

Awake Craniotomies in Pregnancy: To Use Dexmedetomidine Or Not To Use Dexmedetomidine

Pamela Huang MD, Elliott Callahan MD, Peter Yeh MD, Won Lee MD, Ronald B. George MD, FRCPC, Claas Siegmüller MD, PhD, Raina Khan MD

Awake craniotomies with motor/speech & language mapping:

- Patients perform real-time cognitive tasks for maximal debulking while preserving function
- ANESTHETIC GOALS:
 - Awake & able to participate in cognitive tests during brain mapping
 - Pain control during stimulating parts: Mayfield pinning, skin incision, dura manipulation
 - Avoid hypercarbia and hypertension
 - Be prepared for **seizure activity, patient discomfort, or respiratory depression requiring emergent airway**
- Often combination of **PROPOFOL +/- REMIFENTANIL +/- DEXMEDETOMIDINE**

Special considerations for pregnant patients:

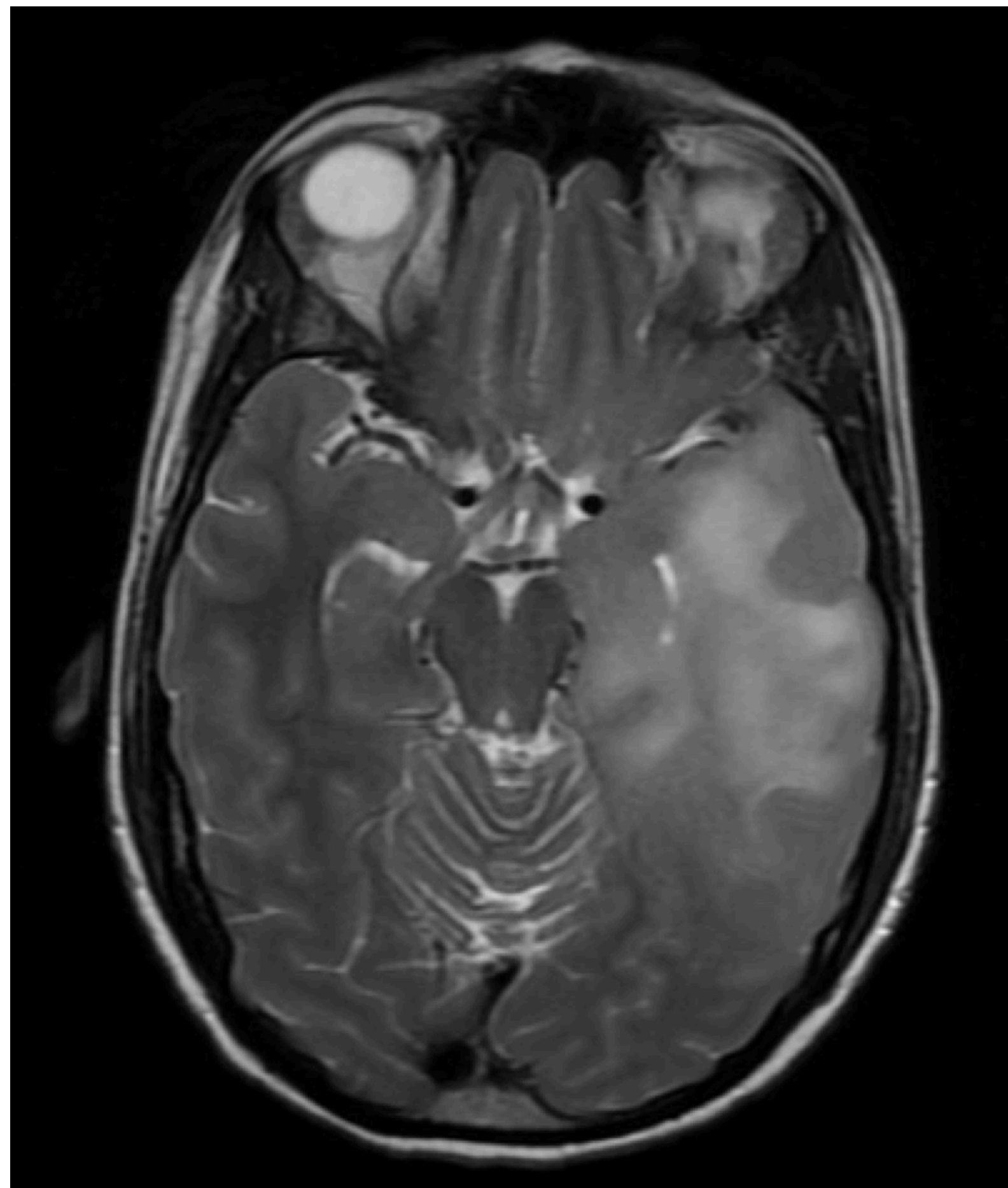
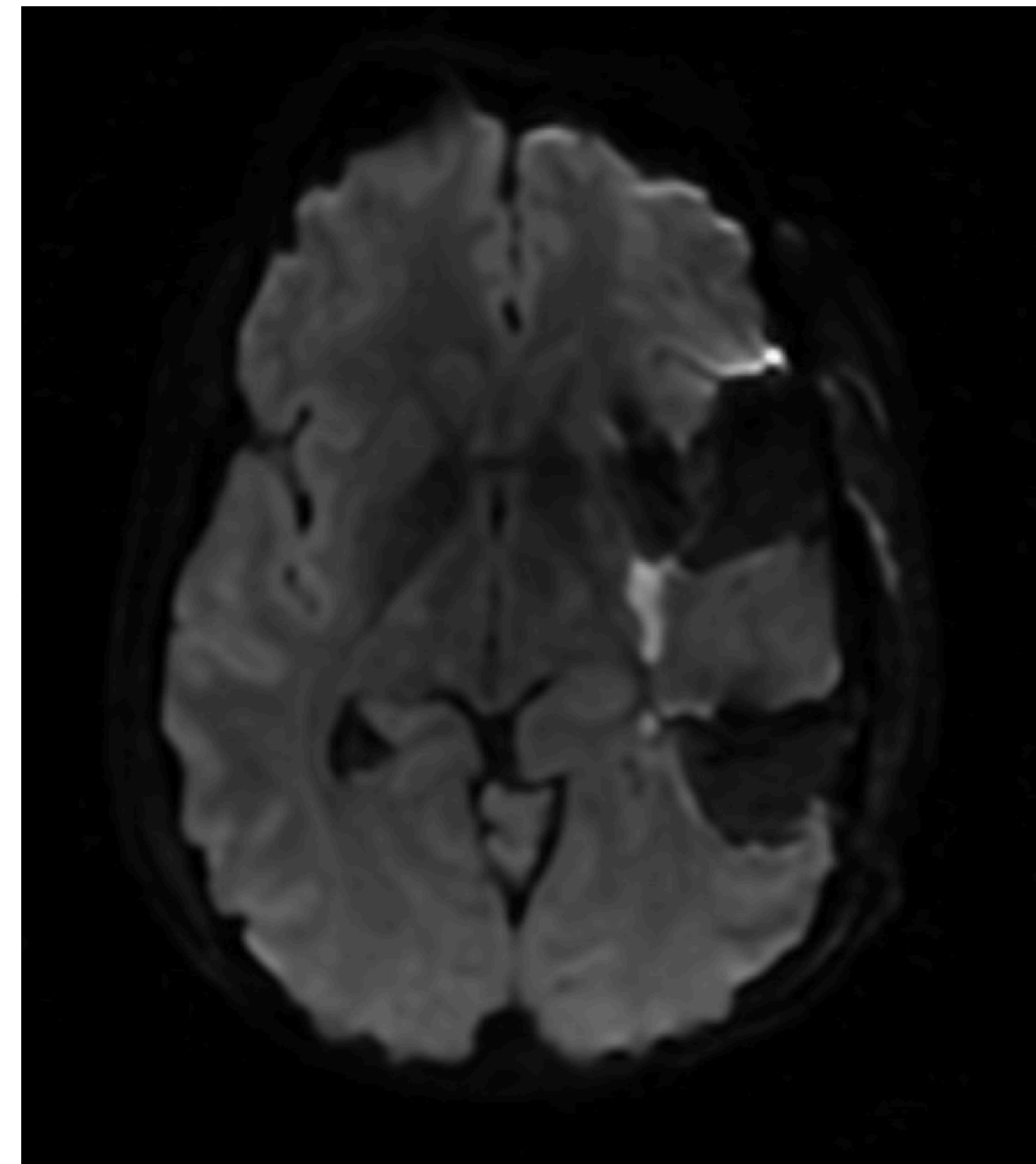
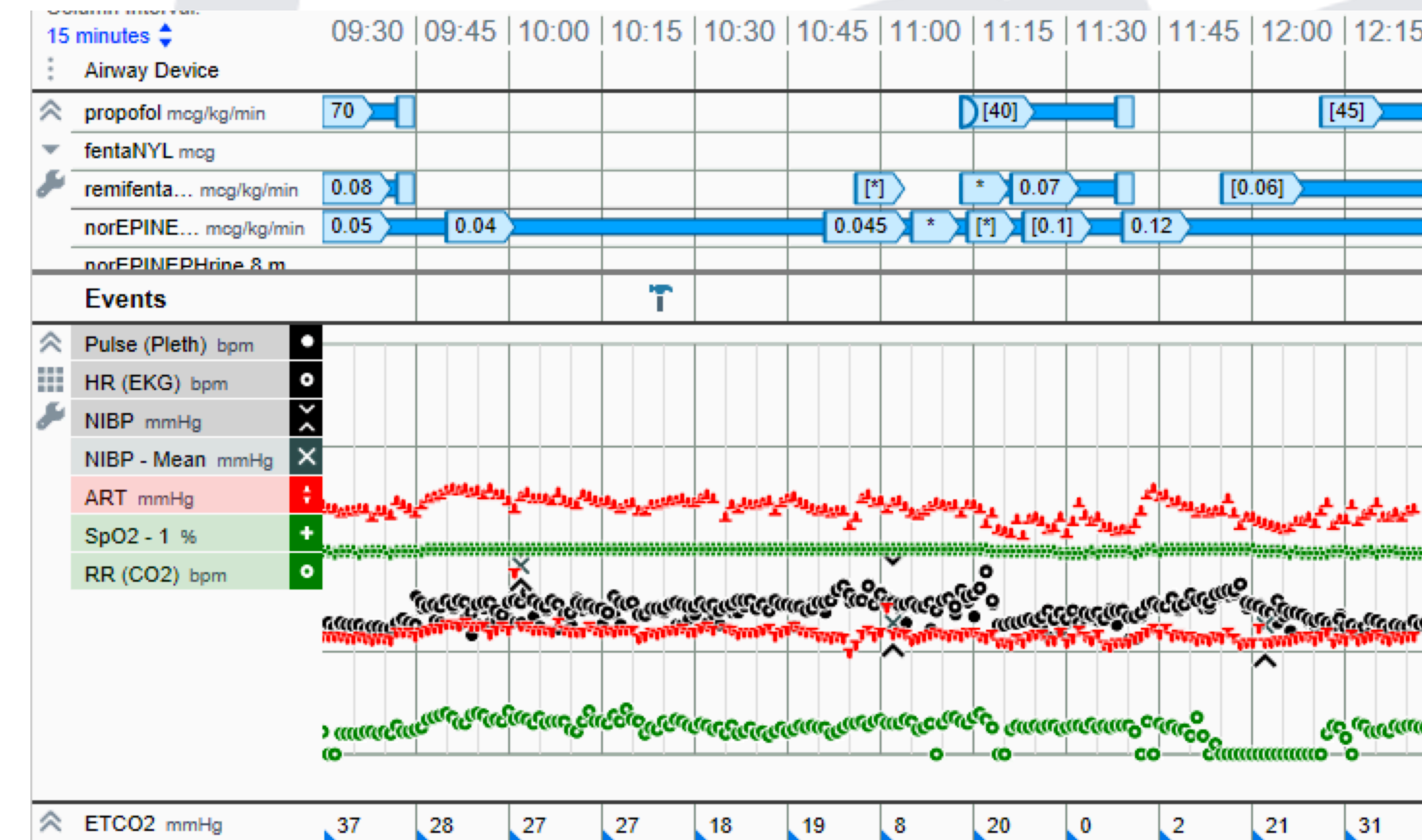
- **Fetal management, safe medications during pregnancy, respiratory & airway physiology and positioning**
- **DEXMEDETOMIDINE** (pregnancy class C)
 - + Ideal for anxiolysis and for avoidance of respiratory depression
 - Known maternal bradycardia and hypotension; unclear fetal impact

