Peer Review File
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Review Comments

Reviewer A

First, I would like to congratulate the authors on their manuscript entitled: "Intrathoracic Muscle Flap Transposition: an Original Technique". It is an interesting paper to read and might provide new insights for thoracic surgeons around the world to address complicated problems like bronchopleural fistula and pleural empyema through intrathoracic muscle flap transposition without the need of redo thoracotomy.

Please find my comments below per section.

General

• Please adhere to the journal's author guidelines; is this manuscript considered to be classified as case report or surgical technique? Thank you for your comment. The manuscript is considered to be an innovative surgical technique, due to the absence in literature of articles providing this approach.

• Please use an English language editor, or have the paper checked by a native English speaker to correct the English spelling and grammar throughout your manuscript. Thank you for your suggestion.

• Advice to change "smooth postoperative course" with "uncomplicated postoperative course" throughout the manuscript. Thank you for your comment, we modified as requested.

Abstract

• In your abstract the description of the operative technique used is not clear. Additionally, the last sentence could be brought forward, since this is still part of the operating technique. Thank you for your comment, We modified the order of the sentences to better highlight the problem. We think that in this way, the sentence should be anyhow maintained.

• Consider adding that the technique was done with pre-operative CT-guidewire, so that a thoracotomy was not required, this will underline the fact that a new technique is being described. Thank you for your comment. We add ''due to pre-operative CT-guidewire positioning'' to better underline the technique.

• The abstract could be concluded by stating that an uncomplicated postoperative course was observed and that this technique is suitable for treating bronchopleural fistula and pleural empyema. Thank you for your comment we modified the order and sentence concluding ''Uncomplicated postoperative course was observed and the patient was discharged home after seventeen days, without chest drain and antibiotics. Therefore, this technique is suitable for treating bronchopleural fistula and pleural empyema.''

Introduction

• Background: Please consider adding more background information on bronchopleural fistula and pleural empyema: epidemiology, etiology, symptoms, morbidity/mortality etc. Thank you, we really appreciate your comment. Actually, the aim of the study is to propose a new surgical technique in muscle flap fixation and not a literature review. That's why we purposely avoided providing epidemiological data, already widely available in the literature.

• Rationale: Consider adding in what percentage of cases OWT + NPWT is not enough to reach successful treatment. Thank you for your comment. The study states that combining OWT and NPWT in our patient was crucial in control infection and narrowing the residual pleural cavity, so we won't discuss cases in which this treatment is ineffective. Actually, this treatment was an essential factor in the subsequent sealing of the fistula.

• Consider adding the fact that a redo thoracotomy is usually needed. Thank you for your comment. We added the comment as requested.

• Objective: Not clear; now it is a statement that correct fixation in close proximity of fistula is an essential technical prerequisite. Is your objective to describe/invent a new surgical technique to do so? Or is the objective to do this as minimally invasive as possible (without thoracotomy)? Thank you for your comment. Our objective as you said is to describe which are the prerequisites to perform a successful fistula closure. Indeed, we add a sentence before to better explain as requested''.

Preoperative preparations and requirements

• Please rename this paragraph to "Case presentation", for example: you are describing a case report rather than "preoperative preparations and requirements". Moreover, you are describing ways of postoperative complication management of the primary operation (hemostasis, bronchopleural fistula etc.), rather than preoperative preparations. Thank you for your comment. We partially agree with this point. We agree to add case presentation cause indeed it is a case presentation; despite this, the paragraph provides important preoperative preparation and requirements to explain why patient underwent a specific surgical treatment like this. So the three of them together are correct for us.

• Please revise this sentence: "Surgical risks and possible alternatives were clearly explained to the patient, who refused the medical treatment". Did the patient refuse treatment? Or did he consent to treatment? This is rather confusing. Thank you for your comment. We indeed modified the sentence with ''who accepted for surgical treatment'', which was the meaning.

• Please revise this sentence: "since the latissimus dorsi flap and the omentum were not available for previous surgery". Were they not available for future surgery? Or not available because of previous surgery? Thank you for your comment. We modified with adding only the word muscle to better give comprehension. We think that it is actually understandable. In "***Comparison with other surgical techniques and researches"*** we explain that the most common flaps used are from latissimus dorsi

and omentum but both of them weren't available in our case because they were used in previous surgical procedure.

Step-by-step description, postoperative considerations and tasks, tips and pearls

• Consider combining these paragraphs under one title (3+4+5): "Operative technique and postoperative considerations" for example. Also consider leaving paragraph 5 ("tips and pearls") out of the manuscript since it is abundant and exactly repeats what is stated in paragraph 3 (step-by-step description).

Thank you for your comment. We pulled together all the paragraphs and deleted paragraph 5.

• How was the ideal site for muscle flap fixation identified? (through preoperative CT-scan? Intraoperativeley?) please clarify. Thank you for your comment. We added as requested "by pre-operative CT scan and bronchoscopy".

