Case of An Unusual Airway: Neonate with Intra-oral Webs

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Introduction
Being the airway experts can present challenges when presented with unusual anomalies that one may only see once in their careers. Ranging on a wide spectrum from congenital anomalies to complex trauma of the head and neck, the ability of the modern-day Anesthesiologist to adapt is crucial in these rare situations and the level of vigilance exercised increasingly crucial. We present a case of a 3-day-old neonate with intra-oral webs that presented for release of the webs.

Case Report
The patient is a 3-day-old neonate admitted to the Neonatal Intensive Care Unit (NICU) due to obvious intra-oral anomalies that were classified as webs. The webs were described as causing an obstruction of more than 50% of the oropharyngeal aperture extending from the superior alveolus to the base of the tongue leaving only a 2 cm aperture. Physical characteristics of the webs appeared to be a relatively thin (2-3 mm), epithelialized membrane impermeable to air and liquid. No attempts at feeding had been made and the patient showed no signs of respiratory distress. The choanae and nares were patent. Chart review revealed a bradycardic episode (HR of 70) on the day prior to the surgery for which a code blue was called. The heart rate recovered spontaneously and an EKG and Echocardiogram were normal. The patient was prepared to go to the operating room for release of intra-oral webs.

Perioperative Management
The patient was transported to the operating room with full monitors and a peripheral IV in place. Anesthesia was induced with an inhalation technique using Sevoflurane in 50% O2/50% N2O mix with easy mask ventilation using optimal airway maneuvers. Oxygenation with 100% O2 was provided prior-to and in-between periodic removal of the facemask to allow for further examination and electrocautery release of intra-oral webs. After release of webs, further examination showed secondary cleft palate and microglossia. Given the lack of support by the webs and decreased airway motor tone from the anesthetic, the patient’s tongue was readily collapsing to the posterior pharyngeal wall resulting in airway obstruction. An appropriately size oral airway was placed with resolution of the obstruction. Due to newly noted anomalies, direct laryngoscopy and bronchoscopy (DL&B) was performed to evaluate the lower airway tract. Patient was a Cormack-Lehane grade I view by DL; no lower airway anomalies were noted. Obstruction from the tongue encountered upon emergence necessitating placement of a nasopharyngeal airway. The patient remained stable and was transported back to the NICU. During the hospital course, patient was subsequently found to have esophageal webs necessitating placement of a G-tube due to feeding difficulties. Patient returned to the OR months later for mandibular distraction after being identified as Pierre-Robin Sequence (PRS); she was noted to be a difficult intubation for the mandibular distraction procedure requiring Glidescope videolaryngoscopy after two attempts at direct laryngoscopy.

Discussion
Airway anomalies can come in many forms, both well-documented (clefts, PRS, etc) and rarer aberrations such as above. The literature reports only 1 similar case report in Turkey in a child with Pierre-Robin Sequence and a glossopharyngeal web that required dilatational tracheotomy for emergency airway rescue.1 In our case, the patient was stable in their pre-operative condition, but we were prepared for invasive airway management if needed. Given the physical size of the aperture, in a controlled setting the most feasible airway maneuver would have been fiberoptic intubation (FOI).2 In an emergent setting, a tracheotomy would have had to be performed, given the limited reserves of a neonate and the time needed for FOI even in skilled hands.

References