Background:
The incidence of congenital complete tracheal rings is extremely low, less than 50 cases described. Pediatric anesthesiologists have become well-adept at managing various etiologies of subglottic stenosis. The scope of supraglottic devices (SGAs) have been evaluated in children, but few have examined the use and appropriateness in the neonatal and infant population. The purpose of this case report is to explore the ethical dilemma of failed, definitive airway management and the clinical implications despite adequate SGA ventilation.

Case Report:
- 4-day-old, full term male with a prenatal diagnosis of congenital aqueduct stenosis presents for ventriculo-peritoneal shunt (VPS) placement.
- No other medical co-morbidities or syndromic features are appreciated.
- Preoperative physical exam reveals macrocephaly.
- Uneventful intravenous induction, mask ventilation deemed acceptable.
- Despite Cormack-Lehane Grade 1 view (see figure), patient's trachea unable to be intubated with several available endotracheal tubes including a 2.5 mm uncuffed endotracheal tube.
- SGA placed and used successfully, however operative case aborted, and patient emerged from anesthesia.

Case Report Continued:
- Direct laryngoscopy and bronchoscopy by ENT determined patient had long segment complete tracheal rings with distal bronchomalacia (Figure 1, 2).
- 1.7 mm diameter rigid bronchoscope barely able to pass stenotic lesion.
- Tracheostomy was not an option given anatomical restrictions.
- Multidisciplinary team-peds surgery, ENT, peds anesthesia, neonatology, neurosurgery, ethics explored options including laryngotracheal reconstruction (LTR).
- LTR not an option because of the need for ECMO with systemic anticoagulation confounded by neurosurgical procedure.
- Additional consultation from another tertiary pediatric hospital requested, but clinical case refused.
- Patient discharged home for palliative care.

Conclusions:
- Despite the effectiveness of an SGA for airway management, the clinical scope of this case contraindicated its safe use.
- Ethical dilemmas are not foreign concepts in anesthesia, but rarely are we challenged against the very scope of our practice, airway management.

References:

Figure 1: A, B – normal glottic/laryngeal aperture; C, D – narrowing due to complete tracheal rings, echymoses likely secondary to ETT trauma

Figure 2: E – narrowing due to complete tracheal rings; F, G – carinal view with distal bronchomalacia; H – ETT trauma, tracheal narrowing