

Peer Review File

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Reviewer A

Some more clarification needed:

Comment 6: Hemoglobin level change after 5 attempts of ABPP?

Please mention how stable the hemoglobin level is either in text or table.

Reply 6: Thank you for your comment. We have clarified that his hemoglobin levels were between 80 to 100.

Changes in text: "Although he underwent multiple ABPP procedures, his hemoglobin levels were stable (between 80 to 100) and he did not require a blood transfusion during his hospital admission" (lines 179 to 181, page 8).

Comment 8: "To conclude, our case study demonstrates that ABPP can be an effective treatment option for patients with PAL requiring chronic non-invasive ventilation."

Again, consider soften this statement, especially after reading the comments from other reviewers.

Reply 8: Thank you for your comment. We have softened the statement by stating that ABPP can be used to treat patients with PAL requiring chronic non-invasive ventilation as opposed to being an effective treatment.

Changes in text: "To conclude, our case study suggests that ABPP can be used to treat PAL in patients requiring chronic non-invasive ventilation" (lines 258 to 259, page 10).

Comment 9: Please propose the possible reason for PTX in this case, is it due to barotrauma and did you do anything on it?

You need to explain to the readers in text including the possible reason you propose.

Reply 9: Thank you for your comment. We have included a sentence under 'Case Presentation' stating that barotrauma from bilevel positive airway pressure ventilation may have been a potential cause for the PTX. We were unable to wean him from bilevel positive airway pressure ventilation due to his severe ALS.

Changes in text: "The etiology behind his pneumothorax was not certain but it may have been due to barotrauma from bilevel positive airway pressure ventilation" (lines 102 to 103, page 6).

"Due to his neuromuscular weakness, our patient has been bedbound for three years preceding his hospital admission and could not be weaned from non-invasive mechanical ventilation" (lines 114 to 116, page 6).

Reviewer B

Thank you for your revisions. This was a challenging clinical scenario with a patient and family who were refusing almost all therapies for a persistent air leak.

Comment 1: Removing the days from your hospital course in the text and leaving them in only as a timeline draw attention away from the very long course of the patient. This is hands down the longest course I've ever heard of for a persistent air leak and is remarkable in itself.

Reply 1: Thank you for your comment. We have included the dates back in the text to help the readers contextualize the patient's long course in hospital.

Changes in text: “. Given the limited treatment options available and his non-resolving PAL, on day 62 the patient agreed to trial of ABPP since sedation is not required for this treatment” (lines 136 to 138, page 7). “The initial two ABPP procedures resulted in immediate resolution of the air leak (day 62 and 67)” (lines 145 to 146, page 7). “Since the leak was so large that there was incomplete lung expansion, his 14F apical chest tube was exchanged on day 110 with a larger 28F apical chest tube, which was effective to enable full lung expansion (lines 148 to 150, page 7). “Two more procedures were done with the larger tube (day 119 and 121), but once again, the leak resumed within 24 hours (Figure 1B)” (lines 152 to 153, page 7). “On day 148, the patient agreed to a fifth procedure with him supported in an upright position to allow more even distribution of blood in the hemithorax, given that the tip of the chest tube was at the apex” (lines 167 to 170, page 8). “. On day 160, his chest tube was removed after seven days of intermittent suctioning, as per his family's request. His radiograph performed a day after his chest tube removal found no recurrent pneumothorax (Figure 1C) and he was later discharged from the hospital on day 166” (lines 176 to 179, page 8).

Comment 2: It is really challenging to make out that the right pleural drain is correctly positioned in Figure 2B. There's no way to tell whether the drain is going intraparenchymal based on that single slice.

Reply 2: Thank you for your comment. We have replaced Figure 2B with a more cranial slice where the right pleural drain is more visible and appears to be going intraparenchymal

Changes in text: Figure 2B replaced with a different CT image

Comment 3: Why would sitting upright allow a more even distribution of the blood compared to a 30 degree incline unless the tip of the tube is at the apex?

Reply 3: Thank you for your comment. The tip of the tube was in the apex, which allowed for a more even distribution of the blood when the patient was sitting up. The initial 14F chest tube was inserted apically and was later exchanged with 28F chest tube, which was also apical. We have clarified this in our manuscript

Changes in text: “Since the leak was so large that there was incomplete lung expansion, his 14F apical chest tube was exchanged with a larger 28F apical chest tube, which was effective to enable full lung expansion” (lines 148 to 150, page 7). “On day 148, the patient agreed to a fifth procedure with him supported in an upright position to allow more even distribution of blood in the hemithorax, given that the tip of the chest tube was at the apex” (lines 167 to 170, page 8).

Comment 4: On Figure 1C, I imagine part of the appearance of the image is due to radiographic technique as well as his underlying neuromuscular disease and positioning, but his right lower lobe does not appear normal. There was no evidence of any underlying lung disease?

Reply 4: Thank you for your comment. The appearance of the images have been limited by his underlying severe neuromuscular weakness and difficulty positioning as he has been chronically bedbound. However, he had no prior history of lung disease or evidence of parenchymal disease prior to his hospitalization.

Comment 5: I am not entirely sure a fifth round of autologous blood patch after over 100 days in the hospital counts as a real success of a procedure unfortunately and shouldn't be described as effective. If something has a 20% success rate, I'm really hesitant to recommend it. I think the autologous blood patch is a great option, even in patients with chronic positive pressure ventilation, but I don't think this is the case to highlight it.

Reply 5: Thank you for your comment. We have changed our conclusion by stating that ABPP can be used to treat patients with PAL requiring chronic non-invasive ventilation as opposed to being an effective treatment.

Changes in text: “To conclude, our case study suggests that ABPP can be used to treat PAL in patients requiring chronic non-invasive ventilation. ABPP is also likely an option for patients requiring invasive mechanical ventilation. Pleural blood patch pleurodesis may be particularly useful in fragile patients with PAL who are not surgical candidates, although multiple attempts may be required” (lines 258 to 261, page 10).