

Response to Reviewers' reports and Editors' comments:

We are grateful to the reviewers for the insightful comments, which have helped markedly improve our work. We have addressed all questions, remarks, and suggestions in a point by point response found below. In addition, we have sought help from an experienced native English speaking scientist, who has proofread the whole manuscript. We hope the current version will fulfill the editorial requirements for publication.

Reviewer #1: The authors report a case of conservative treatment of pneumoperitoneum after a bronchoscopy. This is a very uncommon complication of this frequent procedure, and is of scientific interest. Inclusion of a table with all previously reported cases helps to contextualize this report within the medical literature.

Some aspects must be addressed by the authors, however:

COMMENT 1-1. all abbreviations must be written in full the first time they present themselves in the manuscript (RR, BP);

**Response 1-1: Thanks for the reviewer's suggestion. We have replaced all abbreviations such as RR, BP etc. in the maintext with their full names for the first time.**

COMMENT 1-2. on page 4 line 20, the authors likely meant "by inserting a gastric tube";

**Response 1-2: Thanks for the reviewer's comment. We agree with the reviewer's comments. We have revised this sentence as the reviewer indicated.**

COMMENT 1-3. when it is mentioned that a drainage tube was used for abdominal decompression, more detail should be given on the type of catheter used, mode of insertion and time of permanence;

**Response 1-3: Thanks for the reviewer's comment and suggestion. A pneumothorax catheter (8Fr) was inserted percutaneously with needle and guidewire, and was kept for 2 days. Details about the drainage tube related to the type of catheter used, mode of insertion, and time of permanence has been added in the maintext.**

COMMENT 1-4. on the protocol in page 14, "most likely comes from airway" better conveys the meaning meant by the authors.

**Response 1-4: Thanks for the reviewer's suggestion. We agree with the reviewer's comments. We have revised the "most possible" into "most likely" in the protocol of Figure 2 as the reviewer indicated.**

COMMENT 1-5. The most important issue that must be addressed, however, is a more detailed investigation of the pathophysiological processes underlying the occurrence of pneumoperitoneum during bronchoscopy, such as the mechanisms of gastrointestinal perforation,

**Response 1-5: Thanks for the reviewer's comment, and this is actually an very important issue. As the reviewer indicated, we should look more at the pathophysiological process**

underlying the occurrence of pneumoperitoneum during bronchoscopy, such as the mechanisms of gastrointestinal perforation. We reviewed the literature again and discussed it. It was described by Giménez Velando A (Arch Bronconeumol 2018), as that some patients undergoing bronchoscopy under sedation and oxygen delivery by NPC experienced the development of a pneumoperitoneum secondary to gastric rupture as a result of multiple factors, such as the reduction of the pharyngeal muscle tone induced by anesthetics, a passage of air in the stomach with one-way valve mechanism, and finally NPC dislocation in the esophagus. We have also added this discussion to the 3rd paragraph of the discussion section.

COMMENT 1-6. and how does such a significant escape of air from abdominal hollow viscus occur without peritonitis.

**Response 1-6:** Thanks for the reviewer's comment. It was speculated that, when the perforation was occurred in the ventral side of the GI tract, and most patients have very few content left in the GI tract after the bronchoscopy preparation, air could be the only substance that leaks to the peritoneum, with no other GI content enter into the peritoneum and lead to a peritonitis. We have also added this to the 3rd paragraph of the discussion section.

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Reviewer #2: This is an excellent case report and literature review on isolated tension non-surgical pneumoperitonium during bronchoscopy. The case presentation and discussion are generally well described.

I would like to make a few suggestions to make this case report and literature review better.

COMMENT 2-1. 1 Please indicate the specific type and dose of antibiotic prescribed to the patient.

**Response 2-1: Thanks for the reviewer's suggestion. Amoxicillin-clavulanate 1.2g every eight hours was given to the patient for the first week after admission. We have added this point in the first sentence of the "TREATMENT" paragraph.**

COMMENT 2-2. Were blood or sputum culture tests performed before and after antibiotic treatment?

**Response 2-2: Thanks for the reviewer's comment. Sputum culture was obtained before antibiotic treatment, with no positive findings. And blood culture was not obtained because the patient had no high fever after admission. We have added this point in the "TREATMENT" paragraph.**

COMMENT 2-3. Have you considered the possibility of COVID-19 , tuberculosis or nontuberculous mycobacterial infection (NTM)?

