical procedure.

Response: Thank you for this suggestion. We added the edited video of the surgical procedure.

5. A minor language revision is needed.

Response: Thank you for pointing this out. We have made some modifications.

Reviewer E: The clinical case you presented is interesting and rare. You have described in depth the case studies in the literature regarding the treatment of this rare pathology. On the contrary, I believe that it is necessary to delve deeper into some surgical points.

1. ***What type of robotic tools did you use and in which phases of the surgery?***

Response: Thank you so much for pointing this out. All procedures were performed using the Da Vinci Si robot surgical system. We added this information into the Introduction.

2. ***What type of suture was made and what type of thread did you use?***

Response: Thank you for pointing this out. We used running suture and 3/0 V-Loc suture. These points were added into the Case Presentation, which was "The tumor was completely removed by bronchial resection followed by end-to-end anastomosis with running suture, using 3/0 V-Loc suture".

3. ***Was a bronchoscopy check performed intra-operatively or post-operatively?***

Response: Thank you for pointing this out. The bronchoscopy check was performed intra-operatively and also post-operatively. We added this point into the Case Presentation, which was "Fiberoptic bronchoscopy check was performed intra-operatively and a day after the operation, which proofed the well anastomosis, and confirmed no active bleeding".

4. ***In your opinion, what are the features of the Robot that made this technique better than others for the intervention? Which kind of Da Vinci's platforms have you used ? Line 109-112 I think you should delve deeper into these topics if you want to validate the advantage of robotic technology in new fields of application.***

Response: Thank you for this comment. We totally agree with it. We remodified that part into "The bronchial anastomosis and reconstruction of this surgery required high technique for surgeon. The high-definition three-dimensional video of Da Vinci robotic system provided the surgeon with a clear picture of anatomic structures, helping to reduce the visual fatigue of surgeons during the operation. Furthermore, with tremor suppression and better maneuverability of instruments, it contributed to the precise sutures and knotting in a narrow anatomical space during the process of the primary anastomosis of this surgery, indisputably". All procedures were performed using the Da Vinci Si robot surgical system. We added this information into the Introduction.

5. ***You have to describe the post-operative outcomes: post-operative complications, length of stay, chest tube duration.***

Response: Thank you for pointing this out. We added these post-operative outcomes into the Case Presentation, which was "The patient tolerated the operation without any complications.

She was discharged at five days postoperatively, after removing the chest tube. At present, six months after the intervention, the patient continues to be asymptomatic, with a normal functional status, and without any sign of local recurrence".

Reviewer F:

The authors describe an elegant minimally invasive technique (robotic) to solve a difficult problem (centrally located tracheobronchial tumor). The case and technique are well described. The authors provide an exhaustive review of the literature for this very rare disease (tracheobronchial schwannoma).

1. The title, however, seems misleading since the resection was not carried out at the level of the trachea but at the level of the left main bronchus, according to the figures 2 and 3. In the same vein, the authors described, in line 66, a « circumferential tracheal resection » but it is rather a sleeve bronchial resection. Could you clarify this point?

Response: Thank you so much for this comment. We changed the title into "Robot-assisted minimally invasive bronchial resection with primary anastomosis for schwannoma arising from left main bronchus: a case report", and changed the "circumferential tracheal resection" into "sleeve bronchial resection". We were so sorry for these mistakes.

2. Line 54, I suggest to replace « the opening of the left upper bronchus, and the opening of the left lower bronchus » by « the left secondary carina »

Response: Thank you for this suggestion. We totally agree with this comment. We replaced "the opening of the left upper bronchus, and the opening of the left lower bronchus" by "the left secondary carina".

3. Did you perform fibro-microscopy or a thoracic CT in the postoperative period to assess the bronchial anastomosis?

Response: Thank you for pointing this out. Fiberoptic bronchoscopy check was performed intra-operatively and a day after the operation. We added this point into the Case Presentation, which was "Fiberoptic bronchoscopy check was performed intra-operatively and a day after the operation, which proofed the well anastomosis, and confirmed no active bleeding".