Peer Review File

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Reviewer A:

Comment 1. 1.The number of included patients was too small.2. The number of happened events (surgical infection) was also too small (5 in group A and 1 in group B).3. The retrospective nature

Reply 1:Special thanks to you for your goodcomments. This study is a retrospective study with a single center and small sample. In the results, there may be deviation that needs to be supported by a multi-center and large sample prospective study.

Changes in the text:None

Reviewer B:

Comment 1. Regarding skin closure, it is difficult to understand the difference between a specific process and a control group. Please organize it more (e.g., use a table or bullet points) and change the description to one that is easier for the reader to understand.

Is the biggest difference that the specific process uses a single head barbed absorbable thread?

I did not see any mention of silk thread thickness. What thickness of silk thread did you use?

Please state the product name and country of origin of the single head barbed absorbable suture.In surgical methods, the description of “4# silk suture”, “7# silk suture” seemed to understand for the readers. Please change that description to something more understandable.

Please describe in method under what circumstances the secondary suture will be performed.

2. In line 104, the term “lobotomy” should be corrected.

Reply 1::Special thanks to you for your goodcomments.The 4# silk suture and 7# silk silk threads we use are non absorbable sutures.The specifications and manufacturers of the absorbable suture we use have been added in the corresponding positions of the article.It seems that the word “lobotomy” is not mentioned in the article

Changes in the text:We have modified our text as advised (see page 6 line 175，181，200)".

Reviewer C:

Comment 1: Consider to add an instructional video to your manuscript, showing a step-by-step explanation of your surgical technique. This will improve implementation and standardization by the readership.

Reply 1:This study is a retrospective study， we did not record the specific stitching method, but there were specific pictures for reference in the method section（Figure 1）.We have added some references to this opinion in lines 109-117 of the introduction section.we end this paragraph with the aim of your study.

Comment 2:According to your other feedback, we have made some minor modifications to this matter.Could you please describe the selection process of the different groups? Where patients randomized? Surgeons preference?

Reply 2:Because this article is a retrospective study, grouping is based on the specific suture methods recorded in surgical records.

Comment 3:- Line 102-105: belongs to the Result section.

Reply 3:It is also mentioned in the results section

Comment 4:- Line 105-107: please provide IRB number and date of approval

Reply 4:Added in the article,Methods,line 153-155

Comment 5:- Inclusion criteria: why did you include wedge resections as well, since the duration of these procedures are much different from those of anatomical parenchyma resections and cause less tissue damage in the trajectory of the uniportal incision? Please consider removing this subgroup from your analysis.

Reply 5:Because this article mainly studies the suturing method of incisions, there is no distinction made regarding specific surgical methods

Comment 6:- Surgical technique: was prophylactic antibiotics been administered?（

Reply 6:For lung surgery, we always use antibiotics in advance）

Comment 7:- Surgical technique: was a wound protector standardly been used?

Reply 7:Both groups of patients used.

Comment 8:- Surgical technique: if I understand correctly, you are describing a

technique in which you separately close the different layers (serratus anterior, subcutaneous tissue, skin) with either interrupted or running sutures. This sounds quite standard for many surgeons. Could you please elaborate on the actual modification? I think this paragraph needs rewriting to improve readability to the readership, describing a clear distinction between both techniques.

Reply 8:（In the article, we have already introduced the specific stitching methods in great detail）

Comment 9:-- Postoperative management: what chest tube regimen was applied?

Reply 9:When the drainage volume is less than 200 per day and the chest X-ray indicates good lung recruitment, we can remove the chest tube）

Comment 10:- Vancouver scar scale: please add reference

Reply 10:（We have added）

Comment 11:-- Postoperative incision healing: could you please describe the definition used to determine surgical site infection? Where wound swaps used?（

Reply 11:（As mentioned in reference 4）

Results:

Comment 12:- What do you mean by “secondary incision sutures”? Which indication was used? Please explain in Methods.

Reply 12:（We have mentioned in the Postoperative Inquiry Heating and Scale Scoring section of the Methods section）

Discussion:

Comment 13:-- Limitations: please elaborate on the undeniably present bias in this retrospective study

Reply 13:（This study is a single center retrospective study with a relatively short sample size and follow-up time, which may result in data bias）

Conclusion:

Comment 14:- Please try to stay objective. In your study, you did not evaluate physical and mental health. Thus, no favorabe effect could on these items could be stated in your conclusion. Please rephrase this paragraph, it is not scientifically solid to draw such

strong conclusions from this retrospective study with inherent bias.

