Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Auris Nasus Larynx 47 (2020) 711–712

Contents lists available at ScienceDirect

Auris Nasus Larynx

journal homepage: www.elsevier.com/locate/anl

Comment on the article by Dr. T. Huda: Barrier device prototype for open tracheotomy during COVID-19 pandemic

Dear Editor,

We read with interest the report by Filho and colleagues describing their prototype barrier device for open tracheostomy during the COVID-19 pandemic Auris Nasus Larynx. 2020 May 8. pii: S0385-8146(20)30119-X [1]. We agree that not all countries or institutions have access to what might be considered the optimal environment and equipment to safely undertake tracheostomy in patients recovering from COVID-19, but we have some concerns about promoting a barrier device to address these needs. These concerns are based on our own experiences of simulated airway management behind barrier enclosures, and from other reports in the literature [2,3].

Elective tracheostomy should be approached with the same principles as any airway procedure [4], except that patients with COVID-19 may present additional infective risks to the operating theatre team [5]. Whilst the development of novel solutions to mitigate aerosol generation or spread of virus should be encouraged, we do not advocate the adoption of unproven technologies or techniques into clinical practice without detailed validation. These concerns have been reported in the anesthesiology literature [2,3], with key unanswered questions concerning barrier-type devices, including:

1. What is the distribution of aerosolised particles once the box is removed?
2. Does putting ones' hands and arms in and out of the barrier device damage or disrupt the integrity of the personal protective equipment (PPE) worn by the operator?
3. Does the presence of a barrier increase time to complete the procedure or influence the rate of first-pass success?
4. How are additional pieces of equipment or different tracheal tubes brought into the barrier device without contaminating the equipment or the environment?

The authors suggest leaving the barrier in place for a (pragmatic) 3-hour period after the tracheostomy has been performed to allow aerosols to dissipate. However, problems can arise with new tracheostomies which require prompt recognition and timely management [6]. This, along with the unanswered questions outlined above, may be further compounded by time pressures; impairment of vision and dexterity due to PPE and the barrier itself; and a critically ill patient who is at risk of hypoxemia. We therefore suggest that clinicians address the potential limitations of the technique as described, so that the added layer of complexity, to an already complex procedure can be navigated to the benefit of clinicians adopting this practice.

We found it a pleasure to read this report and admired the ingenuity of our clinical colleagues, despite our multiple concerns with its implementation. The challenges to safety conscious practice come in many forms, and we thank Filho et. al for their thought provoking article.

Ethical declaration

This submission is a letter to editor only. Involves no human or animal trials, nor is directly related to any case study or series. As such, no ethical approval was deemed necessary by authors.

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DOI of original article: 10.1016/j.anl.2020.05.003

https://doi.org/10.1016/j.anl.2020.06.004

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