

**Manuscript ID: 59302**

**Title: Bronchoscopy in the diagnosis of COVID-19 with respiratory failure: a case report**

**Journal: World Journal of Clinical Cases**

**Responses to reviewers' comments**

Dear Lian-Sheng Ma, Company Editor-in-Chief,

Thank you for taking the time to consider our manuscript “Bronchoscopy in the diagnosis of COVID-19 with respiratory failure: a case report” (Manuscript NO.: 59302, Case Report) for publication in the World Journal of Clinical Cases.

We have undertaken a full edit of the manuscript to address all the issues raised by the reviewer and editorial office. All the changes we have made can be seen in our point-by-point responses and in the edited manuscript.

We hope that our edit has resolved all of the issues with the manuscript and that it is now more suitable for publication in your journal. However, if any issues remain please do not hesitate to contact us again.

Yours sincerely,

Qingyun Chen

*Reviewer #1:*

***Scientific Quality: Grade C (Good)***

***Language Quality: Grade A (Priority publishing)***

***Conclusion: Major revision***

***Specific Comments to Authors:*** *The work will be of higher value if the authors have mentioned the bronchoscopy-collected sample from the distal tracts for cytology, microbiology and chemistry. Please provide if you have it. The authors have to discuss their work in relation to the statement of American Association for Bronchology and Interventional Pulmonology (AABIP) on the Use of Bronchoscopy in COVID-19 Infection (reference 20). The author should mention the risk/benefit of the procedure. Because it is an aerosol generating procedure that poses substantial risk to patients and staff, bronchoscopy should have an extremely limited role in the diagnosis of COVID-19 and only be considered in intubated patients if upper respiratory samples are negative and other diagnosis is considered that would significantly change clinical management. Do authors recommend routine bronchoscopy as part of management of COVID-19 or retain it to selected cases such as unexplained increase in airway pressure or lung collapse.*

**Response:** We would like to thank the reviewer for taking the time to review our manuscript. We agree completely that the risk/benefit of the use of bronchoscopy for COVID-19 should be highlighted and we certainly do not recommend its routine use. For mild COVID-19 patients, bronchoscopy should not be performed. In this case, bronchoscopy was performed because pCO<sub>2</sub> was still elevated under invasive mechanical ventilation, that is, type II respiratory failure. At the same time, the original intention for bronchoscopy was to understand the airway condition of patients with new coronary disease. Because this patient has already undergone invasive mechanical ventilation, bronchoscopy will be easier to perform.

We tried to address this point in the discussion, but we probably had not highlighted the issue enough, so we have now edited the following sentence to the introduction on page 4: “**Bronchoscopy adds important information in this regard but carries a high risk of aerosol spread of the virus, so its use must be carefully evaluated before use in emergency and necessary situations such as unexplained increase in airway pressure or lung collapse [12, 13]**”. We have also updated the section in the discussion on page 9 where this issue was previously discussed as follows: “**It is important to note that bronchoscopy is not recommended in patients with mild COVID-19 [12, 13]. COVID-19 is transmitted through respiratory droplets and close contacts [7]. The**

bronchoscopy physician could come in contact with the respiratory secretions, and bronchoscopy might induce aerosol spread, and thus the risk is extremely high. It has been suggested that bronchoscopy in patients with COVID-19 should be strictly kept for emergency and necessary situations [12, 13]. **In this case, bronchoscopy was performed because the patient's pCO<sub>2</sub> was still elevated under invasive mechanical ventilation, that is, type II respiratory failure. Because this patient has already undergone invasive mechanical ventilation, bronchoscopy was easier to perform. Therefore, in similar cases** protection is very important, not only for the physicians and personnel but also to prevent the spread of the virus to unaffected patients [25]. The following items could be considered. First, level 3 protection standards for infectious diseases should be used by the operators, and a full-face respiratory protective device should be worn. Second, before the examination, the patients should receive sedatives and analgesics, which could ease the nervousness, reduce cough, and decrease the spraying of droplets, thus protecting the operators, and increase the safety and comfort of the procedures. Third, the bronchoscope was inserted through the working access of the universal joint connected to the tracheal catheter, and paraffin oil was applied to the surface of the bronchoscope, which could increase the smoothness of the procedures and also help isolate the airway and external environment. Finally, the skillfulness of

the operators and a gentle and swift operation could shorten the time of procedures in the trachea as possible.”

These changes have resulted in references 20 and 24 being renumbered as 12 and 13.

#### ***4 LANGUAGE QUALITY***

*Please resolve all language issues in the manuscript based on the peer review report. Please be sure to have a native-English speaker edit the manuscript for grammar, sentence structure, word usage, spelling, capitalization, punctuation, format, and general readability, so that the manuscript’s language will meet our direct publishing needs.*

**Response:** The manuscript has been edited by a native English-speaking medical writer.

#### ***5 EDITORIAL OFFICE’S COMMENTS***

*Authors must revise the manuscript according to the Editorial Office’s comments and suggestions, which are listed below:*

*(1) Science editor: 1 Scientific quality: The manuscript describes a case report of the bronchoscopy in the diagnosis of COVID-19 with respiratory failure. The topic is within the scope of the WJCC.*

*(1) Classification: Grade C; (2)-1: Summary of the Peer-Review Report: The work will be of higher value if the authors have mentioned the bronchoscopy-collected sample from the distal tracts for cytology, microbiology and chemistry. The authors should provide the data if they have.*

**Response:** We agree with this suggestion. It would add value to the manuscript. However, because the patient was highly infectious, no alveolar lavage was performed, and no specimens were taken for examination. We found the airway secretions were very rare during the bronchoscopy in this patient.

