

[NM-199] Anesthetic management of a 7 week old girl with a large parapharyngeal space abscess with spontaneous drainage into the external auditory canal

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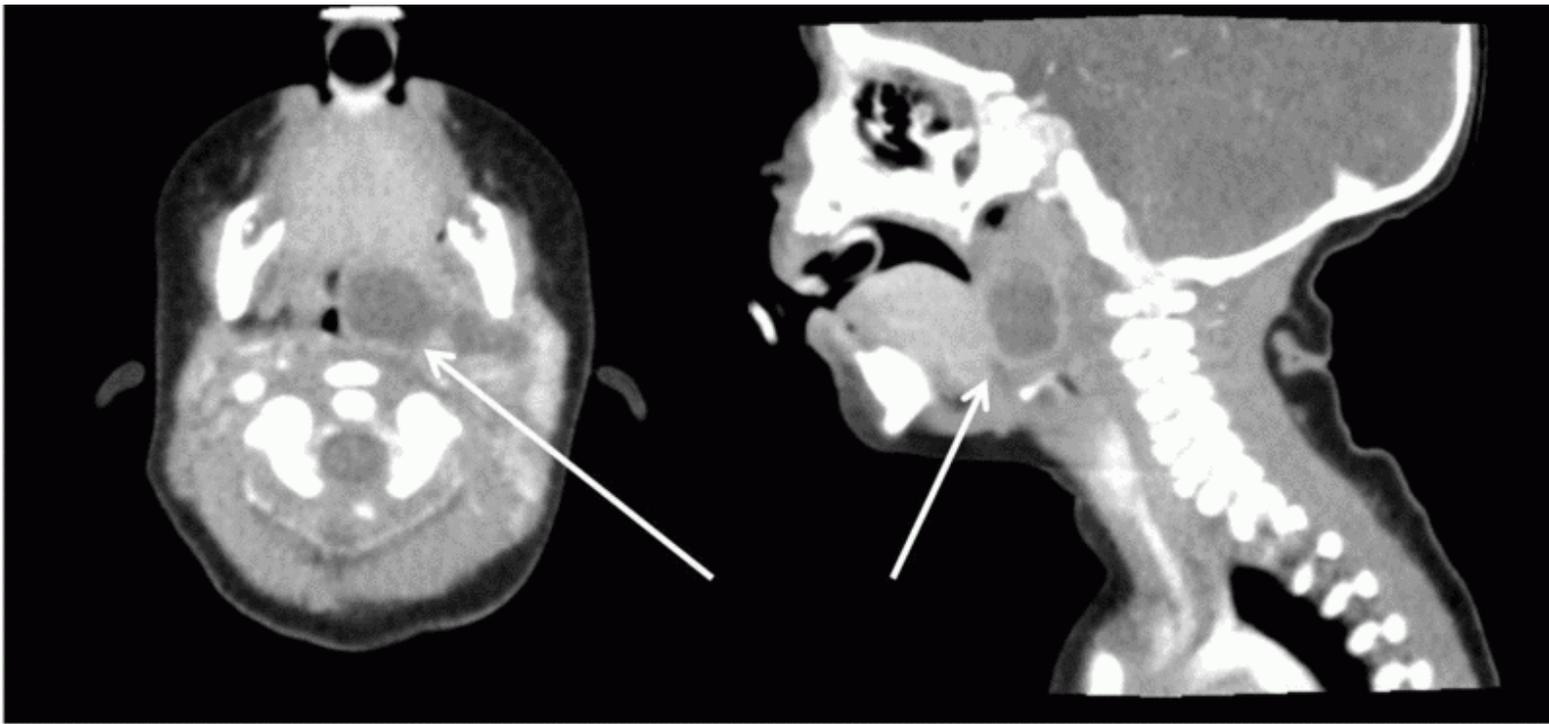
**Introduction:** Parapharyngeal space infections are not uncommon in children and can cause significant airway obstruction (1). Here we present a case of an infant with a parapharyngeal abscess with spontaneous external auditory canal drainage and discuss our approach to the anesthetic management.

**Case:** A 7 week old 4.7 kg infant girl presented to the emergency department with a two day history of low-grade fever, congestion, difficulty feeding, and noisy breathing. A CT scan revealed a large, multiseptated, left peritonsillar and retropharyngeal abscess with significant obstruction of the oropharynx (Figure 1). The patient was emergently booked for drainage via an intraoral approach. While in the ED the patient developed spontaneous drainage of purulent material from her left external ear canal. Upon arrival to the operating room, the patient had increased work of breathing and transmitted upper airway sounds. The patient was given premedication with IV atropine and a 12 French orogastric tube was inserted to decompress the stomach. The patient tolerated this well and was subsequently preoxygenated with 100% oxygen. Inhalational induction of anesthesia was achieved with incremental doses of sevoflurane. Spontaneous respirations were maintained and direct laryngoscopy was performed under deep inhalational anesthesia. Significant swelling of the left-sided posterior pharynx was appreciated, however a grade 1 view was able to be achieved with a Phillips 0 laryngoscope. A 3.0 cuffed endotracheal tube was easily inserted through the vocal cords. Anesthesia was maintained with sevoflurane, oxygen, vecuronium and fentanyl. Copious purulent material was evacuated through an intraoral incision. The patient was transported to the intensive care unit and successfully extubated on the first postoperative day. Cultures eventually grew staphylococcus aureus and the patient was discharged home on two weeks of oral antibiotics.

**Discussion:** Airway management is paramount in the care of an infant with a deep neck space infection, especially when significant soft tissue obstruction is appreciated on imaging studies or clinical signs of respiratory distress are present (1). Here, we selected an induction technique that allowed for maintenance of spontaneous respiration. In this case, it is certainly possible that spontaneous drainage of the abscess into the patient's ear canal allowed for some decompression of the pharyngeal component of the infection. This may have improved our ability to visualize the glottis via direct laryngoscopy. This unusual anatomic communication is quite rare but has been previously reported in the literature (2).

#### References:

1. Kirse D and Roberson D. Surgical management of retropharyngeal space infections in children. *Laryngoscope*. 2001; 111:1413–1422
2. Aron M, et al. Deep neck abscess via direct bony erosion of the external ear canal. *J Otolaryngol Head Neck Surg*. 2008; 37(1):E26-7



**Figure 1.** Axial and sagittal CT images demonstrating a large 3.5cm x 1.5cm, left-sided, multiseptated parapharyngeal abscess with significant obstruction of the oropharynx.

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