

Management of the pregnant patient requiring neurosurgery poses multiple challenges, juxtaposing pregnancy-specific considerations with that accompanying the safe provision of intracranial or spine surgery. There are no specific evidence-based recommendations, and case-by-case interdisciplinary discussions will guide informed decision-making about the timing of delivery vis-à-vis neurosurgery, the performance of cesarean delivery immediately before neurosurgery, consequences of neurosurgery on subsequent delivery, or even the optimal anesthetic modality for neurosurgery and/or cesarean delivery. In general, identifying whether increased intracranial pressure poses a risk for herniation is crucial before allowing neuraxial procedures. