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Intra-tracheal extension of hilar mass mimicking severe asthma: Anesthesiologist perspective

Sir,

Primary tracheal masses are rare and mostly malignant, occurring in 0.2 per 1,00,000 persons per year.^[1] Patients with tracheal masses can be mistaken with asthma and chronic obstructive pulmonary disease, and they are treated for long period with inhaled corticosteroids and β_2 agonists.^[2] However, in rare situation, extratracheal hilar tumors may invade or indent trachea and presentation may be of asthma, bronchitis, and recurrent pneumonias.^[3]

We report a case of a 50-year-old man having hilar mass with tracheal encroachment. The patient was admitted for worsening of shortness of breath, cough, and fever for the past 1 month. His medical history revealed smoking of 40 cigarettes/day for the past 25 years. The patient's initial vitals were within normal range with respiratory rate of 30/min and oxygen saturation of 92% on room air; chest auscultation revealed bilateral wheeze. He was treated with inhaled β_2 agonist and intravenous corticosteroid.

Biochemical and hematological investigations were unremarkable. Chest X-ray revealed right upper lobe hilar mass and hyperinflated lung fields. Previous computed tomography (CT) scan reported large soft tissue hilar mass in the right para tracheal region measuring 8 cm × 6 cm × 6 cm with no other positive finding. The patient also had a history of fiberoptic flexible bronchoscopy and biopsy which was inconclusive. Then, he was scheduled for video-assisted thoracoscopic (VATS) biopsy of hilar mass for further diagnosis in our hospital.

The patient's routine preoperative anesthesia assessment was unremarkable apart from wheezing on chest auscultation. In the operating room, standard monitoring was applied along with invasive blood pressure monitoring. The patient was anesthetized with injection propofol 2 mg/kg and rocuronium 0.6 mg/kg. Fentanyl (2 µg/kg) was used for analgesia. Endotracheal intubation and lung isolation were performed by 37 French left-sided double-lumen tube. While confirming the position of the tube with fiberoptic bronchoscopy, a reddish colored mass just above the carina was seen, raising the possibility of intra-tracheal mass lesion or invasion of right hilar mass. Biopsy of hilar mass was taken through VATS for tissue diagnosis and further management.

After extubation, he developed severe bronchospasm and was treated with salbutamol and ipratropium bromide nebulization (back to back) and intravenous hydrocortisone 100 mg stat. After getting some relief, he was shifted to intensive care unit (ICU) for further management. He was reintubated in ICU after 6 h of surgery due to worsening of respiratory failure.

In ICU, a subsequent bronchoscopic evaluation was done showing mass protruding into the lumen of trachea below the tip of endotracheal tube and above the carina with slight postoperative swelling [Figure 1]. The patient was already on intermittent doses of β_2 agonist (salbutamol) and ipratropium bromide every 6 hourly, so the duration was minimized to every 4 hourly. The patient was getting injection dexamethasone 8 mg (0.1 mg/kg) every 8 hourly. He was weaned off on second postoperative day and successfully extubated on the third day of surgery. His intraoperative and bronchoscopic biopsies were inconclusive; presence of chest drain facilitated CT-guided biopsy of the hilar mass confirming adenocarcinoma.

These tumors are usually diagnosed late due to its nonspecific presentation, and asthma-mimicking symptoms with no or inadequate response should require further investigation.^[4,5] In this patient, a soft tissue floppy mass

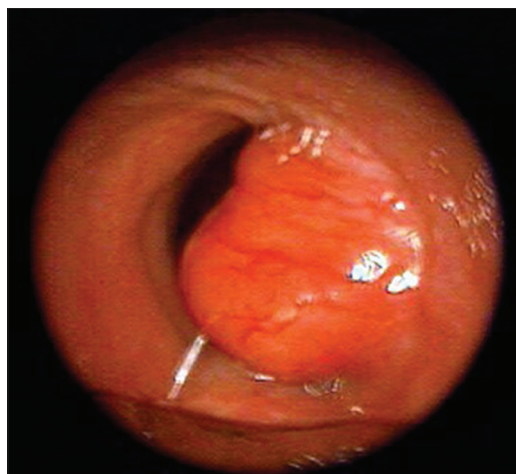


Figure 1: Bronchoscopic view of intra-tracheal extension of the mass

confirmed on fiberoptic bronchoscope representing the aggressive potential of fast local encroachment which was appearing to extend into the carina and the origin of the right main bronchus. The challenge to the anesthesiologist in this particular case is related to difficult airway management, ventilation of the patient, and postoperative respiratory distress and airway compromise.^[6]

The decision to extubate this patient either in the operating room or in the ICU after slow weaning was challenging; on one side, there was risk of reintubation due to mass swelling after airway handling; and on the other side, the risk of ICU admission and ventilator-associated complications. Nevertheless, the patient was extubated in the operating room as he performed well during the perioperative period and apparently no bleeding was found from the lesion. The team was ready for any airway catastrophe, and backup plan of reintubation versus tracheostomy was made. In this particular case, when edema got subsided after 2 days therapy of steroid, the patient was successfully extubated and shifted out from ICU.

Finally, to have knowledge of the various techniques for airway management is crucial. Unlike obstructions of the upper airway, which may be bypassed by intubation or tracheostomy, lesions of the distal trachea present serious problems in patient management.

This case highlights the importance of perioperative anesthetic and surgical management in a challenging patient with advanced disease and partially obstructed airway. Further this case represents maintenance of continuity of care to facilitate successful weaning with team approach.

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Conflicts of interest

There are no conflicts of interest.

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