

Peer Review File

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Reviewer A

Comment 1: I thank the authors for their efforts, they have clearly put an enormous amount of work into this article. They present a simple solution to what is often made an overcomplicated issue by the variety of potential solutions:

Reply 1: Thank you for your positive comments.

Comment 2: How to achieve one lung ventilation in patients who have had a laryngectomy? By my reading the incidence of stomal stenosis is 22% following laryngectomy¹

Reply 2: In patients after total laryngectomy, the appropriate tube should be selected depending on the size of the tracheal stoma. The choice of tube may depend on the preference of the anesthesiologist in charge, but we think it is important to elect the appropriate tube and establish one-lung ventilation as described in revised Figure 4.

Comment 3: They discuss the potential complication of displacement or aspiration of the TEP valve, again per my reading the occurrence of this event is somewhere between 3.9 and 6.7% (reference 14 within the manuscript).

Reply 3: Thank you for your important comment. Although the potential complications of TEP valve displacement or aspiration may be less common, intratracheal aspiration is associated with serious complications. We think that preventive methods are important in order to prevent serious complications.

Changes in the text: According to the comments, we added the phrase and some references " **The occurrence of prosthesis aspiration is 3.9 to 6.7% of patients (14).**" in Page 10, line No. 164.

Comment 4: This said, though I believe the manuscript needs major changes for it to be considered suitable for publication. There are some inconsistencies which must be addressed. I think the language is complex and non-scientific at times, most points are small and easily addressed.

Reply 4: Thank you for the positive comments.

Major Criticisms

Comment 5: As per the introduction I agree, airway management in post laryngectomy patients may be challenging.

The presence of a voice prosthesis and the non-linear anatomy of the tracheostomy opening with respect to the trachea itself can add to the challenges.

I think the authors need to reference two papers in their discussion.

In the paper by M Letal and M Theam, the authors state that DLTs begin at size 26 Fr. They also discuss the use of bronchial blockers whether in a coaxial configuration or outside of the tube.

The authors should mention whether a Univent tube might have served their purpose. Finally they should mention the merits or otherwise of CPB as a potential option to be considered for lung surgery

Reply 5: 26Fr DLT is not common in Japan, thank you for the helpful information. The outer diameter of the 26Fr DLT is 9.3mm, which seems to be slightly larger than the tube used in this case. As for the blocker, we think it was difficult to place it outside the tube because the stoma was very narrow. In this case, it is not difficult to secure an airway, so we think that cardiopulmonary bypass is not necessary. If one lung ventilation was not possible, we might perform both lungs ventilated. We added two papers in discussion.

Changes in the text: According to the comments, we added the phrase and some references " While using the Univent tube (Teleflex, Wayne, PA, USA) might provide stable OLV, it could not be used in this case since the minimum OD of that tube is 9.7 mm for adult patients. " in Page 8-9, line No. 143-145.

Comment 6: I think the authors should focus on the flexibility of the tube itself when compared with a standard Double lumen tube and the memory bend of conventional DLT's.

I have placed probably in the regional of 40 DLTs over the past 25 years. Anyway my point is I find them stiff and unyielding. Would the added flexibility afforded by the wire reinforced tube allow a more atraumatic placement ?

Reply 6: Thank you for the valuable comments.

Changes in the text: According to the comments, we added the phrase and some references "Further, the risk of tracheal mucosal injury was reduced because of the flexibility afforded by the wire reinforced and round shape of the tip of the long spiral tube, compared with a standard DLT and an ordinary spiral tube (3)." in Page 9, line No. 146-149.

Comment 7: The Phycon tube has a cuff which is much shorter than a conventional, it might be worth a line outlining how this shorter length may improve safety. In the paper by Alessia Pedoto, there is some discussion on the margin for error in terms of how much movement is tolerable in terms of the length of the left mainstem bronchus (Figure 2: Margin of safety).

Reply 7: Thank you for the important comments.

Changes in the text: According to the comments, we added the phrase and some references " **In addition, the cuff of the tube is much shorter than the conventional one, and this shorter length may be useful when placed in the right main bronchus, where the margin of placement is less than in the left main bronchus (3, 12).** " in Page 9, line No. 149-152.

