Laryngeal and Tracheal Pressure Injuries in Patients With COVID-19

To the Editor The important study by Fiacchini and colleagues1 of laryngotracheal complications in ventilated patients with coronavirus disease 2019 (COVID-19) reported a staggering 47% incidence of full-thickness tracheal erosion (FTTE) and tracheoesophageal fistulae (TEF). These findings raise critical questions about ensuring safe, high-quality care for intubated patients. Although intense research has focused on the molecular basis of COVID-19, pathogenesis of pneumonitis, and novel therapeutics; far less work has addressed the prevalence and pathogenesis of iatrogenic injury—particularly with respect to airway device-related pressure injuries. Injury at the level of the tracheal cuff likely accounts for the preponderance of FTTE and TEF reported, and tissue injury may occur at any site where there is contact between a device and the aerodigestive tract. Risk is highest in patients with overzealous cuff inflation, high-dose steroids, prone ventilation, prolonged intubation, feeding tubes, or impaired wound healing from diabetes or radiation—a perfect storm for patients with COVID-19.

What does this mean for otolaryngologist–head and neck surgeons, intensivists, pulmonologists, nurses, and allied health professionals? We suggest that increased interprofessional collaboration is necessary to limit progression of early airway injuries to lasting breathing, swallowing, and communication handicap. Clearly, FTTE and TEF are the tip of a vast iceberg of laryngotracheal injuries associated with prolonged intubation. A recent systematic review found that 83% of intubated individuals experience some degree of laryngeal injury even with short duration of intubation.2 Excessive cuff inflation is common in efforts to minimize severe acute respiratory syndrome coronavirus 2 aerosolization. Fiacchini et al1 recommend surveillance bronchoscopy, vigilance when administering high-dose steroids, and clinical and radiological follow-up. We additionally advocate for multidisciplinary efforts for cuff management, timing of tracheostomy, and ongoing endoscopic assessment of luminal injuries.

Preventing subglottic stenosis, laryngotracheal injury, and airway adverse events is predicated on a culture of teamwork. Respiratory therapists have long championed routine manometry for cuff pressure; yet, reliance on cuff palpation remains pervasive. According to international studies, as many as half of intensive care unit clinicians may be unaware of manometry or protocols for monitoring and recording cuff pressures.3 Nursing staff ensure early detection of cutaneous erosion, device malposition, and other impending airway injuries. Speech language pathologists are critical for early speech and swallowing rehabilitation. Lastly, otolaryngologists and intensive care unit teams can ensure timely tracheostomy and proactive treatment of complications associated with prolonged intubation. Tracheostomy in patients with COVID-19 is best performed in accordance with longstanding intensive care unit practices for critically ill patients, which benefits patients and is safe for staff using appropriate protocols and personal protective equipment.4,5

Karthik Balakrishnan, MD, MPH
Michael J. Brenner, MD
Alexander T. Hillel, MD

Author Affiliations: Aerodigestive and Airway Reconstruction Center, Lucie Packard Children's Hospital, Stanford Children's Health, Stanford, Palo Alto, California (Balakrishnan); Center for Pediatric Voice and Swallowing Disorders, Division of Pediatric Otolaryngology, Department of Otolaryngology–Head & Neck Surgery, Stanford Children's Health, Stanford, Palo Alto, California (Balakrishnan); Department of Otolaryngology–Head & Neck Surgery, University of Michigan Medical School, Ann Arbor (Brenner); Global Tracheostomy Collaborative, Raleigh, North Carolina (Brenner); Department of Otolaryngology-Head and Neck Surgery, Johns Hopkins University, Baltimore, Maryland (Hillel).
In Reply We appreciate the interest in our article showing the high incidence and potential mechanisms of tracheal lesions in patients affected by coronavirus disease 2019 (COVID-19) during the first wave of the pandemic in our tertiary referral hospital in Italy.1 We appreciate also the Letter to the Editor by Dr Balakrishnan and colleagues and the attention our work has received in the medical community, media, and social networks.

The first goal of our work was to alert all health professionals involved in the treatment of patients with COVID-19 subjected to invasive mechanical ventilation of the potential lesions that could occur in the trachea and propose some possible solutions to prevent these complications. We thank Dr Balakrishnan and his colleagues for raising another important issue: interprofessional collaboration is of paramount importance to minimize or even eliminate airway injuries. As a matter of fact, the cuff pressure monitoring, the periodic bronchoscopy, and time and technique of tracheostomy are aspects that must be discussed in the airway team, consisting of otolaryngologists–head and neck surgeons, intensivists, pulmonologists, nurses, and allied health professionals.2,3 In fact, during the second wave of the COVID-19 outbreak, we recorded a drastic drop in the incidence of tracheal complications in our hospital. We think this is due to the experience gained during the first wave in our center and worldwide,4,5 and the creation of the airway team.3 This will be the subject of further studies. Moreover, the treatment of patients with COVID-19 in the second wave was quite different from the first wave. As a matter of fact, there is no longer the rush to mechanically ventilate these patients, so the number of patients who need to be hospitalized in an intensive care unit setting and the number of intubated patients who need many days of invasive mechanical ventilation have also been reduced, also thanks to the current protocols.

We hope that our work will stimulate other centers to report their experiences to identify possible mechanisms of one of these complications and possible solutions to be adopted to avoid them. Unfortunately, we know how difficult it is to report negative experiences, but this must be done with the perspective of improving our medical knowledge and treating our patients better. This is the real challenge.

Giacomo Fiacchini, MD
Fabio Guaraccino, MD
Luca Bruschini, MD

Author Affiliations: Otolaryngology, Audiology and Phoniatric Operating Unit, Department of Surgical, Medical, Molecular Pathology and Critical Care Medicine, Azienda Ospedaliero-Universitaria Pisana (AOUP), University of Pisa, Italy (Fiacchini, Bruschini); Department of Anaesthesia and Critical Care, Cardiothoracic and Vascular Anaesthesia and Intensive Care Medicine, Azienda Ospedaliero Universitaria Pisana, Pisa, Italy (Guaraccino).

Corresponding Author: Giacomo Fiacchini, MD, Otolaryngology, Audiology and Phoniatric Operating Unit, Department of Surgical, Medical, Molecular Pathology and Critical Care Medicine, Azienda Ospedaliero-Universitaria Pisana (AOUP), University of Pisa, Via Paradisa, 2 - 56124 PISA, Italy (g.fiacchini@gmail.com).


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Concerns Regarding a National Otolaryngology Residency Interview Calendar

To the Editor In their Viewpoint, Badger et al1 contend that interview hoarding, although somewhat limited by travel and/or monetary constraints during routine in-person interviews, will be facilitated by the current virtual interview cycle. This may result in a small percentage of applicants accepting a disproportionate number of interviews, creating downstream effects that negatively affect programs and certain applicants.1,2 A recent study3 modeling the 2021 application cycle illustrated that allowing applicants to schedule unlimited number of interviews (ie, the status quo) during the 2021 virtual interview cycle may exacerbate hoarding. To combat interview hoarding in this age of virtual interviews, the authors present a national interview calendar and invitation date system.

Though we agree with the authors that the current residency application and selection process (RASP) may be improved, we caution that a limited 12-day interview calendar may result in unintentional downsides. Survey studies in otolaryngology–head and neck surgery (OTO-HNS) have demonstrated that prospective applicants do not support systems that cap the number of interviews and/or applica-