Author's response to reviews

Title: Post tracheostomy and post intubation tracheal stenosis: report of 31 cases and review of the literature

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Author's response to reviews:

Andrea Bucceri, PhD
Editor, BMC

Dear Dr Bucceri

Thank you for your letter of August 11th, 2008, regarding our manuscript #1424446761967618 entitled "Post intubation tracheal stenosis: report of 31 cases and review of the literature". We appreciate the comments and suggestions of the two reviewers. Enclosed please find a revised manuscript entitled “Post tracheostomy and post intubation tracheal stenosis: report of 31 cases and review of the literature” which we hope you will find suitable for publication.

We hope that we have adequately addressed the points raised by the reviewers and that you will have a favorable response to our revised manuscript. If you have any further questions or recommendations, please do not hesitate to contact me. We look forward to hearing from you.

Sincerely,

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Response to the Reviewers comments

Reviewer: M Yasuo

Major comments:

Comment #1. The authors finally concluded, “the difference between PI and PT stenosis should be considered”, therefore implying the necessity of differentiation should be included in the title. In other words, the words PI and PT stenosis should appear rather than PITS.

Response #1. Our manuscript is now entitled “Post tracheostomy and post intubation tracheal stenosis: report of 31 cases and review of the literature”. We carefully revised the manuscript in order the terms PI and PT to appear instead of the term “PITS”

Comment #2. (P5, bottom) The authors should describe the O2 concentration not only in the laser procedure but also in APC and electrosurgical procedures.

Response #2. The sentence is modified to include the other treatment options “During laser, APC and electrocautery treatment the FiO2 was adjusted to 30-40% to avoid the complication of endobronchial fire and burn”.

Comment #3. (P7, last paragraph) High frequency of rigid bronchoscopy (RB) may be due to the use of laser equipment. As the authors know, laser procedures usually require RB, however APC or electrosurgical modalities are usually performed under flexible bronchoscope. The authors should mention these facts in the discussion and some references describing APC or electrosurgical modalities against PI and PT stenosis may be needed.

Response #3. We added the following sentence in the discussion section: “Granulation tissue and/or damaged cartilage in PT patients was mainly photoagulated by Nd:YAG laser during a rigid bronchoscopy procedure and removed with the use of biopsy forceps. In some cases, APC and electrocautery modalities were used under flexible bronchoscopy procedure and this is also the approach followed and described in several other articles for granulation tissue removal (Brichet et al. Eur Respir J 1999 and Yasuo et al. Respirlogy 2006)”

Comment #4. (P8, L4) The authors should describe the therapeutic policy of re-stenosis.

Response #4. The following sentence was added in the methods section: “Patients were considered cured when free of symptoms for at least one year after the initial intervention (the last treated patient was followed for 11 months). If re-stenosis was occurred on a follow up bronchoscopy (usually every 4 to 6 weeks for the first 6 months) then another intervention was applied. In most cases no more than 3 interventions were needed.”

Comment #5. (P9, L1-2) How do the authors estimate the degree and severity of
Response #5. The following sentence was added in the methods section: “The stenosis was characterized severe if it was causing symptoms, primarily dyspnea, was complex in nature (stenosis combined with cartilage fracture or tracheomalacia) and the obstruction of the tracheal lumen exceeded 50%.” The degree of stenosis was estimated with a dedicated instrument that was used to measure the diameter of the stenotic area and the diameter of the tracheal lumen before and after the stenotic site. In some later cases the stenosis was estimated by virtual bronchoscopy along with the dedicated measuring device.”

Comment #6. (P10, L22) How do the authors remove the granulation tissue?
Response #6. The following sentence was added in the methods section: “For stenosis produced by granulation tissue formation around the tracheal stoma, RB and photocoagulation with Nd:YAG laser was mostly used. As an alternative, electrocautery or APC was used under FB in some patients. Damaged cartilage and the remaining granulation tissue were removed by grasping forceps.”

Comment #7. (P6, L5) How do the authors recognize the damaged cartilage?
Response #7. The following sentence was added in the discussion section: “Cartilage fracture in the anterior tracheal wall after a tracheostomy procedure was most likely to happen in patients with calcified cartilage rings and was visible as a white cartilaginous material protruding into the tracheal lumen.”

