

## Peer Review File

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### Reviewer A

This manuscript showed application of tube drainage with bi-pigtail catheters in uniportal VATS. My comments are as follows.

# In Inclusion and exclusion criteria, author should state “lobectomy” in inclusion criteria.

Reply: Thank you for your advice, we have modified our text as advised.

Changes in the text: see Page 4, Line 130.

# Please clearly describe how to measure the degree of the lung collapse in Methods.

Reply: Thank you for your advice, the method to measure the degree of collapse rate was described in the reference in detail, it is a residual dead space, so we do not want to make too much repetition in the methods.

Changes in the text: None.

# Based on the criteria of tube removal, relatively long duration of chest drainage, 3.5d and 3.7d, might show that many cases had air leak. How do you explain the drainage duration.

Reply: Thank you for your advice, most patients were discharged successfully, and the patients had air leak were relatively few. The tubes were not removed an one time, the drainage duration was depended on the time of the last extubation. In addition, some patients reach the extubation target, but the patient or their families refuse, which may also increase the drainage duration.

Changes in the text: None.

# I think the collapse rate of lung after lobectomy would be affected by air leak and lobe involved.

Do you have any data of postoperative air leak? If so, can you involve it in your analysis? Did you analyze odds ratio for collapse rate of the lung in univariate and multivariate analyses?

Reply: Thank you for your advice, the patients had air leak were relatively few, so we did not have enough data on postoperative air leak. Usually, we would choose to remove the drainage tube after the last chest X-ray to confirm that there is no air leakage and the lung with a good reexpansion. We believe that the effect of pulmonary reexpansion is usually the encapsulated fluid accumulation and air accumulation, which

is not solved by traditional thick tubes at some time, which is also the advantage of two drainage tubes.

Changes in the text: None

## **Reviewer B**

Thank You for Your work. You are right about the "absence of guidelines regarding the number and size of chest tubes that should be selected after thoracic surgery". With those words You make the impression as if You were about to propose a guideline.

1. The definition of uniportal VATS isn't exactly clear, but the general idea of its founder was to use only one intercostal space. You describe placing chest tubes in the third and seventh intercostal space, therefore having three intercostal nerves affected. Tunneling the chest tube under the skin and inserting it over the same intercostal space is an alternative, that retains the definition of uniportal approach. Have You considered that?

(Palleschi A, Mendogni P, Mariolo AV, Nosotti M, Rosso L. An alternative chest tube placement after uniportal video-assisted thoracic surgery. J Thorac Dis. 2018 May;10(5):3078-3080. doi: 10.21037/jtd.2018.04.108. PMID: 29997976; PMCID: PMC6006081.)

Reply: Thank you for your advice. Although the indwelling drainage tubes is placed in different intercostals, we still believe that this drainage strategy do not affect the definition of single-hole thoracoscopy. In this study, we mainly want to discuss the drainage strategy under uniportal VATS.

Changes in the text: None.

2. I admire Your endeavor to calculate postoperative pain, but it is a secondary keypoint. The most important complications after surgery are not the most frequent, but those with potentially catastrophic outcomes. Thus a pleural effusion may be "uncomfortable" but with little consequences for the patient. In comparison, postoperative bleeding is potentially deadly if unnoticed or noticed too late. Hemothorax, in this case, is only a symptom of the problem and not the disease itself. The use of large-bore chest tubes is traditional due to the risk of immediate tube clotting in case of postoperative bleeding. Yes, it clots anyway at some point, but you can see blood in the drainage and could identify the problem.

It isn't fair to compare acute postoperative bleeding (from the pulmonary artery for example) to uncomplicated traumatic hemothorax as cited in lines 316 and 320. In those

cases hemothorax did not include any persistent bleeding and did not require surgery to stop the bleeding.

Reply: Thank you for your advice. We just want to prove the drainage strategy is safe both to the traumatic hemothorax and uniprotal VATS. In our experience, postoperative bleeding can also be detected with the drainage strategy of BPC.

Changes in the text: None.

