

Peer Review File

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Reviewer A

Comment: It is my pleasure to review this review article on challenging uniportal VATS (avatars) technique for pneumothorax in patients with BHD syndrome.

The authors demonstrated updated uniportal experience in performing total pleural covering (PTC) to prevent recurrence in cystic lung diseases, with case review of BHD patient. Author's 4 port TPC approach has been evolved to uVATS technique. Although minimally invasive intents for uniportal benefits by the patient's view, surgeon's efforts during event procedures under the less thoracoscopic visualization of hidden fields to cover the entire pleural surfaces is technically challenging.

Response: We sincerely appreciate the reviewer's careful review and constructive comments on our manuscript. Accordingly, these comments helped us improve this paper greatly. Our answers and improvements are shown below in a point-by-point manner.

Comment: #1. In line 153~155, with large amount of drainage and avoiding thin drain postoperatively, any recommendation on not performing squeeze the chest drain or negative pressure management can be helpful in performing TPC using ORC.

Response: Regarding postoperative management for the thoracic drainage tube, the following are routinely applied: (I) continuous low-pressure suction (-7 hPa), (II) continuous periodic milking of the thoracic drain, and (III) not removing the drain until the daily drainage volume from the thoracic drain is less than 200 ml. I have added the above to lines 158-161.

Comment: #2. In figures, figure 1 and 2 seems to be merged, and Fig 3-8 also can be briefly summarized.

Response: We appreciate your constructive suggestion. According to your comment, figures 1 and 2 were revised to be merged into figure 1. Figures 3-8 also were summarized to be merged into figures 2-5.

Comment: Video 1-5 seems also can be briefly edited.

Response: We appreciate your constructive suggestion. According to your comment, videos #1-5 were revised to be merged into videos #1-3.

Reviewer B

Comment: This article is fascinating in the provision of details of the uniportal VATS total covering with ORC mesh as a treatment strategy for secondary pneumothorax in individuals with BHD syndrome and hereditary multiple pulmonary cysts. Your successful performance of the advanced procedure could be a motivation in the therapeutic field.

You mentioned simply the advancement of uniportal VATS technique and instruments in the article. Please explain why uniport VATS is feasible in treating pneumothorax of BHDS (cosmesis ?, pain ?, or perioperative outcome?) and compare uniportal VATS and 4 ports VATS. The authors must add the English editing certificate document.

Response: We sincerely appreciate the reviewer's careful review and constructive comments on our manuscript. Accordingly, these comments helped us improve this paper greatly. Our answers and improvements are shown below in a point-by-point manner. This article is submitted in the field of "Surgical Technique". It focuses on surgical technique, and a comparison of 4-port VATS and U-VATS will be the subject of a future separate article. In general, U-VATS has the great advantage of limiting the cause of postoperative pain to a single site, since there is only one intercostal nerve injury and only one wound site. We added sentences as follows from line 64 to line 67: "The aim of this article was to provide a detailed description of a minimally invasive U-VATS procedure, **which has the great advantage of limiting the cause of postoperative pain to a single site**, that we have used to create a TPC with the use of ORC mesh." Additionally, as you indicated, we had a native English speaker check and mentioned a certificate of proofreading in English (lines 238-240).

Comment: Line 41-42

Is the abbreviation of "TSC gene" for tuberous sclerosis complex?

Insert the abbreviation of "Birt-Hogg-Dubé syndrome" ; (BHDS)

FLCN gene -> folliculin (FLCN) gene

Because -> Because

Wide-spread -> widespread

Response: We appreciate your constructive suggestion. According to your comment, the manuscript was revised. We added notes on the abbreviations in the text. Additionally, we added an abbreviation section in the footnote to lines 204-214. Corrections are indicated in red characters. Please check them.

Comment: Line 71

“I” ; you are using I and We interchangeably for the subject in this article

Line 75

"In the lung visceral pleura"; can you leave out the word lung?

Line 100

Folliculin gene (FLCN); you can use the abbreviation “FLCN”

Line 113

Is the sentence “In this case, the right side of the surgery will be used as a case” necessary?

Line 114

, a -> ,and a ; consider correcting comma splice

Response: We appreciate your constructive suggestion. According to your comment, the manuscript was revised respectively. Corrections are indicated in red characters. Please check them.

