
Challenging airway management in a patient having subglottic tumor with slit tracheal passage

Airway management in subglottic tumors is challenging in patients having dyspnea, stridor, and 50–70% reduction in tracheal diameter.^[1] Tracheal resection and anastomosis being a complex surgery when planned in emergency settings it will be more challenging.^[2] Here we are going to report a situation of difficult airway management in a 62-year-old male having near complete obstruction of trachea by subglottic tumor in computed tomography [Figure 1]. Patient was a known case of type II diabetes mellitus on oral hypoglycemic agents presented

to hospital with severe dyspnea and stridor. Emergency surgical exploration was planned. Written and informed consent for publication was taken from the patient. In view of fiberoptic bronchoscopy contraindication (subglottic mass), awake surgical tracheostomy was attempted. Patient developed severe laryngospasm during tracheostomy procedure and subsequently oxygen desaturation. Considering emergency situation intravenous sedative agent (propofol 2 mg/kg and fentanyl 2 mcg/kg) was used for bag and mask ventilation which was unsuccessful.

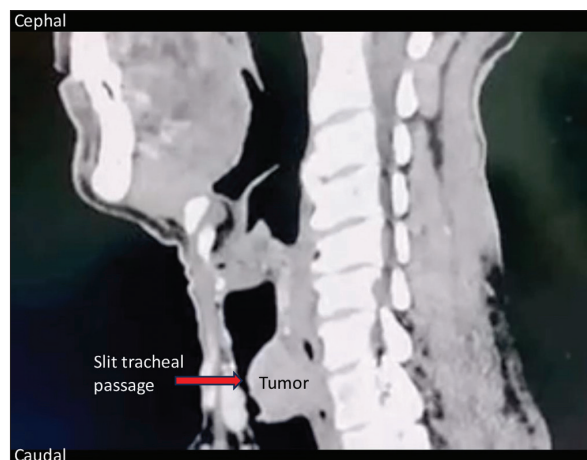


Figure 1: Near complete obstruction of trachea by intraluminal tracheal tumor

An attempt of ventilation by supraglottic device (i-gel) was also taken but failed. Direct laryngoscopy was attempted, and trachea was luckily intubated with 6.5 mm endotracheal tube (ET) and subsequently tracheostomy. Subglottic mass, measuring 3 × 3 cm and 1 cm segment of the trachea was resected and tracheal anastomosis was done. Anastomosis of posterior tracheal wall was done intermittently during apneic phase of 5–8 minutes. The apneic phase was created by pulling out tracheostomy tube intermittently. Subsequently, an 8 mm endotracheal tube (ETT) was carefully inserted orally, and the anterior wall of the tracheal anastomosis was completed. The tip of ET tube was kept beyond the tracheal anastomotic point. Since only 1 cm of the trachea was resected, ET tube was fixed at the level of 23 cms. At the end of surgery, patient's chin was secured to the sternum to maintain optimal positioning and stability.

Marwaha A *et al.*^[2] recommend individualization of airway and anesthetic management strategy to airway pathology, patient comorbidities, and surgeon preference. Management strategies for tracheal resection and anastomosis include non-intubation tracheal resection using high-flow nasal oxygenation, extracorporeal membrane oxygenation, and tracheal dilatation using rigid bronchoscopy.^[3,4] In our case, the position of tumor was intraluminal and extending from C2-C4 tracheal ring making tracheostomy procedure difficult. In this case, bleeding during awake tracheostomy could be the cause of laryngospasm. This case highlights the complex and challenging nature of managing subglottic masses causing airway obstruction. The decision to transition from an awake surgical tracheostomy to intubation was made to secure the airway promptly and address the patient's agitation. Anesthesiologist should always be aware about the length of the ET tube fixed; this is because of decrease in length of trachea following tracheal resection and anastomosis. We also suggest awake fiberoptic bronchoscopy even if it is contraindicated as in our case.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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References

1. Kocurk N, Demir N, Kervan F, Dinc E, Koybasioglu A, Turktas H. A subglottic mass mimicking near-fatal asthma: A challenge of diagnosis. *J Emerg Med* 2004;26:57-60.
2. Marwaha A, Kumar A, Sharma S, Sood J. Anaesthesia for tracheal resection and anastomosis. *J Anaesthesiol Clin Pharmacol* 2022;38:48-57.
3. Garg R, Pandey K. Anesthesia for tracheal resection and anastomosis: What is new! *J Anaesthesiol Clin Pharmacol* 2022;38:58-60.
4. Hobai IA, Chhangani SV, Alfille PH. Anesthesia for tracheal resection and reconstruction. *Anesthesiol Clin* 2012;30:709-30.

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