Case Report Itself

Comment 8: Shorten lines 103-106 into one sentence.

Reply 8: Thank you for the valuable comments.

Changes in the text: According to the comments, we added the phrase " **Postoperatively, the patient was transferred to an intensive care unit (ICU) and was discharged in an ambulatory condition on postoperative day (POD) 7.**" in Page 6, line No. 106-107.

Comment 9: The authors argue that the stoma was 9mm (line 82) despite the fact that a 10mm (line 70) outer diameter tracheostomy was in-situ preoperatively needs to be addressed.

Reply 9: Thank you for the valuable comments.

Changes in the text: According to the comments, we added the phrase " **The patient had difficulty inserting a cuffed tracheostomy tube (7 mm inner diameter [ID], 10 mm outer diameter [OD]).** " in Page 5, line No. 74-75.

Discussion

Comment 10: I was not clear about the institutional experience of one lung ventilation with tracheostomy. Did these 12 patients have a laryngectomy or just tracheostomy, it would seem to me that placement of a DLT through the tracheal stoma might have been difficult and given the choice personally I would place through the larynx (if present), as stated above I would be anxious about the potential for damage to the stoma as the large DLT was passed through.

Reply 10: Thank you for the valuable comments. Ten patients underwent laryngectomy.

We revised the text to focus on those ten patients.

Changes in the text: According to the comments, we added the phrase " Over the past 5 years, 10 of 3480 patients requiring OLV in our hospital had a laryngectomy. Among them, one had a long spiral SLT, a Phycon left-sided DLT was used in 7 (35 Fr n=3, 37 Fr n=4), a Blue-line left-sided DLT (37 Fr, Smiths Medical, San Clemente, CA, USA) and Broncocath left-sided DLT (37 Fr, Medtronic, Minneapolis, MN, USA) used in the remaining two patients." in Page 7, line No. 112-116.

Comment 11: Lines 116 – 117 are confusing:

the combination of an SLT and bronchial blocker or DLT for the tracheostomy was not used for any of the patients

does this contradict the lines 111-112 the remaining patients N=11 had oral DLTs inserted via the trachesotoma

Reply 11: Thank you for the valuable comments. We meant that this DLT is not an oral DLT, but a tracheostomy DLT.

Changes in the text: According to the comments, we added the phrase " The combination of a SLT and bronchial blocker or a tracheostomy DLT was not used in any of the patients." in Page 7, line No. 116-117.

Comment 12: Lines 145-146, I find this argument unconvincing, nonetheless, nothing speaks like success, the authors clearly managed very well without the blocker.

Reply 12: Thank you for the positive comment. we deleted this phrase.

Other Comment

Comment 13: Lines 21, 50, “troubles”, Rephrase, perhaps

Patients who have had laryngectomy require a thorough preoperative assessed, the potential for stomal stenosis and possibility and action plan for displacement of voice prosthesis must be considered.

Reply 13: Thank you for your suggestion.

Changes in the text: According to the comments, we added the phrase " Patients who have had laryngectomy require thorough preoperative assessment, the potential for stomal stenosis and an action plan for possible voice prosthesis displacement must be considered." in Page 2, line No. 20-22, Page 3, line No. 52-54.

Comment 14: Lines 37 and 51, “A long spiral tube may possibly become an available option.....”

Reply 14: Thank you for your suggestion.

Changes in the text: According to the comments, we added the phrase " **A long spiral single-lumen tube might be an option for patients after laryngectomy with a tracheoesophageal voice prosthesis.**" in Page 3, line No. 39-40 and in Page 4, line No. 55-56.

Comment 15: Lines 22-24, Needs rephrase Instead of Herein we

Reply 15: Thank you for your suggestion.

Changes in the text: According to the comments, we added the phrase " **We report the anesthetic management of a post-laryngectomy patient undergoing lung resection surgery. The patient had both a laryngectomy and a VP in situ.**" in Page 2, line No. 22-24.

