

Emergency airway management of intratracheal tumor in a patient with respiratory distress

Sir,

Patients with tracheal tumors can present with catastrophic airway obstruction.^[1] We report a case of young female who presented with severe respiratory distress due to intratracheal mass with near total occlusion.

A 25-year-old woman presented with severe respiratory distress. On examination, the patient was using accessory muscles and stridor was auscultated on expiration. The tracheal tug was present in suprasternal area. The respiratory rate was around 40 breaths/min. Chest X-ray revealed narrowing of the lower tracheal lumen. Computed tomography scan was suggestive of tracheal growth on anterior wall covering 90% of the lumen, approximately 2 cm above carina. Fiberoptic visualization of the lower airway was done which revealed near total occlusion of the tracheal lumen. The fiberoptic bronchoscope could not be negotiated beyond the tracheal mass. Rigid bronchoscopy and debulking of tumor were planned on emergent basis. In the operating room, intravenous access was secured and monitors were attached. She had an pulse rate of 142 beats/min, and oxygen saturation of 91%. She was nebulized with adrenaline (1 mg diluted in 5 ml of saline). Intravenous dexmedetomidine (1 mcg/kg) over 10 min followed by 0.5 mcg/kg/h was initiated. Anesthesia was induced with incremental doses of sevoflurane in 100% oxygen. Intravenous fentanyl (50 mcg) was administered, and rigid bronchoscope was inserted. Lungs were then ventilated with side ventilating port of the rigid bronchoscope [Figure 1]. Boluses of intravenous propofol (20 mg bolus) were administered. The bronchoscope was negotiated and a core through with the rigid bronchoscope was attempted through the tumor mass [Figure 2]. The intratracheal mass



Figure 1: Rigid bronchoscope *in situ* and ventilation via ventilation port

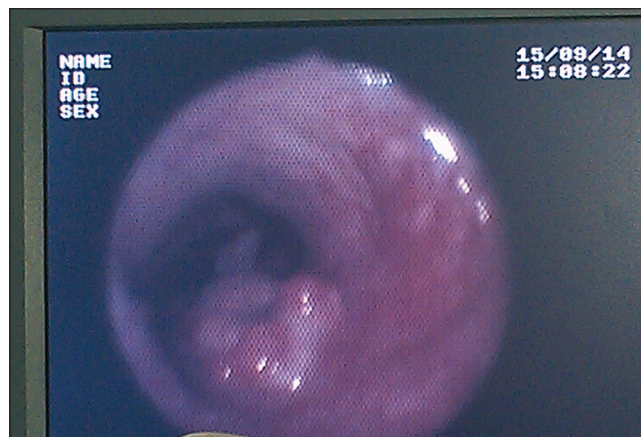


Figure 2: Rigid bronchoscope picture of intratracheal tumor

was removed with the forcep. The rest of the mass was removed piecemeal. The oxygen saturation fluctuated between 85% and 95% during removal of tumor but increased to around 95% after the mass was removed. The bronchoscope was removed and trachea intubated with endotracheal tube. Tracheal tube's cuff was positioned and inflated 3 cm from carina so as to achieve tamponade effect of cuff over the excised mass. The sevoflurane and dexmedetomidine were also discontinued and patient's trachea was extubated on return of conscious level.

The perioperative anesthetic management is very challenging in patient of tracheal tumor especially with intratracheal mass due to ventilatory concerns and suitable airway gadget for securing airway. Also, the intratracheal mass may get detached and dislodged distally leading to distal airway obstruction.^[2] The bleeding during removal may also lead to issues with efficient gas exchange in lungs. Knowledge of the various techniques for airway management is crucial. Planning needs to be discussed among bronchoscopist, surgeon, and anesthetist. Various airway management techniques include ventilation through rigid bronchoscope, tracheostomy, high-frequency jet ventilation, cardiopulmonary bypass, or extracorporeal membrane oxygenation.^[3] In our case, tracheostomy was not an option as the tumor was low lying. High-frequency jet ventilation could be other option, but movement of the mass itself can obstruct the airway completely and also risk of barotrauma to lungs is a possibility due to obstructed exhalation.^[4,5] Use of cuffed endotracheal tube with cuff placed over the excised area of the trachea provides tamponade action and avoid any oozing of the blood in the postoperative area. We conclude that coring of mass using a rigid bronchoscope along with optimal hemostasis may be life-saving procedure in patients of lower intratracheal tumor with severe respiratory distress.

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Conflict of interest

There are no conflicts of interest.

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