

Peer Review File

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Reviewers Comments:

Comment 1: The term spontaneous-ventilation-induced non-intubated surgery is grammatically not correct and should be replaced.

Reply 1: We have changed the expression “spontaneous-ventilation-induced non-intubated surgery” to “non-intubated thoracic surgery” to make it more precise.

Changes in the text: We have modified our text as advised. (see Page 10-11, line 139, 143, and 152)

Comment 2: In Line 88 it is stated that “...the patient was in relatively good physical condition...”. It is unclear, what that means. Have there been preoperative comorbidities affecting his well-being? If so, they should be detailed. The same, if the patient suffered from complaints after the operation.

Reply 2: According to preoperative physical examination, routine laboratory tests, and extension assessments including enhanced cranial MRI, general bone scanning, and enhanced abdominal CT, no sign of tumor metastasis was observed and there have been no other comorbidities affecting his well-being. In terms of postoperative conditions, the patient had no obvious postoperative symptoms like nausea and vomiting but experienced slight pain at the surgical site. Consequently, we provided nonsteroidal anti-inflammatory drugs (NSAIDs) and ambroxol to relieve symptoms.

Changes in the text: We have modified our text as advised. (see Page 6 and 8-9, line 67-72 and 108-110)

Comment 3: The technique of non-intubated, spontaneous ventilation anesthesia is not widely known, especially not for tracheal resection. It would be interesting to know more details, for example about of the volume of local anesthetic used, the way of administrating the anesthetic (perivagal/peridural, local?), use of oxygen insufflation, problems experienced during the procedure or postoperatively (anesthetic management) etc.

Reply 3: To make it more informative and instructive, we have added more details on spontaneous ventilation anesthesia, including the volume of local anesthetic used, the way of administrating the anesthetic, use of oxygen insufflation, and anesthetic management.

Changes in the text: We have modified our text as advised. (see Page 7-8, line 85-98)

Comment 4: Line 103 “...related to ischemia...” – this leaves unclear what ischemia is

meant (cerebral, pulmonary, parenchymal?).

Reply 4: We feel sorry for our vague expression. Considering the nature of the blood supply to the trachea, ischemia is a common complication after tracheal surgery; without the inference of intubation, anastomosis becomes easier and faster, which will decrease the time of ischemia reperfusion for the trachea and potentially increase the recovery.

Changes in the text: We have modified our text as advised. (see Page 10, line 137-138)

Comment 5: After line 104 non-intubated spontaneous ventilation of the trachea (i.e., double lung ventilation) is compared with single lung mechanical ventilation which is not logical, for double lung ventilation is always better than single lung ventilation.

Reply 5: To make it more informative and logical, we first introduced the principle and procedure of non-intubated thoracic surgery, and then assessed the differences between these two methods from previous researches instead of directly comparing double lung ventilation to single lung ventilation.

Changes in the text: We have modified our text as advised. (see Page 10-11, line 139-151)

Comment 6: Lines 117-119 mention possible exclusion criteria for this method. Have there been limits to the procedure in other publication?

Reply 6: Considering the reviewer's suggestion, we have added more details on exclusion criteria in terms of patient-related factors, anesthesia-related factors, and surgery-related factors.

Changes in the text: We have modified our text as advised. (see Page 11-12, line 156-163)

Comment 7: In Line 127 a 14-month follow up is described, but the resection took place 6 month before. Symptoms started 14 months before, but not the follow up.

Reply 7: We are ashamed for our imprecise expression, and we have corrected the follow-up time according to the editor's suggestion.

Changes in the text: We have modified our text as advised. (see Page 13, line 174-176)

Comment 8: Although the technical side of this surgery seems interesting, it is difficult to understand its indication. Tracheal resection is a major surgery that is conceived when the diagnosis of malignant pathology is formal. Here the patient is presented without acute respiratory symptoms and it is difficult to understand not to have recourse to a biopsy which would clarify the diagnosis. This can be obtained by flexible fibroscopy, and if we fear obstructive problems, desobstruction with rigid bronchoscopy remains possible and safe. Why this classical strategy was not considered?

Reply 8: In fact, the patient perceived aggravated dyspnea before referring to our hospital, especially when lying down. Also, since sampling error is one of the limitations of biopsy, biopsy should be performed on multiple tissues from the tracheal tumor. Under these circumstances, we did not conduct the preoperative pathological biopsy considering the tumor location and the high risk and severity of asphyxia arisen from tumor shedding or hemorrhage during the biopsy.

Changes in the text: We have modified our text as advised. (see Page 7, line 80-83)

Comment 9: While a neoplasia is suspected, an extension assessment should precede a radical resection procedure (Preoperative evaluation). Because in the presence of a metastatic disease endoscopic palliative treatment remains possible.

Reply 9: In fact, extension assessments including enhanced cranial MRI, general bone scanning, and enhanced abdominal CT were utilized to exclude distant tumor metastasis. Also, we assessed the cardiorespiratory function, pulmonary ventilation function, and coronary CT to evaluate whether tracheal resection and reconstruction is safe for this patient. As the cost of PET-CT is not included in China National Medical Insurance, we did not arrange a PET-CT examination for the patient considering his economic condition.

Changes in the text: We have modified our text as advised. (see Page 6, line 67-72)

Comment 10: Precise surgical performance in combination with patient's safety, are the main principles in airway surgery. In the case of this vigilant surgery, how can the agitation, bleeding or congestion of the patient's airway be managed? Can the authors detail the necessary security principles of this surgery?

Reply 10: In the case of emergency like (1) $SpO_2 < 90\%$; (2) continuous CO_2 retention, along with the development of respiratory acidosis; and (3) sudden uncontrollable bleeding, endotracheal intubation or thoracoscopic intubation should be performed immediately. Therefore, devices for endotracheal intubation, thoracoscopic intubation, and mechanical ventilation should also be prepared during the surgery procedure for safety consideration.

Changes in the text: We have modified our text as advised. (see Page 12, line 163-167)