Comment 16: Line 25 Tracheostomy tube: Most patients will have a laryngectomy tube if they are using a voice prosthesis, this stated, perhaps the prosthesis was leaking or incompetent and therefore a cuffed tracheostomy tube is necessary

I think throughout the manuscript the authors need to decide whether the word tracheostomy or laryngectomy is most appropriate,

Reply 16: Thank you for your important indication. We used the following word " a cuffed tracheostomy" throughout the manuscript.

Changes in the text: According to the comments, we added the phrase " **A 66-year-old man with Parkinson's disease, who had previously undergone total laryngectomy for supraglottic laryngeal cancer, had a cuffed tracheostomy tube and a VP inserted into the tracheoesophageal fistula below it.**" in Page 2, line No. 25-27.

Comment 17: Line 47, Tracheostomy Patient, Patients are perhaps best not defined by their illness, much in the same way as haemophiliac,

Reply 17: Thank you for your important indication.

Changes in the text: Response: According to the comments, we added the phrase " **Using a long spiral single-lumen tube provided stable one-lung ventilation in a patient after laryngectomy with voice prosthesis.**" in Page 3, line No. 47-48.

Comment 18: Line 56, "gently" Non-medical, perhaps a different word might be better.

Reply 18: Thank you for your important indication.

Changes in the text: Response: According to the comments, we deleted the word.

Comment 19: Lines 70, 100mm outer diameter and Line 82 stoma size 9mm

Reply 19: Thank you for your important indication.

Changes in the text: According to the comments, we added the phrase " **The patient had difficulty inserting a cuffed tracheostomy tube (7 mm inner diameter [ID], 10 mm outer diameter [OD]).**" in Page 5, line No.74-75.

Comment 20: Lines 76-77, Following placement

Reply 20: Thank you for your important indication.

Changes in the text: According to the comments, we deleted the phrase.

Comment 21: Lines 83, Perhaps change to Therefore, we elected to use a long...

Reply 21: Thank you for your important indication.

Changes in the text: According to the comments, we added the phrase "**Therefore, we elected to use a long, cuffed, spiral SLT (Phycon wire-reinforced endotracheal tube long type defender with cuff, 6 mm ID, 8.7 mm OD, 400 mm in length, Fuji Systems, Japan) under the guidance of a 4 mm bronchoscope (Fig. 2).**" in Page 5, line No. 85-88.

Comment 22: Lines 109-110, In the past 5 years, of 3480 patients who underwent

Reply 22: Thank you for your important suggestion.

Changes in the text: According to the comments, we added the phrase " **Over the past 5 years, 10 of 3480 patients requiring OLV in our hospital had a laryngectomy. Among them, one had a long spiral SLT, a Phycon left-sided DLT was used in 7 (35 Fr n=3, 37 Fr n=4), a Blue-line left-sided DLT (37 Fr, Smiths Medical, San Clemente, CA, USA) and Broncopath left-sided DLT (37 Fr, Medtronic, Minneapolis, MN, USA) used in the remaining two patients.**" in Page 7, line No. 112-116.

Comment 23: Lines 103-106, I recommend shortening into one sentence

Reply 23: Thank you for your indication.

Changes in the text: According to the comments, we added the phrase " **Postoperatively, the patient was transferred to an intensive care unit (ICU) and was discharged in an ambulatory condition on postoperative day (POD) 7.**" in Page 6-7, line No. 107-109.

Comment 24: Lines 113, I am sure it is a Microsoft word issue but the Fr is substituted by the hashtag symbol

Reply 24: Thank you for your important indication.

Changes in the text: According to the comments, we added the phrase " **Over the past 5 years, 10 of 3480 patients requiring OLV in our hospital had a laryngectomy. Among them,**

one had a long spiral SLT, a Phycon left-sided DLT was used in 7 (35 Fr n=3, 37 Fr n=4), a Blue-line left-sided DLT (37 Fr, Smiths Medical, San Clemente, CA, USA) and Broncocath left-sided DLT (37 Fr, Medtronic, Minneapolis, MN, USA) used in the remaining two patients." in Page 7, line No. 112-116.

Comment 25: Lines 120-133, I think if figure 4 were substantially improved, perhaps it could encompass the points the authors are trying to convey here.

Reply 25: Thank you for the valuable comments. According to the comments, we revised the figure 4.