**Response 2-3: Thanks for the reviewer's comment. The possibilities of COVID-19, tuberculosis, or nontuberculous mycobacterial infection (NTM) was ruled out with an negative mNGS with her BALF sample. Mycoplasma pneumonia was detected by the mNGS. And moxifloxacin was given to her. We have added this point in the "OUTCOME AND FOLLOW-UP" paragraph.**

COMMENT 2-4. 2 The patient's vital signs considered to indicate emergency status. Was any drug therapy for hypertension or tachycardia given?

**Response 2-4: Thanks for the reviewer's comment. Nimodipine was given to her immediately, and flow of oxygen was increased. No drug for tachycardia was given at that time. We have added this point in the "TREATMENT" paragraph.**

COMMENT 2-5. Also, was intensive care unit treatment, including ventilator management, considered?

**Response 2-5: Thanks for the reviewer's comment. At the time of her unstable vital signs, intensive care unit treatment, including ventilator management was considered. As the patient's vital signs were stable and symptoms were relived after decompression with the drainage tube, intensive care unit treatment, including ventilator management was not considered after her became stable.**

COMMENT 2-6. 3 The authors report that PP is an rare and dangerous complication during bronchoscopy. Which patients are considered to be at higher risk?

**Response 2-6: Thanks for the reviewer's question, this is a very important point needs to be clarified. As shown in table 1 and discussed in the 6<sup>th</sup> paragraph of "DISCUSSION", we listed**

**several possible high risk factors for the occurrence of PP during bronchoscopy: a) Medium to deep anesthesia. b) Nasopharyngeal cannula oxygenation. c) Mechanical Ventilation. d) Invasive procedures during bronchoscopy.**

COMMENT 2-7. And what preparation is required when bronchoscopy is performed in these patients?

**Response 2-7: Thanks for the reviewer's comment and suggestion. Several preparation should be considered for these patients with high risk of pneumoperitonium: a) Decompression kit should be prepared at the bedside during bronchoscopy. b) When using NPC oxygenation, confirm the position of the catheter; And patients receiving positive pressure ventilation. c) Pay close attention to the presence of signs of pneumothorax, pneumomediastinum, and pneumoperitoneum, especially during and after an intro-airway procedure. We have added this part in the 6th paragraph of "DISCUSSION".**

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Reviewer #3: Interesting case about Tension pneumoperitoneum during bronchoscopy.  
I would like to make a few suggestions to make this case report and literature review better.

COMMENT 3-1. I would recommend commenting on the possibility / mechanisms of tension pneumoperitoneum during this procedure, like described in this article.  
<https://www.ima.org.il/filesupload/IMAJ/0/53/26821.pdf>.

**Response 3-1: Thanks for the reviewer's comment and suggestion. We described the mechanism of pneumoperitoneum during bronchoscopy based on the article the reviewer indicated in the 2<sup>nd</sup> and 3<sup>rd</sup> paragraph in the "DISCUSSION" section. However, the mechanisms discussed in the provided article focused on the appearance of both pneumothorax and pneumomediastinum with pneumoperitoneum. And the mechanism about pneumoperitoneum resulting from peritoneoscopy and lead to pneumothorax and pneumomediastinum was not related to our case, therefore, this point was not mentioned in our discussion.**

COMMENT 3-2. Please do not use abbreviations for Pneumothorax, pneumomediastinum, tension pneumothorax. These are not standard abbreviation and makes it challenging to read the article.

**Response 3-2: Thanks for the reviewer's suggestion. We have changed all the abbreviations such as pneumomediastinum (PP), pneumothorax (PT), and pneumomediastinum (PM) in the maintext.**

COMMENT 3-3. Conservative / non surgical management of Tension pneumoperitoneum will be successful in most case if there was no perforation of abdominal viscera. There is no enough data to suggest that every hemodynamic stable tension pneumoperitoneum can be managed conservatively / non surgically.

**Response 3-3: Thanks for the reviewer's comment and suggestion. We agree with the reviewer's comments. As the reviewer indicated, there is not enough data to suggest that every hemodynamic stable tension pneumoperitoneum can be managed conservatively/nonsurgically. Then, we emphasized in the discussion section of the original article that conservative/nonsurgical treatment can be attempted in patients with tension pneumomediastinum, but close monitoring is required, especially for peritonitis, and aggressive surgical treatment should be performed once peritonitis signs appear.**