Peer Review File

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Reviewer A

In this article, authors have reported their experience or the robotic resection of a mediastinal teratoma and the preoperative planning

Concerning the introduction:
Concerning the description of the clinical case, can you give more details about medical history of the patient in order to understand the indication of the previous FDG-PET/CT?
Concerning the Fig 1, is there injected slices also? Do you have some pictures of the lesion from the FDG-PE/CT?
Could you explain the indication of the EBUS-TBNA please? Because the lesion seems to be resectable and in case of resectable mediastinal tumor a biopsy is not required. Moreover, you describe a cystic lesion, could it be a bronchogenic cyst? Because a punction is not recommended by EBUS or EUS due to the high risk of infection.

Concerning the surgical procedure:
About the 3D reconstruction, the video 1 need to be slowed down, but is interesting.

About the surgical procedure, it's well described. If I understood, there is no assistant port, could you precise it?
About the Video 2, the picture of the port placement needs to be slowed down just a little bit.
Concerning the pathological result, can you precise that it's a teratoma because it's not reported.
Concerning the figure 2, need to correct photogrphy in photography line 107.

Concerning your tips and tricks:
I agree with your helpful recommendations, but I have one comment. This lesion is located near the superior vena cava, a wound may be performed. The control can be made by one robotic arm, but for the suction, you'll need an assistant. Morevover a biopsy was made, and sometimes, hugh adhesions are located between the umor and the trachea and the vena cava. In the anesthesiologic conditioning, is there always a venous line placed in the inferior vena cava? like at the foot of the patient for example? Maybe that's an important trick, to always having this venous line for minimally invasive mediastinal surgery

Concerning the conclusion:
Synthetic, well written and interesting, but because you have planned a resection of a lesion located between "big vessels" some safety tips and tricks need to be precise.

Reply

We would thank the reviewer for the interesting and detailed commentary.
Regarding the clinical case, the patient was a former smoker, with a history of

allergic asthma and monoclonal gammopathy of undetermined significance (MGUS) (line 46). The PET\CT was performed 3 years before (line 50), to investigate potential bone marrow infiltration or unsuspected disease sites, even if its role in monoclonal gammopathy is controversial.
Concerning Figure 1, chest CT was performed in emergency conditions in suspicion of COVID-19 pneumonia, without injection of contrast agent (line 43).
Taking into accout patient's medical history, EBUS-TBNA was indicated to detect possible mediastinal lymphadenopathy.
We ruled out the possibility of a bronchogenic cyst since the lesion had a heterogenous structure, although with a cystic component (line 44).
As concerns the surgical procedure, port mapping required 3 surgical accesses, one for the camera port and two for the robotic arms, using a fully robotic technique without an assistant port (line 62-66).
Pathological analysis of the specimen reveled a "pluri-loculated cyst with solid areas. The lesion showed areas of mature pancreatic tissue including endocrine cell islets and exocrine pancreatic parenchyma. In addition, keratinizing squamous epithelium with cutaneous adnexal glands, small intestine, and bronchus including respiratory epithelium" was observed, consistent with benign mature-cystic teratoma (line 92).
Lasty, about our tips and tricks, we would clarify that we didn't need an assistant, since we used an EndoWrist Suction/Irrigator (Intuitive Surgical), controlled directly from surgeon's console (line 79).
Besides, thanks to the pre-operative 3D reconstruction, we were able to observe that the superior vena cava was not infiltrated, and we did not expect severe adhesions. Nevertheless, if necessary, we could have added a fourth port to minimize the risk of intraoperative complications.

Reviewer B
Though this is a nice case with an unusual location of a teratoma, this is no different than an aggressive lymph node dissection for a lung cancer case. Though I admire the authors attempt to minimize the number of incisions, putting in all 4 robotics arms and a true assist port would have cut the surgical time in half with minimal morbidity. I also don't know what the 3D reconstruction adds to management of this mass as the location is fairly straightforward. There is obviously a language barrier that makes some of the paper harder to read. This case does not add anything unique to the literature or highlight a unique technique. Great case, but not groundbreaking.

Reply
Thanks to the reviewer for the comment.
In our opinion, the surgical case was quite different from a lymph node dissection: the tumoral lesion required a complete mobilization and anen-bloc excising, preserving oncological radicality.
As concerns the surgical procedure an adjunctive port was not necessary: the operation still lasted 80 minutes, including docking and un-docking time, without intra-operative or post-operative complications; post-operative pain was minimized thanks to the reduction of thoracic traumatism, optimizing recovery time of the patient.

Reviewer C

The authors have described a very interesting and challenging case of a patient with a teratoma in the pretracheal space which was resected using a robot-assisted right, lateral approach.

Whilst the case is interesting, the readability of the manuscript is hindered by poor (medical) English, grammar, and interpunction.

Furthermore, the preoperative imaging is shown in a very comprehensive manner using 3D software. However, the rationale for the surgical approach is unclear from the text and must be deducted from the video in the current state of the manuscript.

It is this reviewer's opinion that a more structural approach to the case, highlighting the surgical complexity and choice for the approach as well as extensive language and grammar editing could be of great benefit to the manuscript, highlighting the point the authors wish to make, namely that the application of robotic surgery is expanding to more complex cases, even in restricted, highly complex anatomical spaces such as the mediastinum. Furthermore, pitfalls that the surgeons considered given the proximity to major vessels and nerves could be mentioned.

Reply

Thanks to the review for providing his evaluation.

We provided improved scientific English and grammar to enhance the value of the manuscript.

As concerns surgical procedure, the role of RoboticSurgery for the treatment of mediastinal lesions is well established in scientific literature and current clinical practice.

Robotic approach offers an excellent three-dimensional magnified vision and a wide range of instrument manoeuvrability, even in a restricted area such as the anterior mediastinum.

Pre-operative 3D reconstruction provided a meticulous planning of the surgical procedure since the lesion was strictly close to the superior vena cava and to the trachea.

In addition, in close proximity of big vessels, like the superior vena cava, dissection may be performed using EndoWrist Suction/ Irrigator (Intuitive Surgical), reducing the application of monopolar instruments, keeping the surgical field dry, without an assistant port (line 105).

Furthermore, patient clinical status, age, and comorbilities supported the choice of a minimally invasive approach.