*The Laryngoscope*


Letter to the Editor

# Improving the Safety and Science of COVID-19 Tracheostomy: Challenges and Opportunities

Dear Editor:

In their report of 64 ventilated patients undergoing tracheostomy for Coronavirus Disease of 2019 (COVID-19) respiratory failure, Ahmed and colleagues provide valuable insights into clinical outcomes and surgeon risk.[1] The findings emphasize how safety measures, patient selection, and data can improve care while mitigating harm. Their paper vividly illustrates the overwhelming concerns around healthcare professional safety that characterized the first wave of the pandemic. We discuss interval progress that has paved the way for data-driven, patient-centered tracheostomy care.

As this cohort and others demonstrate, tracheotomy can be performed in COVID-19 patients with rates of viral transmission approaching zero, with personal protective equipment and protocols. While tracheostomy by 10 days has been associated with improved overall mortality and reduced length of stay,[2] delaying tracheostomy during COVID-19 pandemic has not been associated with improved clinician safety. Furthermore, severe COVID-19 acute respiratory distress syndrome (ARDS) mirrors other forms of ARDS in pathophysiology, response to therapies, and clinical course, allowing decades of high-level evidence to be applied to COVID-19 patients.[3]

Since the first wave, progress in noninvasive ventilation, assessment of patient readiness for tracheostomy, and multidisciplinary teamwork has improved care. Some patients who underwent invasive mechanical ventilation and tracheostomy in this series might today be managed with noninvasive ventilation, averting the morbidity of prolonged translaryngeal intubation. For patients requiring prolonged mechanical ventilation, a preoperative apnea trial can evaluate physiological reserve, reducing risks of derecruitment and aerosol generation.[3] The improved survival in patients who had tracheostomy performed by the otolaryngology service likely reflects sound judgment in deferring tracheostomy in patients who were unstable.

Understanding desires and goals of patients and family members is invaluable. The utility of COVID-19 tracheostomy is becoming clearer; tracheostomy mitigates risk of pressure-related injuries to the larynx and trachea that may impair speech, swallowing, and breathing.[4,5] Tracheostomy also accelerates liberation from the ventilator, thereby alleviating muscle wasting, impaired cognition, and psychiatric morbidity that complicate severe COVID-19 survivorship. Nurses, respiratory care practitioners, speech language pathologists, and physicians all contribute to coordinated care. Safety outcomes, which were only provided for surgeons in this study, would ideally be tracked for all multidisciplinary team members.

While randomized trials of tracheostomy in ventilated patients with COVID-19 remain elusive, data on tracheostomy timing, technique, and demographics continue to emerge.[6] Prospective data collection through data registries, such as the Global Tracheostomy Collaborative (www.globaltrach.org), may further illuminate critical questions. We commend Ahmed and colleagues for placing another piece in the puzzle of COVID-19 patient care.

## AUTHOR CONTRIBUTIONS

**Michael J. Brenner:** Conception, design, and drafting of the work, analysis, and interpretation of data for the work; critically revising the work for important intellectual content; approval of the final submission; agreement to be accountable for all aspects of the work. **Christopher H. Rassekh:** Conception, interpretation of data for the work; critically revising the work for important intellectual content; approval of the final submission; agreement to be accountable for all aspects of the work. **Pavel Dulguerov:** Interpretation of data for the work; critically revising the work for important intellectual content; approval of the final submission; agreement to be accountable for all aspects of the work.

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