



Emergency awake fiberoptic intubation with confirmed COVID-19

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To the Editor,

The COVID-19 pandemic has changed the way physicians manage aerosol-generating medical procedures (AGMPs). Awake fiberoptic intubations (AFOIs) are extremely aerosol-generating,¹ and as such carry a high risk of transmitting respiratory infections.² We describe a case of an AFOI in a patient with impending airway obstruction who had confirmed COVID-19. Written consent was obtained from the patient to publish this case.

In February 2021, during the second wave of the COVID-19 pandemic in Ontario, Canada, a 32-yr-old male presented at 9 pm to the emergency department of a large regional community hospital after having had a wisdom tooth extraction seven days prior. A computed tomography scan showed a large, left-sided, deep neck space abscess spanning the parapharyngeal space extending to the skull base, down to the level of the thyroid cartilage with airway compression down to 0.6 cm ([Figure](#)). He had a Mallampati class 4 airway with minimal mouth opening and neck extension. On nasal endoscopy, there was edema, deviation of the larynx, and moderate limitation of vocal cord abduction from mass effect. The patient was taken to the operating room (OR) for incision and drainage with AFOI and possible tracheostomy.

Upon arrival to the OR, the team was notified that the patient was newly positive for COVID-19. All members of the team were fully vaccinated and wore at least the minimum personal protective equipment (PPE) required. This included N95 masks, face shields, waterproof gowns, and gloves. The OR was protected and positive pressure air flow was exchanging 20 times per hour. The challenges anticipated included a difficult airway in a patient who was in respiratory distress, active COVID-19 infection, and an after-hours setting with limited support.

Airway topicalization was achieved with 2% lidocaine using a multi-holed closed-end epidural catheter slowly advancing to the back of the oropharynx. This was critical in this patient with limited mouth opening with a goal of minimal coughing. During topicalization, the surgeon marked and injected local anesthetic to the anterior neck and remained scrubbed for possible emergency tracheostomy. Once sufficiently topicalized, judicious sedation was administered to maintain spontaneous breathing. On bronchoscopy, much of the oropharynx was unidentifiable because of swelling and secretions. The vocal cords were viewed (although they were deviated to the right) and an endotracheal tube was passed through with minimal coughing. The surgery was uneventful and the patient was transported to the intensive care unit under sedation and with intubation.

Current recommendations for the intubation of patients with COVID-19 include deep sedation and full paralysis to minimize coughing and the aerosolization of the virus.³ Unlike during other COVID-19 intubations, the endotracheal tube could not be clamped or have the filter attached because of the fiberoptic scope's presence in the tube's lumen. There have been recommendations to have plastic coverings,⁴ have intubation boxes,¹ be lying flat, have negative pressure rooms, and only allow essential

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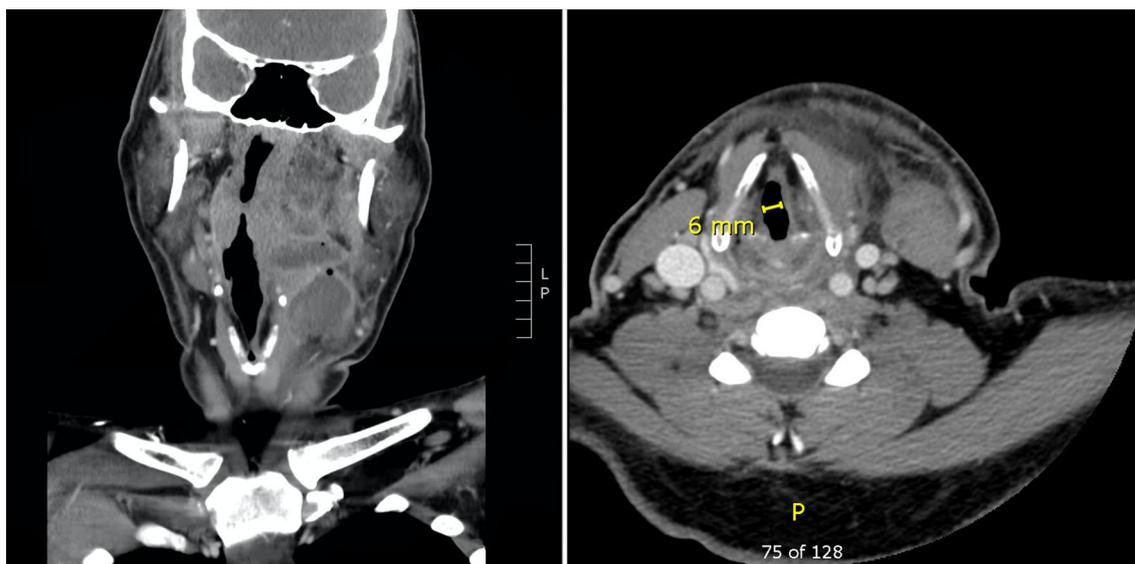


Figure Computed tomography scan of the head and neck with contrast—coronal (left) and axial (right)—of the patient preoperatively. The coronal projection shows the abscess spanning the left parapharyngeal space from the skull base down to the level of

the larynx. Air is visible in the collections. The axial image shows narrowing of the oropharyngeal airway.

personnel in the room.⁵ Many of these are not possible during AFOIs. Topicalization can usually be done in a variety of ways; however, nebulization and atomization are avoided when there is potential for aerosolized SARS-CoV-2 virus;⁵ thus, we topicalized slowly with the multi-holed epidural catheter and had very little coughing. The recovery room nurses were trained in doffing and played a crucial role in ensuring the safe removal of PPE.⁵ No staff became infected after this high-risk exposure.

There are several important lessons to be gained from this case. First, it is critical to maintain a high level of caution for all contacts during this global pandemic. Second, vigilant PPE practices with proper doffing and vaccination are likely effective at avoiding transmission. Finally, as with all difficult team challenges, concise and clear communication is critical for team success.

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