Extubation after Tracheal Resection in a Child: A Role for Dexmedetomidine
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Case Report

- 10 year old previously healthy girl presented for resection of tracheal mass (benign fibrous histiocytoma)
- MRI/DLB: Mid-tracheal mass to 1 cm above carina, eroding left tracheal wall and with near total tracheal obstruction and pneumomediastinum
- General anesthesia induced by inhalation of sevoflurane through previously placed endotracheal tube
- Maintenance occurred with 2% sevoflurane, fentanyl, rocuronium, and dexmedetomidine infusion at 1 mcg/kg/hr
- 50% of trachea resected via median sternotomy and cardiopulmonary bypass
- Separation from cardiopulmonary bypass was uncomplicated
- At conclusion of surgery, patient’s chin was sutured to the chest
- Dexmedetomidine infusion discontinued 30 minutes prior to extubation
- Spontaneous respiration facilitated by reversal of neuromuscular blockade

• Morphine 0.1 mg/kg given in divided doses prior to extubation
• Extubation proceeded after patient was awake, followed commands and demonstrated adequate ventilation and oxygenation
• In event of failed extubation, reintubation planned with fiberoptic bronchoscope
• LMA was present in event of failed mask ventilation

Discussion

- Extubation following tracheal resection precarious and literature scarce in children
- Dexmedetomidine provides sedation and anxiolysis in adults, but few studies in children
- This case demonstrates that a combination of low dose volatile, opioid and dexmedetomidine allowed smooth extubation of pediatric airway
- Proper pain control and anxiolysis facilitated the positive outcome
- Risk of airway obstruction from blood, secretions and neck in flexed position were considered
- Proper contingency plan must be/was in place

References