Reply 14:（Our research has shown that improved incision suturing techniques can promote incision healing and facilitate rapid postoperative recovery for patients. Although there has been no specific comparison in terms of physical and mental health, we have also elaborated on the limitations in our section.）

Changes in the text:We have modified our text as advised (see page 5 line 139-141)".

Reviewer D:

Comment 1 : Line 66 : "tecnology and spreading of..." The authours sould change the word tecnology to approach.

Reply 1:We have modified our text as advised.

Changes in the text:see page 4 line 110.

Comment 2: Line 74 -78: These lines do not content important information, they are an opinion, so they should be elimineted.

Reply 2:Although 74-78 line is just opinions, we believe that it does not need to be deleted and can have a certain promoting effect on the specific elaboration of the article.

Comment 3: Line 100-03 " All operation ...74 in convetional group..." Who decided which suture should be made and based on which factors? This can represent an important bias.

Reply 3:Special thanks to you for your goodcomments.This study is a retrospective study with a single center and small sample,due to the small sample size, there may be data bias, which has been explained in the limitations section of this article

Comment 4: line 110-111: The time of procedure should be take into consideration since a wedge ressection is much faster than a segmentectomy.

Reply 4:Special thanks to you for your goodcomments.Because the improvement method of incision suture studied in this study is the same for different surgical methods, the author believes that different surgical methods have a relatively small impact on the results of this study.

Comment 5: Line 117: Why BMI above 28kg/m2?

Reply 5:Because excluding BMI above 28kg/m2 is to exclude the influence of obesity on surgical incision healing

Comment 6: line 137 : "...feasible in obese patients." These patientes were alright excluded.

Reply 6:Special thanks to you for your goodcomments.We have deleted this place.

Comment 7:Line 308-313: The authous should add more possible bias.

Reply 7:We have added restrictions in the article section

Changes in the text:Discussion, paragraphs 12,Line 357-359.

Reviewer E

Comment 1 :Eighty patients (53%) of the study population had sub-lobar resection including wedge pulmonary resection. Wedge resection is a minor lung resection procedure with short operative time and minimal instrumentation. I believe that inclusion of patients with wedge resection -along anatomic lung resections; lobectomy and segmentectomy- can lead to heterogeneity and affect accuracy of outcomes measurements.

Reply 1:This study did not further differentiate the choice of surgical method (lung wedge resection, segmentectomy, lobectomy). Indeed, lung wedge resection has a short surgical time and no further research has been conducted on its impact on incision healing. In the following studies, we will focus on this and make further interventions

Changes in the text:None

Comment 2 :Given the overall low incidence of the 2 main surgical outcomes (surgical site infection and re-suturing), the low sample size precludes any meaningful analysis between the 2 groups.The technique is poorly described and not elaborated in a simplified manner to be easily comprehended and reproduced. Many phrases are repeated in the description of surgical technique. Moreover, the description of the figures hardly adds any useful illustrations. I advise the inclusion of a short video demonstrating the main steps of the modified suturing technique in supplementary materials.

Reply 2:This study is a retrospective study，we did not record the specific stitching method, but there were specific pictures for reference in the method section（Figure 1）.We have added some references to this opinion in lines

Changes in the text:None

Comment 3 :The rate of re-suturing in both groups is higher than the rate of wound infection which needs explanation. Moreover, authors need to state how surgical site infection was defined in their work? Did they consider culture results or objective clinical signs?
Reply 3:When we discover a wound infection, multiple dressing changes can alleviate the wound infection. When the wound healing is poor, we decide to suture the wound, which does have subjective effects. In future research, we will try to avoid such problems as much as possible
Changes in the text:None

Comment 4 :The use of silk (non-absorbable) sutures in closure of the muscle and fascial layers is not a classic surgical method. Silk sutures have low tensile strength, can trigger acute inflammatory reactions, host reactions, and encapsulation with connective tissue. Moreover, the use of 7 suture size (diameter= 0.900 - 0.999 mm) is not a common practice and needs more explanation.
Reply 4:n our retrospective study, two groups of patients were routinely sutured with silk (non-absorbable) sutures to the muscle and fat layers. In the next step of the study, we will improve on this
Changes in the text:None

Comment 5 :The conclusions are not well supported by the data presented in the paper, given the low sample size. Phrases as “have favorable effects on the physical and mental health of patients” should be avoided.
Reply 5:We have made modifications.
Changes in the text:Discussion, line 369.

