

Deverman S, Aveyard C  
University of Chicago , Chicago , IL, USA

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Anesthetic management during awake craniotomy in 12-year-old girl.

Sarah Deverman, MD. Caitlin Aveyard, MD  
University of Chicago Medical Center

#### BACKGROUND:

Awake craniotomy is a procedure performed for brain lesions in critical cortical regions, especially those near the language areas. For this to be an option, patient cooperation and understanding must be guaranteed<sup>1</sup>. While well described in the adult population, the pediatric population poses a greater challenge for awake craniotomy due to their level of anxiety and understanding. We present a case of using both a general anesthetic with supraglottic airway (SGA) as well as minimal intravenous sedation for optimal interaction during critical language cortical mapping.

**CASE PRESENTATION:** A 12-year-old girl with history of intractable headaches and syncopal events presented for left temporal lobe tumor resection with intraoperative speech mapping. Otherwise healthy, she had a remote history of strabismus surgery but denied anesthetic complications. MRI revealed a 2.5cm by 3cm cystic lesion located 2cm away from Broca's area. After discussion with the neurosurgeon, it was decided to proceed with an awake craniotomy. Our plan included a general anesthetic for the initial portion of the surgery. We planned IV induction with propofol with insertion of an SGA. Maintenance was continued with a remifentanyl infusion and desflurane. Once the surgeon reached the dura, all anesthetics were turned off, the patient woke up, and the LMA was removed. Extensive coaching was required as the patient became anxious. A balance was achieved between conversation and sedation using a dexmedetomidine infusion. After ensuring adequate language function, the patient was sedated with dexmedetomidine and remifentanyl infusions through the remainder of the surgery.

#### DISCUSSION:

Awake craniotomy with intraoperative language mapping presents a unique challenge for the pediatric anesthesiologist.<sup>3</sup> Local anesthesia for awake craniotomy is not an option in the pediatric population so historically general anesthesia was the only choice. Recently, the use of a supraglottic airway has been successful<sup>4</sup>. General anesthesia with an SGA provided an adequate airway during the initial portion of the surgery. Once cortical language mapping became necessary, the patient received minimal anesthesia until communication was no longer necessary. Our case represents a successful use of general anesthesia combined with minimal dexmedetomidine-remifentanyl infusion for awake craniotomy in a pediatric patient.

#### References:

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