---> Is dexmedetomidine needed?

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Case 1: 41W G1P0 at 17wks presenting with word finding difficulties concerning for glioma

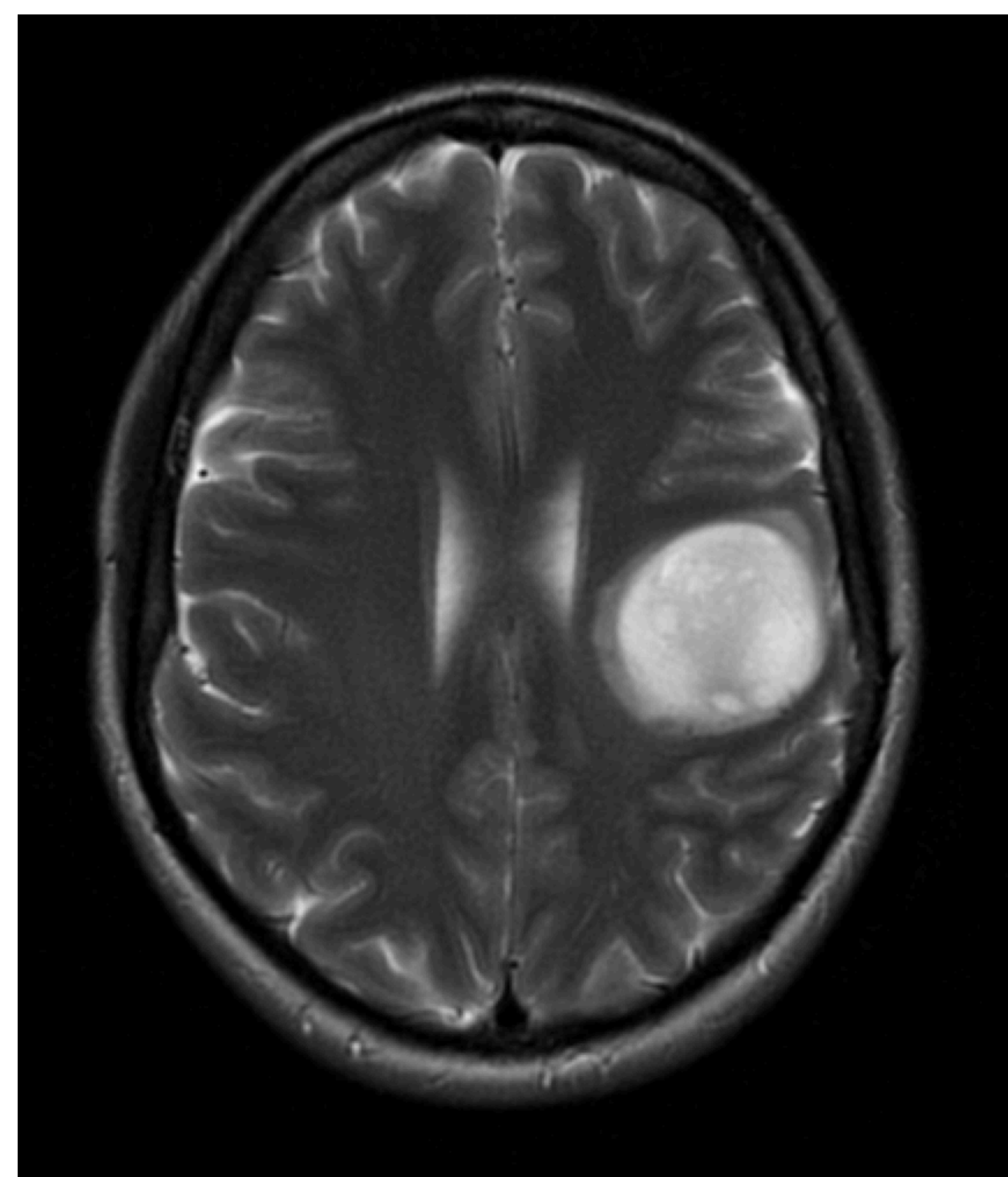
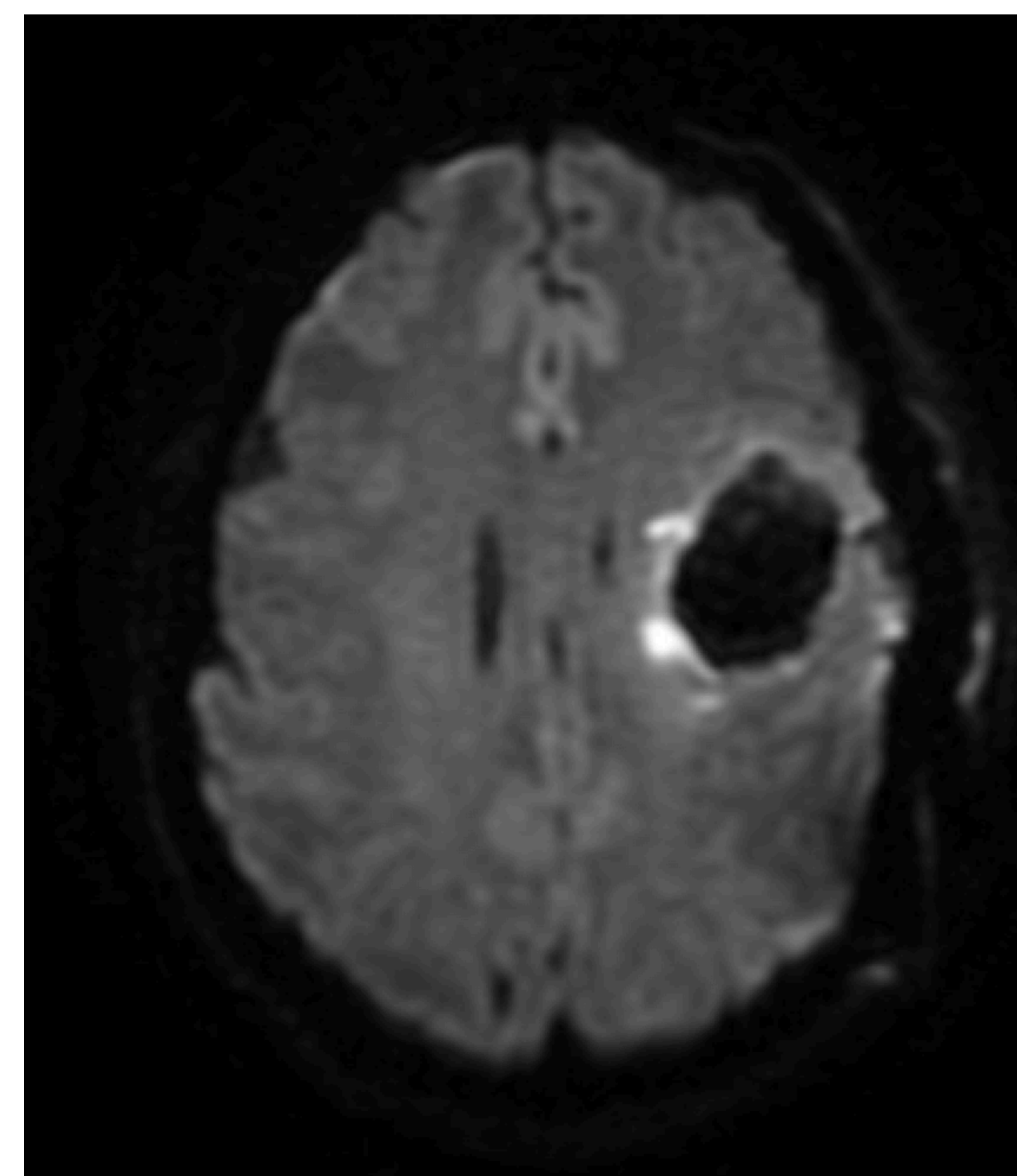
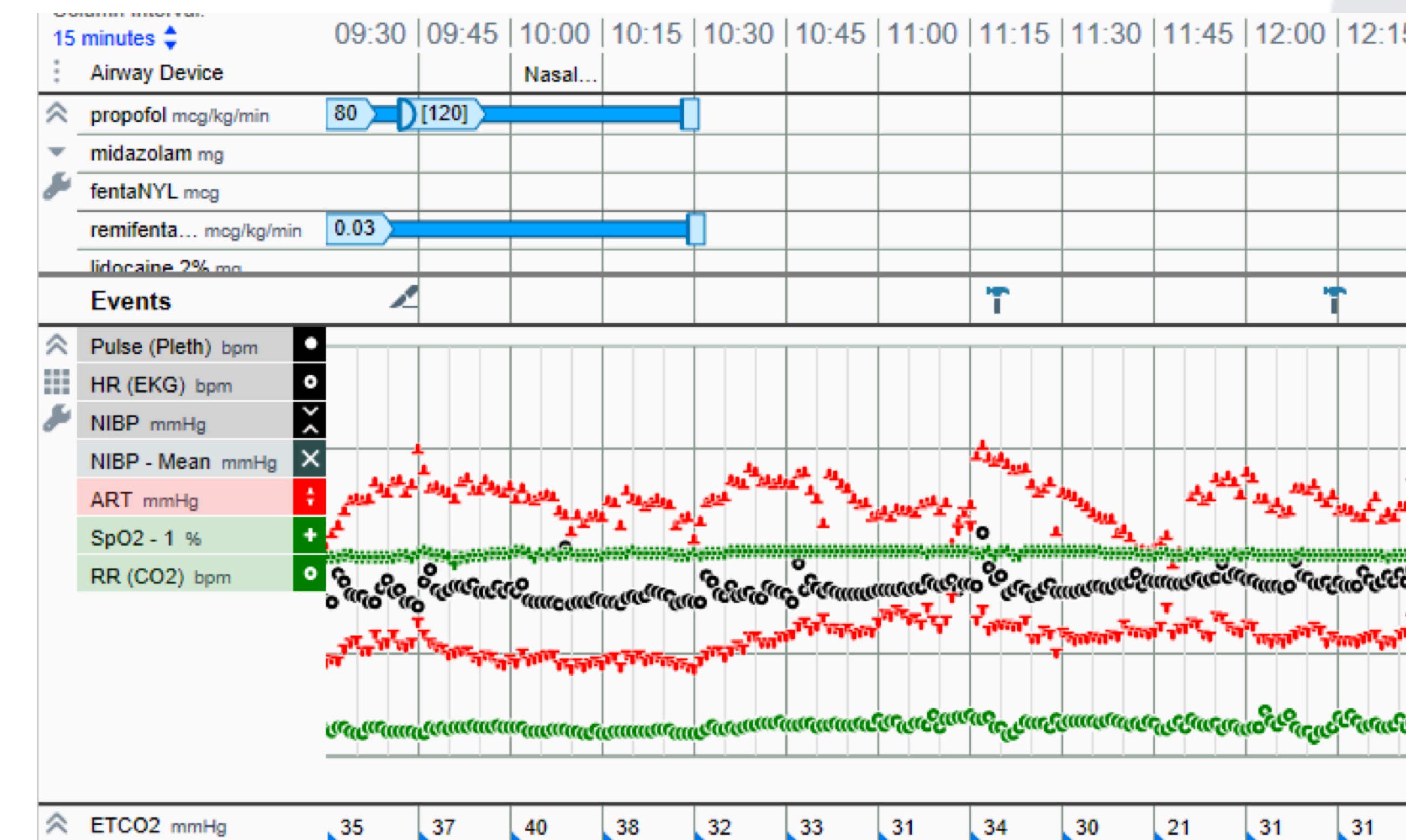


- Titrated **Propofol + Remifentanyl** on and off
- Periods of **respiratory depression at PaCO2 40** & increased cerebral blood volume (improved when PaCO2 32)
- Vs. **Anxiety** with prolonged cognitive testing

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Case 2: 36W G2P1 at 27wks p/w R sided facial weakness, aphasia, focal seizures c/f glioma



- Propofol + Remifentanyl were used initially; **Re-sedation was not required**
- 2 episodes of focal **seizure** activity

- **Interdisciplinary efforts:** neurosurgery, neuroanesthesia, obstetric anesthesia, obgyn, pediatrics, NICU
- **Fetal monitoring** completed pre- and post-operatively
- Prepared for **emergent c-section** post-operatively if needed

Along with general considerations, these cases demonstrate both the possible challenges and feasibility without dexmedetomidine