

Author Response 1

Reviewer: 1

Comments to the Author

Dear authors

I would like to congratulate with all of you for the letter and the program to start helmet CPAP in your country and hospital.

I have only few minor comment:

1) may you provide numbers of patients that you treated to date, with your success rate?

Thank you for this question. Rather than just providing the limited results of our single institution, we are sharing our joint preliminary report from the VA Boston Healthcare System, UPENN and UMASS. Together we have treated more than 60 COVID-19 patients with helmet CPAP. We estimate approximately 30 – 50% fewer intubations than expected compared to HFNC alone by using the CPAP helmet. Patients with obesity may benefit more than non-obese patients with COVID-19.

We have inserted the following language into our letter:

“By early May 2020, the H-CPAP program was approved by our institutional leadership and in our collective experience of 3 early helmet adopting institutions, we have treated a total of 60 patients with helmet CPAP. Approximately 30 – 50% of these patients were successfully managed with helmet respiratory support, not requiring escalation to intubation and mechanical ventilation. This may be an indication of the potential of helmet CPAP to either obviate or delay (flatten the ventilator demand curve) the need for more invasive ventilation.”

2) in the literature, there is evidence to attempt also prone position during CPAP (see for example the Italian paper recently published - PMID: 32386886). Was it considered as treatment option? please discuss it.

Proning was rarely used in our helmet patients, which was mostly based on patient comfort and nursing inexperience and concern about patient safety. In one center, a hybrid approach was chosen with helmet use during during the day-shift and when sitting, and use of high flow nasal oxygen when lying prone at night. . The helmet manufactured by StarMed offers a cushion of air around the neck, which improves patient comfort, however the SeaLung helmet available in the US has a hard circumferential ring supporting the device that makes it more difficult to adjust for comfort during the prone postion. A helmet more recently available in the US does not use the hard ring and is hence more flexible and comfortable to wear especially when prone.

Since the discussion regarding prone positioning is ongoing and the intricacies of use with any ventilatory support methodology is complex, we did not further address this question in our letter, as it is beyond the sentinel message we aimed to report.

Reviewer: 2

Comments to the Author

In this article, the authors report on their experience with the introduction of CPAP helmet in the treatment of L ARDS in COVID patients.

This method, using a helmet, avoids aerosolization of the virus. This article focuses on the timeline of acceptance of this treatment by the FDA and its introduction in the United States. This point of view is interesting and well defended.

This treatment would make it possible to avoid intubation in patients with acute respiratory distress syndrome linked to Covid 19.

Since it has recently been shown that this syndrome does not correspond to ARDS but to disseminated vasculitis.

It would be more appropriate to cite a reference that refers to COVID 19 , rather than ARDS .

1. Gimbada Benny Mwenge, Daniel Rodenstein. CPAP Added to Oxygen Administration Avoid Intubation in Acute Respiratory Distress in COVID-19 Pneumonia. Case Report. SN Compr Clin Med. 2020 Jun 18 : 1-4. doi: 10.1007/s42399-020-00349-2 [Epub ahead of print]

Thank you for this comment. As a result we have added the reference and distinguished between ARDS and CARDS in our letter.