Comment: Line 132

“By performing a partial pulmonary resection, we believe that smooth coverage can be achieved”; I think that it is better to change the sentence to “We believe that a partial pulmonary resection can achieve smooth coverage

Response: We revised the sentence as the reviewer indicated.

Line 137

“Then, total pleural covering (TPC) was started”; Is this text in the past tense?

Response: We have changed the sentence which you indicated to a new sentence in the present tense.

Line 140

“An example of the covering order for TPC is shown below.” ; I think it is not necessary

Response: We erased the text that you have pointed out to us.

Line 142

“oxidized regenerated cellulose (ORC)” ; you mentioned ahead. Please use abbreviation

Response: We appreciate your constructive suggestion. According to your comment, the manuscript was revised respectively. Corrections are indicated in red characters. Please check them.

Comment: Line 143 – 146

Do the numbers in the sentence indicate the order?

Response: We have erased the numbers indicating the TPC order as indicated by you.

Comment: Line 148

“to avoid”; to should be capitalized

Response: We appreciate your constructive suggestion. According to your comment, the manuscript was revised.

Line 150

“if”; consider adding a comma

Response: We appreciate your constructive suggestion. According to your comment, the manuscript was revised.

Comment: “Finally, good lung expansion and complete pleural coverage are confirmed, hemostasis is confirmed, a thoracic drain is inserted through the same wound, and the drain is fixed”; Please edit this sentence to be concise

Response: We appreciate your constructive suggestion. According to your comment, the manuscript was revised (lines 153-155).

Line 154

“to be”; I think it is unnecessary

Line 156

“as”; consider adding a comma

Line 162

“Peri-operative”; perioperative

Line 164

Birt-Hogg-Dubé syndrome (BHDS); please use the abbreviation

Response: We appreciate your constructive suggestion. According to your comment, the manuscript was revised. Corrections are indicated in red characters. Please check them.

Reviewer C

Comment: Thank you for submitting your manuscript. I have reviewed the article titled "A surgical technique of uniportal VATS total pleural covering for secondary pneumothorax associated with hereditary multiple pulmonary cysts of Birt-Hogg-Dubé syndrome". This article suggest TPC with uniportal VATS is effective for secondary pneumothorax like BHDS. However, I think there is no actual novelty compared to the 4-port VATS previously reported.

Response: We sincerely appreciate the reviewer's careful review and constructive comments on our manuscript. Accordingly, these comments helped us improve this paper greatly. Our answers and improvements are shown below in a point-by-point manner.

Comment 1: Uniportal VATS pneumothorax surgery is now common. What is the new meaning of your surgical technique?

Response: Again, we sincerely appreciate the reviewer's careful review and

constructive comments on our manuscript. As reviewer C indicated, uniportal VATS pneumothorax surgery is widespread. On the other hand, the total pleural covering technique for secondary pneumothorax caused by multiple cystic diseases is complex due to limited thoracic ports, especially with uniportal VATS. Even though it is challenging to perform the surgery, The significance of this procedure is to show that reduced port VATS is possible with a modified surgical technique. Additionally, uniportal VATS has the greatest advantage of limiting the cause of postoperative pain to a single site, since there is only one intercostal nerve injury and only one wound site. We added sentences as follows from line 62 to line 66: “In this article, I will provide details for the minimally-invasive technique of uniportal VATS total pleural covering, **which has the greatest advantage of limiting the cause of postoperative pain to a single site**, with ORC mesh for BHD syndrome as a treatment strategy for secondary pneumothorax in hereditary multiple pulmonary cysts.”

Comment 2: There is also a paper that PGA is more effective than ORC as a covering material for the stapler line in surgery of primary spontaneous pneumothorax. What do you think about using PGA?

Response: Thank you for your important comment. We believe that PGA sheets are very effective for covering limited areas such as staple lines. On the other hand, PGA sheets are too expensive to cover the entire pleura and cause a strong foreign body reaction over a wide area, making it undesirable to use only PGA sheets for covering the entire pleura. The legend in Figure 5 explains this point (lines 315-317). I hope these comments will answer the reviewer's questions.