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Re:Acute epiglottitis in a COVID-19 positive patient

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To the Editor,

Acute epiglottitis is a life-threatening infectious disease of the epiglottis and supraglottic structures, and potentiality for complete upper airway obstruction which can be relieved by endotracheal intubation or sometime by emergent tracheostomy at the emergency department. To date, we read with great interest an article by Dr. Parker Cordial and colleagues [1] for sharing their third case report of acute epiglottitis with COVID-19 patient during COVID-19 period [1]. Because of respiratory compromise, the patient underwent emergent tracheostomy and received broad-spectrum antibiotics at intensive care unit and discharged 8 days after admission.

We agree that diagnosis is made by the clinical findings of inspiratory stridor in a febrile patient with dysphagia and hoarseness and is confirmed with radiographic imaging or visualization via laryngoscopy. It can cause rapid clinical deterioration; patients may require emergent airway management, potentially including tracheostomy [1]. Recent epidemiological studies have recorded a decline in the incidence of epiglottitis in children since the introduction of general vaccination against *Haemophilus influenzae* type B (HiB) [2,3], but because most adults have not been immunized with that vaccine, they are still susceptible and may experience acute epiglottitis [3,4], associated with numerous bacterial, viral, and fungal causes, including *H. influenzae*, β -hemolytic Streptococci, *Streptococcus pneumoniae*, Herpes simplex, Aspergillus, Candida [3].

Rather than true infectious epiglottitis, COVID-induced angioedema may offer an alternative explanation for the airway swelling observed in this patient. Angiotensin converting enzyme (ACE) is responsible for degrading bradykinin; the peptide thought to cause angioedema [5].

Use of ACE inhibitor medications in susceptible individuals may cause angioedema of the face and larynx, leading to respiratory compromise, not unlike epiglottitis. COVID-19 viral glycoproteins bind to ACE2 receptors in the airway, causing downregulation of the ACE protein, leading to angioedema through the same mechanism [6]. It is important for emergency physicians to maintain high clinical suspicion for acute epiglottitis with or without COVID-19 infection which is potentially lethal. Undoubtedly, rapid recognition and securing the airway is the most critical life-saving management at emergency. Appropriate antibiotics administration and early consultation to ENT are mainstays of the following therapy in order to reduce morbidity and mortality.

Declaration of Competing Interest

The other authors have no example conflicts of interest to disclose.

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