Letters to Editor

Anesthetic management of a patient with right endobronchial vascular tumor for total thyroidectomy

Sir,

A 38-year-old lady, presented with a 5 × 3 cm papillary carcinoma thyroid with no other comorbidities, was posted for total thyroidectomy. Physical examination and preoperative blood investigations were essentially normal. However, chest X-ray showed tracheal deviation to the right side with a right perihilar opacity. CT thorax axial cut just below the carina showed the presence of a lobulated enhancing mass in the right hilar region with a cutoff at the right upper lobe bronchus. Bronchoscopy revealed a right endobronchial, well-circumscribed, polypoidal, highly vascular lesion of size 5 × 4 × 4 cm [Figure 1] which bleeds on touch. As histopathology suggested it as a secondary deposit, total thyroidectomy followed by radioiodine ablation was planned.

The plan of anesthesia for thyroidectomy was fiber-optic bronchoscope (FOB)-assisted intubation to ensure correct endotracheal tube (ETT) position above the carina thereby avoiding contact with the right endobronchial tumor. On the day of surgery two large-bore intravenous (IV) lines were secured, and the patient was premedicated with midazolam 2 mg, glycopyrrolate 0.2 mg, fentanyl 2 mcg/kg, induced with propofol 2 mg/kg, followed by succinylcholine 2 mg/kg IV. FOB with preloaded size 7 ETT was inserted till carina and ETT was then railroaded and positioned 3 cm above the carina. Atracurium 0.5 mg/kg was used after securing the airway.

Intermittent positive pressure ventilation was initiated with volume control (VC), tidal volume (TV) 375 mL, rate 14/min, positive end-expiratory pressure (PEEP) 5 cm of H₂O. But immediately patient desaturated to 70% and peak airway pressures increased to 35 mmHg. Considering post-induction bronchospasm, 100 mg hydrocortisone, and salbutamol puffs (8–10) via ETT were given, but airway pressures continued to be elevated. Then, mode of ventilation was changed to pressure control (PC) with PC of 20 mmHg targeting a TV of 400, PEEP was increased to 8 cm of H₂O and subsequently, saturation picked up to 100%. The rest of the intraoperative period was uneventful. The patient was extubated when fully awake and had an unremarkable postoperative period.

In patients with endobronchial vascular lesions securing and maintaining airway under general anesthesia (GA) carries a significant perioperative challenge[1] Right endobronchial intubation is common[2] and in the presence of a right endobronchial vascular tumor, there is a high risk of airway bleeding[3] if accidental right endobronchial intubation occurs. An added risk of airway collapse distal to the tumor after the administration of neuromuscular blockade also exists in such cases.[4]

In our patient, FOB-guided intubation was done to avoid the risk of airway bleeding secondary to right endobronchial intubation. The cause of desaturation raised airway pressures, and impaired ventilation following administration of neuromuscular blocking agent in this patient could be airway collapse[4] distal to the tumor. Changing the mode of ventilation from VC to PC ventilation[5] and increasing the PEEP had ensured airway patency and adequate right lung ventilation till the end of surgery.

Anesthesia for a patient with a vascular endobronchial tumor can safely be managed by performing FOB-assisted intubation, pressure control mode of ventilation with higher PEEP to ensure airway patency, adequate ventilation, and oxygenation distal to the endobronchial tumor.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.
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Conflicts of interest
There are no conflicts of interest.

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