Anesthetic Management of Acute Epiglottitis.

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Epiglottitis, is a rapidly progressive infection of the epiglottis and adjacent tissues. The vast majority in the past were due to Haemophilus influenzae type b (Hib). Routine infant vaccination with Hib protein-polysaccharide conjugate vaccines have been recommended in the United States since 1991. While Hib has topped the list as the primary culprit for the causes of epiglottitis, numerous other bacteria have been associated with epiglottitis in children in the pre- and post-Hib vaccine era including H. influenzae type A, type F, and Nontypeable Strains, H. Parainfluenzae, Streptococcus pneumonia, Staphylococcus Aureus, and Beta-hemolytic Streptococci, Groups A.

We report a case of a previously healthy 4 year old male presenting to the Emergency Department with a four day history of fever and neutropenia, decreased oral intake, night sweats, and mucous emesis. Childhood immunizations were reportedly up to date, though family members are non-reliable historians. On the night of admission, the patient developed stridorous respirations on the floor with tripodding and an inability to control secretions and SpO2 of 84-92 (FiO2 =0.8) Cervical X-ray revealed thickening of the epiglottis and aryepiglottic folds concerning for epiglottitis. Patient was emergently taken to the operating room for intubation. He presented with a 24G peripheral IV right arm in situ.

He received oxygen (FiO2=1) via facemask, with 20mg propofol for agitation. Inhalational induction followed with 8L O2 + 10 L N2O + Sevoflurane at 8%. Direct visualization of the vocal cords using a MacIntosh 1 blade by the attending was attempted once patient was anesthetized, obtaining an airway grade 4 view with a large, obstructing epiglottis, and a posterior pharynx with edema and pus. Mask ventilation was easily performed with aforementioned anesthetic mixture. Pediatric fiberoptic bronchoscopy failed because of the inability to advance the scope past the enlarged epiglottis and a continued airway grade 4 view. A second attending attempted direct laryngoscopy with a MacIntosh 2 blade. He reported a grade 2-3 visualization, but passed the 4.0 uncuffed endotracheal tube into the esophagus. The third direct laryngoscopy attempt was performed with a MacIntosh laryngoscope blade 2 and again yielded a grade 2-3 view of the airway, with visualized movement in the dark area around the noted mass, presumably the glottic opening. An atraumatic pass of a 4.0 endotracheal tube was performed, with positive ETCO2 and bilateral breath sounds to confirm placement. Tube was secured at 14cm from the lips. The patient then underwent direct visualization-laryngoscopy using the Parson’s laryngoscope, by ENT and was noted to have thick, white adherent exudates of both tonsils and lesser whitish exudates on the arytenoids, aryepiglottic folds, and epiglottis. There was marked edema and evidence of previous airway obstruction. After adequate visualization was carried out, the patient underwent biopsy of the epiglottis and the tonsil area with a specimen submitted for both pathology and culture. Patient was transported to the Pediatric ICU on a propofol infusion at 200mcg/kg/min, and oxygen delivery via endotracheal tube of 100%FiO2 from O2 canister.