3. Another issue is the structure of the pigtail catheters. They were primarily constructed for uncomplicated pleural effusion. They are not transparent. Therefore the surgeon or nurse cannot see the color of fluid or obstructing agents inside the tube. It might be acceptable but poses an unnecessary risk that can be avoided by placing a transparent tube.

Reply: Thank you for your advice. This may be the direction that we improve in the future.

Changes in the text: None.

4. You have presented a total of 470 patients who underwent a vats lobectomy. It seems unbelievable that there were no postoperative bleeding cases. According to different literature, the postoperative bleeding rate ranges from 0,7% to 2,6%.

Reply: Thank you for your advice. Postoperative bleeding is a serious complication after surgery, but fortunately, there was no postoperative bleeding in these patients indeed.

Changes in the text: None.

5. I would recommend taking my concerns into consideration. Please revise Your work. I am afraid, that the conclusions may take some surgeons into a false sense of security at implementing the pigtail tubes after VATS lobectomy.

Reply: Thank you for your advice. In our opinion, this type of drainage strategy is simply a viable option and needs a randomized controlled trial (RCT) to explore.

Changes in the text: None.

### **Reviewer C**

Thank you very much for submitting your manuscript to the journal. I'm pleased to receive it as a reviewer.

The authors described the merit of drainage strategy with bi-pigtail catheters after uniport VATS lobectomy. This study would appeal to the readers of the journal;

however, I have the following questions for you, which I believe need to be addressed prior to publication:

The authors reported the merit of the BPC methods; however, no specific demerit was described. Didn't the authors have any complications regarding the BPC?

Reply: Thank you for your advice. The complications regarding the BPC was similar to the TCT, we did not find any special complications.

Changes in the text: None.

The authors used different bore-size catheters (10Fr and 12Fr). Could you please describe why you put 12Fr in the anterior and 10Fr in the posterior?

Reply: Thank you for your advice. The 12Fr catheter is relatively thicker, we put it in the anterior mainly in order to drainage air, and put the 10Fr catheter in the posterior mainly order to drainage effusion.

Changes in the text: None.

The authors mentioned that "The choice of the specific drainage method was based on the surgeon's preference" in lines 95-96 in the method section; however, this is critical information regarding the categorization (TCT vs. BPC), so please mention this in Figure 3 (patient enrollment) as well as the limitation section.

Reply: Thank you for your advice, we have modified our text as advised.

Changes in the text: see Page 6, Line 191 and Page 9, Line 275-276.

The authors described "univariate and multivariate" in line 165, whereas the authors described "univariable" and "multivariable" in the rest of the manuscript. Please unify the descriptions: univariable and multivariable.

Reply: Thank you for your advice, we have modified our text as advised.

Changes in the text: see Page 6, Line 181.

The authors reported that drainage duration was 3.5 in TCT and 3.7 in BPC (no difference), whereas hospitalization was 5.4 in TCT and 4.6 in BPC ( $p=0.01$ ). Could you explain the reason for the prolonged hospitalization in TCT?

Reply: Thank you for your advice. The reason for prolonged hospitalization in TCT is the relatively higher incidence of complications. Pneumothorax or pleural effusion occurred in some patients after removing tubes, and they asked for a few days of observation.

Changes in the text: None.

The authors concluded that BPC decreased the complications and alleviated the pain in the conclusions (lines 272-273); however, this might be an overstatement since the manuscript is retrospective, and it is challenging to determine a cause-effect relationship. So, please tone down the conclusion statement.

Reply: Thank you for your advice. We are just stating the results of the data, and in our opinion, this type of drainage strategy is simply a viable option and needs a randomized controlled trial (RCT) to explore.

Changes in the text: None.

Please double-check the percentage in table 2; Cerebral infarction 1(2.1)...it must be 1(0.4%; 1/235). Pneumothorax 1(2.1) in TCT, on the other hand, 1(5.0) in BPC.

Reply: Thank you for your advice. We calculate the rate of cerebral infarction was the incidence of cerebral infarction among all complications.

Changes in the text: None.

Please double-check FEV% or %FVC, DLCO% or %DLCO? (table 3, 5)

Reply: Thank you for your advice. We had double checked and found no problem.

Changes in the text: None.