Comment #8. Table 3. The authors mentioned the APC was used for one of the treatment modalities of tracheal stenosis; however, APC was not described in Table 3.
Response #8. This was an overlook and we updated the table 3 including the number of APC procedures

Minor comments:
Comment #1. (P5, L5 from bottom) The names of the cities where the companies Pentax and Olympus are located should be included.
Response #1. We added the names of the cities.
Comment #2. (P6, bottom) Chicago, IL, USA
Response #2. The word “USA” was added to the sentence.

Comment #3. (P7, L6) The authors mentioned the most frequent co-morbidities, however, congestive heart failure did not appear in Table 1.
Response #3. Forty five percent of our patients had congestive heart failure along with coronary artery disease. We did not make discrimination between these two entities in our original analysis. We changed our description in the table and in the manuscript with the term “cardiovascular disease” in order to include these two conditions.

Comment #4. (P10, L10) The concept of BOOP is now described as COP for
clinical disorder. In addition, IPF and COP (BOOP) should be spelled out.

Response #4. We changed BOOP to COP and COP, IPF, are spelled out.

Comment #5. (P10, L4 from bottom) …surgery! # …surgery.
Response #5. We removed the exclamation mark.

Comment #6. (P11, L3 from bottom) The authors should include some references that report the rate of complications of the surgery.
Response #6. At the end of the discussion section we added the following sentence: “Mortality rates after end to end anastomosis can be seen up to 5% (Brichet et al. Eur Respir J 1999 and Maassen et al. The Thoracic and cardiovascular surgeon 1985) along with complications such as re-stenosis, suture granuloma formation, infections, hemorrhage, subcutaneous emphysema and others (Wright et al. The Journal of thoracic and cardiovascular surgery 2004 and Fernandez et al. Acta Otorrinolaringol Esp 2007)”

Comment #7. Table 2. Days with ETT (11 pts) is incorrect. I feel it should include all 31 pts.
Response #7. The number of patients is corrected in table 2.

Reviewer: Ahmed Soliman
Reviewer's comments:

Comment #1. What was the diagnosis of gastroesophageal reflux based upon? symptoms, pH probe, upper GI endoscopy?
Response #1. We based our decision for the gastroesophageal reflux diagnosis on patients' history and gastroenterology physicians' notes as this was a retrospective chart review. Most of the cases were primarily diagnosed by symptoms and GI endoscopy. pH probe was not used routinely in our hospital.

Comment #2. Was there any concurrent laryngeal stenosis-glottic or subglottic? Were those patients excluded?
Response #2. Our chart review was focused on patients with tracheal stenosis. Our approach was to distinguish between post tracheostomy and post intubation stenosis. Laryngeal, glottis or subglottic stenosis if there were any are treated and followed by the ENT department. We did not combined data and patients from ENT department to this paper. Maybe in a future project we can estimate and correlate a larger patient population by combining all these entities.

Comment #3. Were patients with idiopathic tracheal stenosis also excluded?
Response #3. Patients with idiopathic tracheal stenosis (3 patients) were excluded.

Comment #4. Was Mitomycin-C or injectable steroids utilized as part of treatment?
Response #4. Mitomycin-C is an agent that we often use in patients with tracheal stenosis due to malignancy and patients with tracheal papillomatosis. We did not apply Mitomycin-C in any patient in this case series. We rarely use injectable steroids and no patients were treated with injectable steroids in our case series.

Comment #5. Table 2- uses the term "percentage of tracheal stenosis" which is confusing and should be changed to "percent stenosis"
Response #5. We changed it to "percent stenosis"

Comment #6. It should be noted that in the series by Koshkarevea and Soliman, hypertension was NOT a risk factor for laryngotracheal stenosis as stated in the manuscript.
Response #6. We removed “hypertension” as a risk factor for tracheal stenosis

Additional changes
We moved the sentence “A study by Norwood et al.{Norwood, 2000 #32} who followed 48 patients for 30 months after percutaneous tracheostomy using tracheal CT scans found that only 1 patient (2%) developed severe (>50%) tracheal stenosis, while mild to moderate stenosis was detected in 14 (29.3%) patients” from the background to the discussion section as we felt it was better suited at there.