• You state that a CT-guided hookwire was placed; what was the function of this hookwire, since that is not stated in the rest of the paragraph? Thank you for your comment. We explained the function of the hookwire in the same paragraph. We identified the ideal site for the muscle flap fixation by pre-operative CT scan and, at that level, we placed the hookwire. During the surgical procedure the hookwire guided the introduction of the vivryl sutures that, in this way, were placed exactly parallel to the hookwire and close to the dehiscent bronchial stump.

• How were the guidewire and needles inserted? Anteriorly, laterally, posteriorly? Thank you for your comment. We added posteriorly.

• Why did you choose for Vicryl instead of an unabsorbable suture as Prolene? Please comment. Thank you for your comment. We chose a slow absorbable suture as the Vicryl suture.

• Was the OWT left open after the procedure or was it closed? Not clearly stated. Thank you for your comment. The OWT was closed at the end of the procedure. We added a statement in the text.

• Please report the exact operating time. Thank you for your comment. The exact operating time is written already, 180m.

• Consider adding how the patient was further supported after surgery (antibiotics, physical therapy etc.) until discharge. Thank you for your comment. The patient received antibiotic therapy for ten days after surgery, completing the course already started, and was discharged without any treatment.

• Pay attention to English grammar (past tense, present tense, plural and singular). Thank you for your suggestion.

Discussion

• Please stick to abbreviations or do not use them at all. OWT and fully written "open window thoracostomy" is used on and off.

Thank you for your comment. Since it is written once at the beginning full and the rest in abbreviation for us is comprehensive and ok to maintain like this.

• Consider moving up paragraph 6.1 to the introduction/background, this would make the current problem and possible resolutions more clear for the reader from the outset of the manuscript. Thank you for your comment. We strictly adhered to the format provided by CCTS. We also think that a brief reminder of the techniques commonly used to treat empyema and fistula is helpful to the reader in understanding the discussion.
• 6.2 “Strengths and limitations”: please rename this paragraph, you are not describing strengths and limitations of this study, but you are rather giving background information on the treatment modality you have used and the cornerstones/keypoints to make this a successful treatment. Thank you for your suggestion. We modified the text as requested.
• Please merge paragraph 6.1 to 6.4 to make it a more logical and chronological discussion, there is quite some repetition and incoherence between the paragraphs now Thank you for your comment. We merged the paragraphs as suggested

Conclusions
• In the first sentence please add: “to treat bronchopleural fistula and residual pleural cavity”: The use of a CT guided hookwire to perfectly locate the bronchopleural stump and the use of theVenflon needle to deliver suture stitches to fix the flap through a narrow open window thoracostomy, to treat bronchopleural fistula and residual pleural cavity, are the two key-points of our technique.
Thank you for your comment. We added as suggested.

Reviewer B

I respect the authors' excellent work.

However, it is just a case report, one treatment example of a very specific case with a very specific treatment method, and it is impossible to generalize it.
I think we need to keep it to the expression " It is possible to be effective", rather than "it was proved to be effective".
Thank you for your comment. Indeed after 12 month patient is in perfect conditions, no signs of infection or fistula, indeed it was proved that the technique was surgically valid.
Also, the point of this case is the fixation of the RAM, but more attention should be paid to the fixation of the muscle flap. I believe that a comparison with other fixation methods is necessary.
In fact, I think the most common method is to suture the flap to the end of the bronchus (1).
You should state the reasons why this could not be done and present the advantages over it.
Thank you for the interesting comment. However, the key point was missed out and we don’t agree on the sentence “Also, the point of this case is the fixation of the

RAM, but more attention should be paid to the fixation of the muscle flap. I believe that a comparison with other fixation methods is necessary."
The fixation of the RAM has been well and deeply explained.
As well pointed out in the text, the possibility of transposing latissimus dorsi was impossible as it was used in the past for surgery (equally the omentum). Moreover, unlike the surgical suturing technique expressed in this article you sent where it is possible to suture directly on the bronchus, in our case it was not possible. It was not possible because of the distance and size (decreased after several VAC and NPWT treatments) from the thoracostomy access, which would have made closure and suturing of the fistula uncertain. Therefore, one of the key point of our technique, compared to the most commonly used, was to avoid a redo thoracotomy, that would certainly allow the flap to be sutured to the bronchus but it would also expand the residual cavity again. It was precisely the use of hookwire CT the reason why the technique was innovative compared to others for complete suturing of the fistula in the cleared cord after treatments.

In addition, the reference for No. 10 could not be found in the references section. Thank you for your comment. The reference was removed because of redundancy. We are very sorry for missing removing it from the text too.

(1) A Stepwise Approach for Postlobectomy Bronchopleural Fistula
Gritsiuta, Andrei Y. et al. Operative Techniques in Thoracic and Cardiovascular Surgery, Volume 25, Issue 2, 85 - 104