Peer Review File

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Reviewer A

The authors present their experience of laser ablation using a diode laser of the central airways. I have the following comments:

Comment 1: The case series extends from 2005 to 2015, why have the cases from 2016-2021 not included in this series?

Response 1: For the longer-term follow-up of these patients (over five years), the case series was extended from 2005 to 2015.

Comment 2: The authors do not state the follow up of these patients? What was the median duration of follow up?

Response 2: The median duration of follow-up was 741 (4-4741) days.

Comment 3: What was the mortality in this series? What was the survival for the malignant and non malignant group?

Response 3: The mortality in this series was 7 cases (43.8%) in the malignant group and 2 cases in the non-malignant group during the follow-up period. The cause of death in the non-malignant group was another illness.

Comment 4: What was the recurrence rate or re-stenosis of benign lesions? How many patients did not need any further interventions?

Response 4: Re-stenosis of benign lesions occurred in 6 cases (54.5%). We performed laser ablation repeatedly in these cases. Five cases (45.5%) did not need any further interventions.

Comment 5: How many of the patients ended up requiring surgery? or tracheostomy?

Response 5: There was one patient requiring surgery in the non-malignant tumor group after laser ablation. In that case, we performed snaring to remove the tumor and used laser ablation to stop the bleeding. The tumor was not entirely removed by snaring, so we performed S^6 segmentectomy.

Comment 6: The references cited are very old, more contemporary references need to be added.

Response 6: We have now added more recent references.

Comment 7: During this time period how many patients had other forms of laser ablation performed? Were the results different?

Response 7: No patients underwent other forms of laser ablation during this period.

Reviewer B

Comment 1: I congratulate the authors on an interesting experience with laser ablation. Indeed, this is a good technology and very helpful when dealing with airway obstruction.

The article is described as an original article and describes the author`s 10 year experience with laser ablation in airway obstruction.
The article is generally well written, but too concise. The manuscript has no clear objective. It is basically a review of the cases that were treated with laser. Still, the results section is also too concise. There is no definition of success. It is stated that you did not experience major complications. But did you have any complication?
So, even though I am an enthusiast of laser therapy for airway endoscopy, do not believe that this report should add to the existing literature.
Response 1: Success was defined as the restoration of the trachea. Restoration of the trachea was achieved in all cases temporarily. The major complication of this treatment was re-stenosis of the trachea, which occurred in six cases of non-neoplastic diseases and three of malignant diseases.

Reviewer C
The presented work assesses the use of a laser (GaAlAs) for palliative restoration of malignant airway strictures, as well as benign ones. The authors took up a difficult topic by presenting a retrospective work.

My comments:

Comment 1: The introduction lacks explanations and motives of why the work is important for scientific field, if (and why) the paper is significant regarding it's clinical value.
Response 1: A Nd-YAG laser is the most commonly used type in transbronchoscopic laser ablation of central airway stenosis. However the Nd-YAG laser equipment is large and expensive. Diode laser systems show a similar clinical effect to a conventional Nd-YAG laser, but the diode laser instrument is more compact with easier handling. To deliver the clinical value of diode laser systems, we retrospectively reviewed the patients treated for central airway lesions by laser ablation using a high-power diode laser system.

Comment 2: The methodology is very poorly described and requires absolute supplementation. The missing points of the paper are:

Comment 2a: Description of the technique of intubation, the maintenance of a sedation, indications for the restoration of the bronchial tree during the sedation. Personally, I find this method of treatment very restricted in it's application – I strongly believe I can be used only in a selected group of patients. Therefore this section requires providing criteria.
Response 2a: We performed laser ablation using a high-power diode laser under intubation. We used midazolam for moderate conscious sedation. The critical point was to keep the oxygen concentration under 40% during intervention. We therefore suspended oxygen administration and maintained breathing with room air before laser ablation.
This approach cannot be used for central airway stenosis due to extraluminal compression or lesions adjacent to the peripheral respiratory tract. Patients with tracheoesophageal fistula are also contraindicated for laser ablation.

Comment 2b: Please specify the indications for the use of a laser, do they differ

from other methods of restoration

Response 2b: The indications for the use of a laser was the rapid restoration of bronchial stenosis. Diode laser systems are better able to heat coagulate and evaporate tissue than Argon plasma coagulation systems and high-frequency scalpels.

Comment 3: Have patients with malignant stenosis received stents eg. bronchial, esophageal or both ?

Response 3: Three cases with malignant stenosis received a bronchial stent. No cases received an esophageal stent.

Comment 4: It should be mentioned why patients with benign stenosis did not undergo surgery.

Response 4: Surgery was not performed because of the patient's wish. Many patients are able to keep their trachea open with intervention alone and do not wish to undergo surgery.

Comment 5: Did patients require conversion to rigid bronchoscopy?

Response 5: No cases required conversion to rigid bronchoscopy.

Comment 6: There is no photographic documentation showing the effect of the treatment

Response 6: We have now included photographic documentation showing the effect of the treatment in Figure 1.

Comment 7: Complications after treatment are not mentioned.

Response 7: The major complication of this treatment was re-stenosis of the trachea. Re-stenosis was found in six cases of non-neoplastic diseases and three of malignant diseases.

Comment 8: Please list the advantages of using this type of laser (in the discussion)

Response 8: The advantage of using this type of laser was its laser vaporization effect, allowing the airway to be reopened quickly.