

Anesthesia Management in a Parturient With Unresectable Astrocytoma and Opioid Use Disorder

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Astrocytomas

- **Most common** brain tumors encountered in pregnant patients
- Pregnancy can be associated with increases in tumor **growth** and **malignant** transformation
- Elevated **intracranial pressure** poses anesthetic challenges

Opioid Use Disorder

- **Drastically increased** incidence during pregnancy in recent decades
- Opioid tolerance poses challenges to intraoperative **hemodynamic** management and postoperative **pain** control

Case Presentation

- 30yo G5P4
- **PMH:** polysubstance abuse, chronic buprenorphine
- **Presentation:** 22 weeks GA, headache, agitation, right-sided weakness
- **MRI:** left temporal lobe lesion + mass effect
- **Biopsy:** grade II astrocytoma
- **Initial management:** levetiracetam, dexamethasone
- **Repeat MRI:** increased tumor size, midline shift
- Transfer to ICU
- Tumor inoperable
- **Multidisciplinary planning:** OB, OB anesthesiology, neurology, neurosurgery, radiation oncology
- **Delivery plan:** repeat cesarean at 32 weeks GA
- **Postop plan:** chemo and radiation

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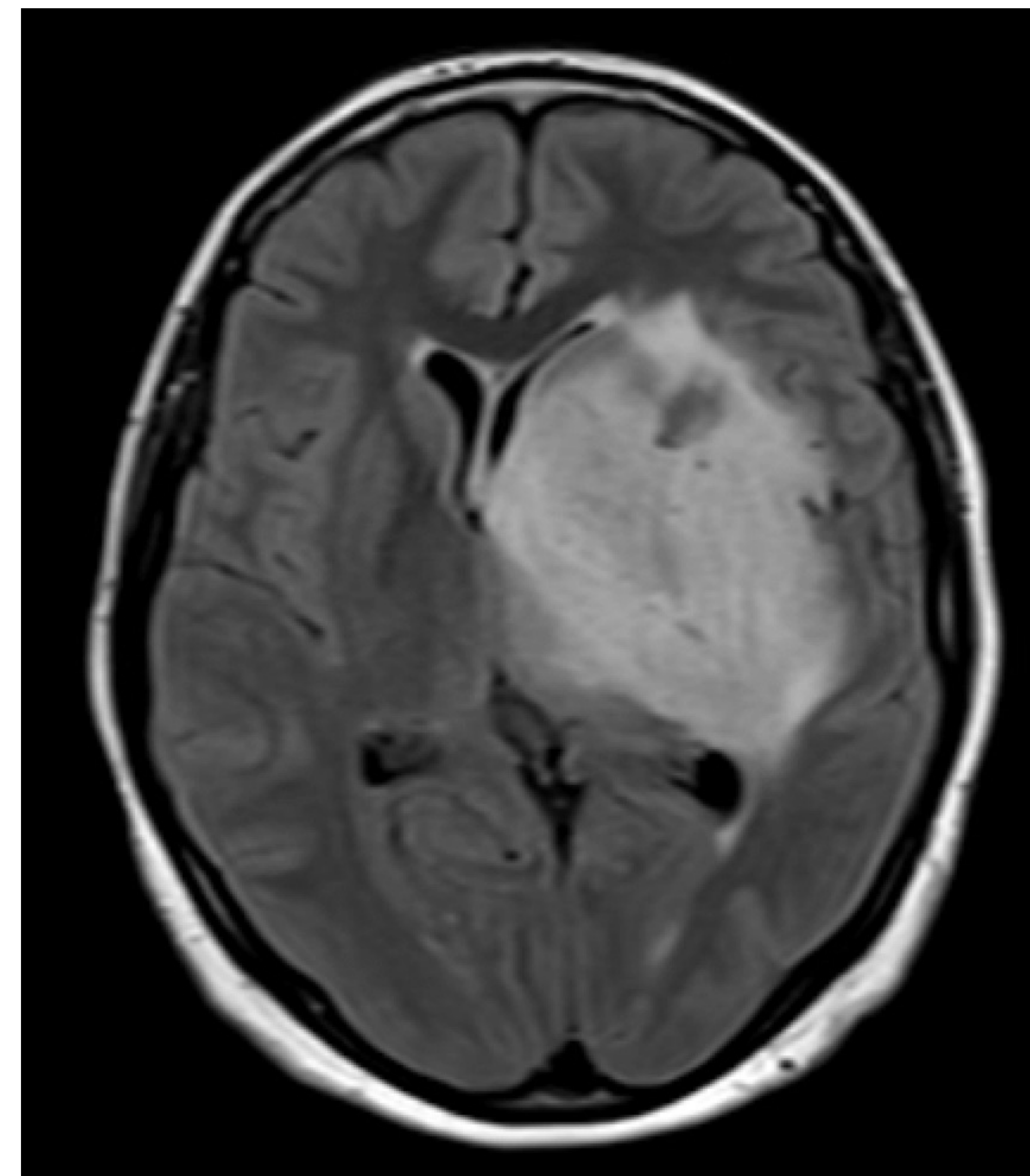
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Intraoperative Management

- General anesthesia planned due to elevated ICP and mass effect
- Continued buprenorphine perioperatively
- Access: arterial line, 16G PIV
- Induction: propofol, rocuronium, remifentanyl
- Maintenance: propofol and remifentanyl infusion
- Hypertension and tachycardia during incision – increased remifentanyl dose, esmolol and nicardipine followed by labetalol after delivery
- TAP blocks and hydromorphone for analgesia following delivery

Postoperative Management

- Extubated in OR
- Transferred to ICU: stable neuro exam, continued on dexamethasone
- Post-op analgesia: continued buprenorphine w/ hydromorphone PCA and transitioned to PO hydromorphone on POD 2
- Discharged POD 6
- Plan for outpatient chemo and radiation



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Discussion Topics

Elevated ICP

- Surgical stimulation
- Problems with neuraxial anesthesia
- Arterial line

Opioid Use Disorder

- Efficacy of intraoperative opioids (mu receptor affinity)
- Opioid selection prior to and after delivery
- Postoperative pain control

Multidisciplinary Planning

- Delivery planning
- Coordinated care