*(2)-2: The authors have to discuss their work in relation to the statement of American Association for Bronchology and Interventional Pulmonology (AABIP) on the Use of Bronchoscopy in COVID-19 Infection. (2)-3: The author should discuss the risk/benefit of the procedure. The questions raised by the reviewers should be answered;*

**Response:** We have responded to the reviewer's comment as follows: We tried to address this point in the discussion, but we probably had not highlighted the issue enough, so we have now edited the following sentence to the introduction on page 4: **“Bronchoscopy adds important information in this regard but carries a high risk of aerosol spread of the virus, so its use must be carefully evaluated before use in emergency and necessary situations such as unexplained increase in airway pressure or lung collapse [12, 13]”**. We have also updated the section in the discussion on page 9 where this issue was previously discussed as follows: **“It is important to note that bronchoscopy is not recommended in patients with mild COVID-19 [12, 13]. COVID-19 is transmitted through respiratory droplets and close contacts [7]. The bronchoscopy physician could come in contact with the respiratory secretions, and bronchoscopy might induce aerosol spread, and thus the risk is extremely high. It has been suggested that bronchoscopy in patients with COVID-19 should be strictly kept for emergency and necessary situations [12, 13]. In this case, bronchoscopy was performed because the patient's pCO<sub>2</sub> was still elevated under invasive mechanical ventilation, that is, type II respiratory failure. Because this patient has already undergone invasive mechanical ventilation, bronchoscopy was easier to perform. Therefore, in similar cases protection is very important, not only for the physicians and**

personnel but also to prevent the spread of the virus to unaffected patients [25]. The following items could be considered. First, level 3 protection standards for infectious diseases should be used by the operators, and a full-face respiratory protective device should be worn. Second, before the examination, the patients should receive sedatives and analgesics, which could ease the nervousness, reduce cough, and decrease the spraying of droplets, thus protecting the operators, and increase the safety and comfort of the procedures. Third, the bronchoscope was inserted through the working access of the universal joint connected to the tracheal catheter, and paraffin oil was applied to the surface of the bronchoscope, which could increase the smoothness of the procedures and also help isolate the airway and external environment. Finally, the skillfulness of the operators and a gentle and swift operation could shorten the time of procedures in the trachea as possible.”

These changes have resulted in references 20 and 24 being renumbered as 12 and 13.

*(3) Format: There are 2 figures. A total of 25 references are cited, including 22 references published in the last 3 years. There are no self-citations. 2 Language evaluation: Classification: Grade A. A language editing certificate issued by MedSci was provided. 3 Academic*

*norms and rules: The authors provided the CARE Checklist-2016. The authors need to provide the signed Conflict-of-Interest Disclosure Form and Copyright License Agreement, and the written informed consent where the patient agreed to the treatment.*

**Response:** The Conflict-of-Interest Disclosure Form and Copyright License Agreement, and the written informed consent where the patient agreed to the treatment have now been provided.

*No academic misconduct was found in the CrossCheck detection and Bing search. 4 Supplementary comments: This is an unsolicited manuscript. The study was supported by 2019 Hainan Provincial Health and Family Planning Industry Research Project. The topic has not previously been published in the WJCC. The corresponding author has not published articles in the BPG. 5 Issues raised: (1) I found the authors did not provide the approved grant application form(s). Please upload the approved grant application form(s) or funding agency copy of any approval document(s);*

**Response:** The grant application documents have now been provided.

*(2) I found the authors did not provide the original figures. Please provide the original figure documents. Please prepare and arrange the figures using PowerPoint to ensure that all graphs or arrows or text portions can be reprocessed by the editor;*

**Response:** We have now provided the figures in PowerPoint. Unfortunately, the images were not recorded at high resolution during the bronchoscopy procedure. So, the quality of the images in Figure 2 is limited. We apologize again for the low quality of these images.

*(3) please re-write the “TREATMENT” and “OUTCOME AND FOLLOW-UP” sections, according to the Guidelines and Requirements for Manuscript Revision; (4) please don’t include any \*, #, †, §, ‡, ¥, @.....in your manuscript;*

**Response:** We have now edited the treatment and outcome and follow-up sections following the guidelines and have checked the use of symbols in page 7 of the revised manuscript.

*(5) please provide the signed Conflict-of-Interest Disclosure Form and Copyright License Agreement, and the written informed consent where the patient agreed to the treatment; and (6) Please provide the audio core*

*tip file where the content of core tip is recorded. 6 Re-Review: Required.*

*7 Recommendation: Conditionally accepted.*

**Response:** We have now provided all the required documents, except the (10) 59302-Table File and (12) 59302-Supplementary Material, which as these were a case report we did not have them.