
Letter to the Editor

Voice, Swallow, and Airway Impairment After Late Tracheostomy: Defining Features of COVID-19 Survivorship

Dear Editor,

We read the article by Rouhani and colleagues with great interest.¹ Although recent studies have considered tracheostomy and optimal timing,^{2–4} this study is among the first to report primary data on voice, swallowing, and breathing outcomes in patients who underwent tracheostomy for COVID-19 respiratory failure.⁴ The study, which provides much needed patient- and clinician-reported measures, underscores the critical role of multidisciplinary teamwork. It also raises pressing questions on how to reduce the incidence and severity of device-related pressure injury during intensive care unit (ICU) stay.

What role did tracheostomy have in preventing or contributing to observed impairments? The answer is unclear, as several relevant data are not reported. Data on size of oral endotracheal tube prior to tracheostomy for all participants would provide further insight into whether observed injuries may have occurred from translaryngeal intubation *before* tracheostomy; tube size is a strong predictor of subglottic stenosis. Similarly, data regarding monitoring of cuff pressures could afford insight into whether cuff over-inflation may have induced tracheal ischemia. Still another consideration is whether pressure associated with prone ventilation contributed to laryngotracheal injury. Last, was there contribution from nasogastric tubes? Comparison against a matched cohort with similar duration of intubation without tracheostomy might help untangle the contributions from different airway devices.

The timing of tracheostomy in this cohort reflects the tension between ensuring safety of healthcare professionals and risk of injury with protracted translaryngeal intubation.⁵ In this study, >92% of patients had tracheostomy beyond 15 days of oral intubation and >70% after 21 days (median duration = 24 days). With the absence of COVID-19, most patients undergo tracheostomy by day 12. Extended duration of oral intubation predisposes to many forms of laryngotracheal injury and attendant dysphonia, dysphagia, and dyspnea – all of which require the expertise of speech-language pathologists and otolaryngologists. Salient findings in this series are that 19% of patients had moderate to severe pathology on laryngeal exam; 54% demonstrated perceptual voice changes; and 27% required instrumental assessment and ongoing

therapy for dysphagia – albeit with prevalence greatly reduced from acute assessment. Dyspnea appears particularly recalcitrant, with 23% of patients still experiencing difficulties even 2 months after hospital discharge.

Speech-language pathologists and otolaryngologists have integral and complementary roles with the ICU team in caring for this population.⁶ The disciplines share in evaluating and treating patients with diverse injury and deconditioning following critical illness, and early intervention is key. We commend the authors for reporting these data and look forward to longer term outcomes.

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