Comment 26: Lines 150, Further the riskcompared to the shape of the ordinary spiral tube. I think this point needs reference, I am not aware that this is a thing, perhaps it is.

Reply 26: Thank you for your important indication. This tube was also designed to be inserted from the surgical field. It is thought to be designed to reduce tissue damage.

Changes in the text: Thank you for the valuable comments. according to the comments, we added the phrase "Further, the risk of tracheal mucosal injury was reduced because of the flexibility afforded by the wire reinforced and round shape of the tip of the long spiral SLT, compared with a standard DLT and an ordinary spiral SLT (3)." in Page 9, line No. 149-151.

Comment 27: Lines 156, Such patients need, suggest rephrase These patients may need

Reply 27: Thank you for your suggestion.

Changes in the text: Thank you for the valuable comments. according to the comments, we added the phrase "These patients may need airway management through the permanent tracheostoma, which makes it difficult to achieve OLV." in Page 9, line No. 160-161.

Comment 28: Lines 157, Additionally, I would delete this word, perhaps rephrase Voice prosthesis are invariably offered to patients post laryngectomy. Between 70-90% of patients who have a VP can achieve speech.

Reply 28: Thank you for your important indication. In Japan, a voice prosthesis is not always offered to patients post laryngectomy.

Changes in the text: According to the comments, we added the phrase "VPs are often offered to patients after laryngectomy. Between 70-90% of patients who have a VP can achieve speech (14)." in Page 9, line No. 161-163.

Comment 29: Lines 164, Necessary to close, I think the authors mean, In order to maintain patency of the fistula until another prosthesis is fitted a Fogarty catheter may be necessary to prevent the loss of the trachea-oesophageal fistulous tract.

Reply 29: Thank you for your important suggestion.

Changes in the text: According to the comments, we added the phrase "If the VP is accidentally dislodged, in order to maintain patency of the fistula until another prosthesis is fitted, a Fogarty catheter might be necessary to prevent the loss of the trachea-oesophageal fistulous tract and entry of esophagogastric contents into the airway (16)." in Page 10, line No. 167-170.

Comment 30: Lines 172, If the VP falls into the esophagus, complication such as intestinal obstruction, I'm sure this has been reported somewhere, but it must be rare. It there a reference for this.

Reply 30: Thank you for your important indication.

Changes in the text: Thank you for the valuable comments. According to the comments, we added a reference (Hiltmann O, Buntrock M, Hagen R. Mechanical ileus caused by a Provox voice prosthesis -- an "iatrogenic" enteral complication in voice prosthesis rehabilitation of laryngectomees. *Laryngorhinootologie*. 2002 Dec;81(12):890-3.

Comment 31: Reference 1, The authors should check this, there is no such place as Westmeathare

Reply 31: Thank you for your indication.

Changes in the text: According to the comment, we revised the reference 1.

Comment 32: Figure 4, I think this is the pinnacle point, the article merits publication is the authors can improve this significantly

Reply 32: Thank you for the valuable comments. According to the comments, we revised the figure 4.

Comment 33: Point of interest, I wonder if the handle of some Voice prosthesis can be taped or stitched to the skin prior to airway manipulation in patients with a laryngectomy

Reply 33: Thank you for your important information. In the present case, this type of VP was not taped or stitched, so such measures could not be used.

Changes in the text: According to the comments, we added the phrase "Some types of VPs can be taped or stitched to the skin prior to airway manipulation in laryngectomy patients (20)." in Page 10, line 178-179.

Reviewer B

Comment 34: This is an interesting case report that was appropriately managed with a spiral single-lumen tube in a patient with a voice prosthesis requiring one-lung ventilation. There are a few minor corrections that need to be corrected.

Reply 34: Thank you for positive comments.

Specific Comments

Comment 35: Page 2 abstract line 21: please delete troubles and write or other complications

Reply 35: Thank you for your indication.

Changes in the text: According to the comment, we added the phrase "Patients who have had laryngectomy require a thorough preoperative assessment for potential for stomal stenosis, and an action plan for possible inadvertent displacement of the voice prosthesis (VP) must be considered." in Page 2, line No. 20-22.

Comment 36: Page 3 line 50: delete troubles and write or other complications

Reply 36: Thank you for your indication.

