1344548 - DIFFICULT TRACHEOSTOMY: NEUROFIBROMATOSIS AND NECK HEMATOMA

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Purpose: When the margin of safety is extremely narrow, an individualized airway strategy for the management of difficult tracheostomy is essential (1).

Clinical Features: Consent for this report was obtained. A 44-year-old woman with neurofibromatosis Type I presented with a massive neck swelling secondary to rupture of her left occipital artery during a Valsalva maneuver. Initial awake fiberoptic intubation was successful. The artery was embolized but widespread vessel ectasia was noted(2). Ongoing hematoma formation with increased interstitial and venous pressures resulted in progressive head and neck swelling. Conversion to tracheostomy was undertaken to secure the airway. Maneuvers such as BVM, endotracheal intubation, and use of an extra-glottic rescue device or emergent surgical airway were all thought to be associated with a high risk of failure. A clear, step-wise airway strategy was developed with the surgeon.

1. If oxygenation became difficult during the procedure, a fiberoptic bronchoscope (FOB) loaded with an Aintree catheter (AC) would be advanced through the existing ETT and manual ventilation via the AC would be attempted, with recognized potential for barotrauma due to lack of egress of tidal volume.

2. If 1. failed, a small ETT would be re-introduced over the AC.

3. If 2. failed, transtracheal provision of oxygen through an open tracheal incision using a Ravussin catheter as a temporizing measure would be attempted. Simultaneously, placement of a Fastrach LMA to assist FOB-guided re-intubation, would occur, knowing its success rate may be low.

4. If the tracheostomy was successful, the ETT would be removed under FOB visualization with a 14F airway exchange catheter placed prior to removal.

Short immobile neck, tracheal deviation, and copious bleeding from friable vasculature made the tracheostomy extremely challenging. FOB visualization during extubation showed almost complete supraglottic airway collapse.

Conclusion: Neurofibromatosis is associated with blood vessel ectasia as well as neurofibromas of the pharynx or larynx(3). Creation of a patient-specific airway strategy with the surgeon involved is essential for patient safety and optimal outcome.

References: 1. www.rcoa.ac.uk/index.asp?pageID=10892
2. Cardio Interv Rad 2010;34:131-35
3. BJA 2001;86:555-64

Patient with NF Type 1. Rupture of her left occipital artery resulted in tremendous face and left neck swelling.