Comment 6:These spelling and language mistakes include -but are not limited to-:
- Line 118: “open-heart surgery” should be modified to” open surgery” (thoracotomy).
- Line 85: “place” should be modified to “placed”.
- Lines 104-105: “sublobar resected” should be modified to “sublobar resections”.
- Line 128: “surgical resection” should be modified to “surgical incision”.
Reply 6:We have modified our text as advised.
Changes in the text:Methods,line 165;Introduction,line 129;Methods,line 152;Surgical methods line 175.

Reviewer F

Comment 1:Upon review, we have noted the presence of typographical errors, incorrect spacing between words, and instances of duplicated commas throughout the manuscript.

We kindly request a comprehensive recheck for typos and misspellings in the entire document.
Reply 1:We have conducted a comprehensive inspection and made modifications to this.
Changes in the text:Methods,line 165;Introduction,line 129;Methods,line 152;Surgical methods line 175.

Comment2:The reported total infection rates appear to be higher than anticipated. Could you please verify if there is comparable data available in the existing literature? If analogous studies exist, we suggest discussing and referencing them to contextualize your findings.
Reply 2:In our study,the incidence of incisional infection was 6.7% (5 / 74) in group A and 1.3% (1 / 77) in group B.This is similar to the results of our reference 10.
Changes in the text:None

Comment 3:The term "Second suture rate" is not well-known to the reviewer and may also be unfamiliar to readers. Are there any existing studies that utilize this parameter? Please include such studies in the discussion section for a more comprehensive understanding.
Reply 3:Secondary suture refers to the situation where the wound does not heal well after the first surgery and needs to be reopened and sutured again. In the results section, we compared the secondary suture rates of the two groups, and in the discussion section, we referred to reference 10.
Changes in the text:None

Comment 4:Could you provide more detailed information on why the previous suturing method was less effective compared to the current technique? Additionally, are there any drawbacks associated with the new method that should be considered?
Reply 4:The traditional suture incision appears as a “centipede” surgical scar after healing,the improved suture method brings more parallel pressure by continuously suturing the subcutaneous layers horizontally, evenly dispersing the suture tension in each layer, which helps to reduce pain and promote incision healing.Although the new suture method also has certain drawbacks, we hope to improve it in future research.
Changes in the text:None

Comment 5:The reviewer is curious whether a multivariate analysis incorporating the use of the new suture method might be effective in predicting the likelihood of future wound infections. Would it be possible for the authors to include such an analysis in their study?

Reply 5:We used the statistical method of this study to compare the wound infection rate and secondary suture rate between two groups. Due to the small sample size, it cannot be denied that using this statistical method would result in statistical bias,that needs to be supported by a multi-center and large sample prospective study.
Changes in the text:None

Reviewer G

Comment 1:First of all, it is not clear either from the text or from the figures what exactly the technique used is and how it differs from the one used previously. Adding a video might be helpful for such a demonstration.
Reply 1:This study is a retrospective study， we did not record the specific stitching method, but there were specific pictures for reference in the method section（Figure 1）
Changes in the text:None

Comment 2:Second, it is unclear whether the two surgical incision suturing techniques were used sequentially or whether they were used based on certain parameters and variables; it is only known that 77 patients were included in the modified group and 74 in the conventional group. Please explain the selection process.
Reply 2:Because this article is a retrospective study, grouping is based on the specific suture methods recorded in surgical records
Changes in the text:None

Comment 3:Third, you reported that surgical site infections were greater in the conventional group, but it is not known how infection was defined. Please add a definition.
Reply 3:We have added some content
Changes in the text:Methods , line 235-236.

Comment 4:Finally, the evaluation of postoperative incision healing and scars was made using the Vancouver scar scale by professional medical staff of thoracic surgery unit and therefore it is not clear on what basis you can state that the modified technique has a favorable effect on the physical and mental health of patients.
Reply 4:We have made changes to this in the conclusion section
Changes in the text。
Changes in the text:Discussion, line 369.

Reviewer H

Comment 1:What was the median size of the uniportal incision?
Reply 1:The length of the uniportal incision 3cm。
Changes in the text:None

Comment 2:Did the authors make a difference between superficial wound infection and deep wound infection (wick dressing, antibiotherapy)?
Reply 2:We did not distinguish between superficial wound infections and deep wound infections。In future research, we will further improve。
Changes in the text:None

Comment 3:Line 42, after the parenthesis, the comma should be replaced by a period.
Line 68, after the parenthesis, the comma should be replaced by a period.
Line 69, two periods in a row in the sentence.
Line 104, lobectomies instead of loboctomies.
Line 118, probably open-chest instead of open-heart.
Reply 5:We have made modifications to these minor errors。
Changes in the text:Line 42, Line 68,Line 69,Line 104, Line 118.