

Delayed tracheal perforation, a rare but dreaded complication of thyroidectomy

Sir,

Tracheal injury is an uncommon but serious complication of thyroidectomy with the overall incidence of only 0.06.^[1] We encountered an interesting case of tracheal perforation postthyroidectomy and wish to report the same. A 20-year-old male diagnosed with papillary thyroid carcinoma underwent total thyroidectomy with central compartment lymph node dissection under standard general anesthesia technique. Intraoperative period was uneventful. After ruling out tracheomalacia with cuff-leak test, the patient was extubated successfully. On the 2nd postoperative day, the patient developed slowly progressing surgical emphysema associated with respiratory distress. Interestingly, the patient noticed that the swelling would suddenly grow if he were to cough or sneeze. After discussion with endosurgeons, it was decided to perform wound exploration. Awake fiberoptic intubation was planned. Tracheal rent was identified with fiberoptic bronchoscope, and 8 mm internal diameter armored endotracheal tube was advanced distal to tracheal rent. Total intravenous anesthesia was provided for maintenance. Surgical exploration of the neck was carried out, and an irregular approximately 1 cm hole with necrotic edges was found at anterolateral surface of the trachea at the level of the first and second tracheal ring [Figure 1]. The necrotic edges were debrided and the hole in the trachea was fashioned into a formal tracheostomy by surgeons. An 8 mm tracheostomy tube was inserted through the stoma and the neck wound closed. Surgical emphysema subsided gradually in next 48 h. The patient was decannulated after 6 days and tracheostomy was closed successfully by the 15th day. The common complications associated with the thyroidectomy are hypoparathyroidism, recurrent laryngeal nerve injury, wound infection, wound hematoma, laryngeal edema, and tracheomalacia.^[2] Risk factors associated with the tracheal injury occurring during or after thyroidectomy are female gender, benign thyroid diseases, prolonged intubation with high cuff pressure, thyrotoxic goiter, excessive use of cautery with increased blood loss intraoperatively, wound infection, tracheomalacia, and postoperative vigorous cough.^[1,3] Tracheal injury occurring in the postoperative period commonly manifested as the subcutaneous emphysema of neck and face, dyspnea, wound infection, and retrosternal tenderness. The management depends

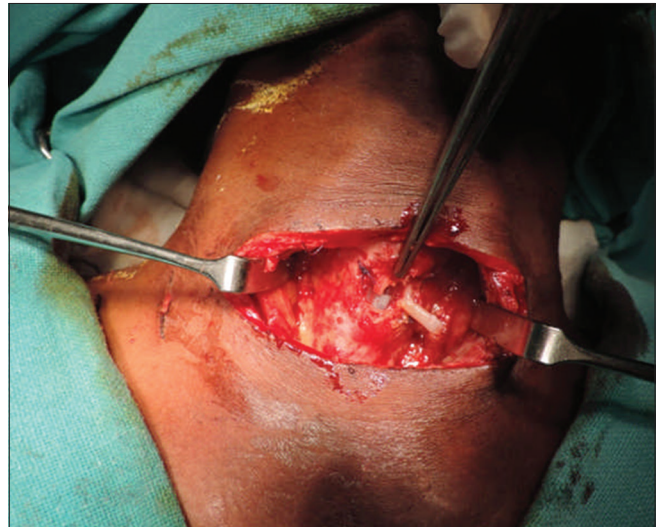


Figure 1: Tracheal perforation

primarily on the severity of respiratory distress which is chiefly related to the size of the tracheal perforation and the severity of the subcutaneous emphysema. Primary diagnosis should be made by an urgent chest X-ray to exclude pneumothorax. To assess the site and size of the tracheal perforation as well as the extent of subcutaneous emphysema, computed tomography of the neck can be useful. With the help of bronchoscopy, one can directly see the perforation and can plan further management. Maintenance of oxygenation and ventilation is a challenging task for the anesthesiologist as there is loss of ventilation to the atmosphere due to open airway. Major anesthetic concerns are securing the airway, maintenance of anesthesia during tracheal reconstruction, prevention of aspiration, and providing nutrition in the postoperative period.^[4] Documentation will help the next team to take a different and safe approach for the airway management and prevent further damage to the trachea.^[5] Early diagnosis, proper preparation, and expertise with difficult airway algorithms along with proper and effective communication between anesthesiologist and surgeon are essential for the successful management of tracheal injury.

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Conflicts of interest

There are no conflicts of interest.

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