A CASE OF RECURRENT POST-EXTUBATION OBSTRUCTIVE FIBRINOUS TRACHEAL PSEUDOMEMBRANE FORMATION

GEORGE MCKENNEY AND CALLI BERTSCHY

INTRODUCTION: Obstructive Fibrinous Tracheal Pseudomembrane (OFTP) is a very rare complication seen after short term intubation; as such, a real incidence rate has not been reported in the literature. In case reports and case reviews though, it has been widely accepted that bronchoscopic intervention with removal of the pseudomembrane(s) is curative1. This vignette is the first documented case of recurrent post-extubation OFTP formation requiring multiple therapeutic bronchoscopies and, eventually, cryotherapy.

CASE PRESENTATION: The patient is a 78-year-old female with multiple comorbidities who was hospitalized for urosepsis. Her course was complicated by acute respiratory failure secondary to pulmonary edema requiring endotracheal intubation. A week after extubation, she developed dyspnea and stridor that did not improve with steroids and racemic epinephrine. Laryngoscopy was performed and was unrevealing. CT scan of the neck demonstrated a 1.2 cm polypoid tracheal mass at the thoracic inlet. Flexible bronchoscopy allowed for removal of the mass which was histologically consistent with OFTP and her respiratory status returned to baseline. Several days after hospital discharge, she again presented with dyspnea and stridor. Bronchoscopy again revealed an obstructing pseudomembrane that was removed and her respiratory symptoms improved temporarily. She underwent two subsequent bronchoscopies over the next week, both of which verified the presence of obstructing pseudomembranes requiring removal. The patient did not have a recurrence of OFTP after undergoing endotracheal cryotherapy during her final bronchoscopic procedure.

DISCUSSION: This case demonstrates the importance of considering OFTP in the differential for post-extubation stridor and dyspnea because the treatment differs from more common causes of post-extubation stridor such as laryngeal edema, tracheo- or broncho-malacia, or vocal cord dysfunction. OFTP requires bronchoscopic intervention, while the other causes may be treated more conservatively. Prevention of OFTP can be achieved by maintaining an appropriate cuff pressure of < 25 mmHg since the underlying pathology is thought to stem from direct contact of the ET tube cuff with the tracheal mucosa1. In theory, difficult intubations and episodes of self-extubation are considered to be risk factors for the development of OFTP, as these can inflict more trauma to the airway as the cuff is still inflated and shear forces are applied to the upper airway2.

CONCLUSIONS: OFTP should always be considered as a cause of stridor and early bronchoscopic intervention is paramount. It is also equally important to emphasize prevention of this complication. Appropriate preventative measures include maintaining appropriate sedation to prevent self-extubation, maintaining appropriate cuff pressures, and emphasizing early extubation.


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