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Iatrogenic Full-length Rupture of Posterior Trachea: A Multidisciplinary Management

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Iatrogenic trachealis muscle rupture (ITR) following elective intubation is a potentially fatal complication with a low incidence of 0.05-0.37%. Tears involving the whole length has not been reported. We report a case of a 26-year-old lady with seropositive rheumatoid arthritis who underwent total thyroidectomy for Hashimoto Thyroiditis. Intraoperatively, a complete linear trachealis muscle rupture from the carina to the first tracheal ring was diagnosed by the Otorhinolaryngology (ORL) team by tracheoscopy through the endotracheal tube (ETT). Unlike the common presentation of subcutaneous emphysema or pneumomediastinum, the surgeon noticed the ETT cuff in the left operative field. Initial repair of the lateral defect was performed immediately by opposing the sternocleidomastoid muscle to the adjacent infrahyoid muscles. However, serial computed tomography and flexible tracheoscopy showed complete tear of the trachealis muscle with presence of pneumomediastinum and dynamic changes of the injury. We illustrate a concerted effort of multidisciplinary teams of ORL, Cardiothoracic Surgery, Intensivist, Anaesthetist, Radiologist and Speech Therapist in the steps of management which involved series of tracheoscopy and imaging prior to extubation. In view of extensive trachealis muscle tear with hemodynamically stable patient, conservative management was opted for this patient as it outweighs the benefit of the surgery. We include the outpatient management until the patient's trachea fully healed 6 months after the injury. The management is compared to the management review in the literature. This case has taught multiple new important lessons in the management of challenging tracheal rupture in a patient.

Keywords: Iatrogenic tracheal tear, pneumomediastinum, trachea, subcutaneous emphysema

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