Changes in the text: According to the comment, we added the phrase "Patients who have had laryngectomy require thorough preoperative assessment, the potential for stomal stenosis and an action plan for possible voice prosthesis displacement must be considered." in Page 3, line No. 52-54.

Comment 37: Page 4 line 56: delete and gently

Reply 37: According to the comments, we deleted the word.

Introduction

Comment 38: Page 4 line 59: write of patients who have undergone previous, a total laryngectomy

Reply 38: Thank you for your important indication.

Changes in the text: According to the comment, we added the phrase "In the airway management of patients who have undergone previous, a total laryngectomy, the size of the permanent tracheal stoma and implantation of a tracheoesophageal voice prosthesis (VP) make the airway management and choice of an appropriate endotracheal tube

difficult." in Page 4, line No. 63-66.

Could you confirm this phrase?

Comment 39: Page 5 line 76: write only T delete h

Reply 39: Thank you for your important indication.

Changes in the text: According to the comments, we added the phrase "After intravenous cannula placement, epidural anesthesia was performed at the thoracic T5/6 level." in Page 5, line No. 79-80.

Comment 40: Page 5 line 88: please describe how the spiral tube was externally secured and add this information to the manuscript

Reply 40: Thank you for your important indication.

Changes in the text: According to the comments, we added the phrase "Adhesive tape was used to secure the tube." in Page 6, line No. 91.

Comment 41: Page 7 line 117: spelling patients

Reply 41: Thank you for your important indication. We corrected the word.

Comment 42: Page 8 line 135 delete Javier and write Campos, et al,

Reply 42: Thank you for your indication.

Changes in the text: According to the comments, we added the phrase " According to a report by Campos, et al, among methods for OLV, DLTs were used least frequently as compared to other methods in patients with a tracheostoma (9) " in Page 8, line No. 136-138.

Reviewer C

Comment 43: This article is generally well written focusing on a case of a challenging patient. The language used is clear and all points on the CARE checklist were followed.

Reply 43: Thank you for positive comments.

Comment 44: At line 71 please specify, if possible, the size of the voice prosthesis used on the patient.

Reply 44: Thank you for your important indication.

Changes in the text: According to the comment, we added the phrase " A VP (Provox Vega, Atos Medical, Sweden, 20 Fr, 12.5 mm) was inserted into the tracheoesophageal

fistula (Fig. 1)." in Page 5, line No. 75-76.

Comment 45: Please specify whether bronchoscopy was performed postoperatively checking integrity of the mucosa and correct positioning of the voice prosthesis and also if the voice prosthesis was still correctly functioning after the surgical procedure.

Reply 45: Thank you for your important indication.

Changes in the text: According to the comments, we added the phrase "After the surgery, we observed integrity of the mucosa and correct positioning of the VP by bronchoscopy. The VP was correctly functioning." in Page 6, line No. 105-107.

Comment 46: Please note a misspelling at line 117 in the word "patent".

Reply 46: Thank you for your indication.

Changes in the text: According to the comments, we added the phrase "The combination of a SLT and bronchial blocker or a tracheostomy DLT was not used in any of the patients." in Page 7, line No. 116-117.

Comment 47: Please compare this technique with others described in the literature, are there other options available in managing this case differently?

Reply 47: Thank you for your important indication.

Changes in the text: According to the comments, we added the phrase "While using the Univent tube (Teleflex, Wayne, PA, USA) might provide stable OLV, it could not be used in this case since the minimum OD of that tube is 9.7 mm for adult patients." in Page 9, line No. 145-147. and "In order to address the stenosis condition, an enlarging plasty of the tracheostoma might be an option. However, the risk of infection of the tracheostoma need to be considered." in Page 10, line No. 155-156.

Comment 48: It would be also interesting to know whether the patient was advised in performing an enlarging plasty of the tracheostoma in order to address the stenosis condition.

Reply 48: Thank you for your important indication. We agree with that one option is to expand the tracheostomy.

Changes in the text: According to the comments, we added the phrase "In order to address the stenosis condition, an enlarging plasty of the tracheostoma may be an option in this patient." in Page 10, line No. 155-156.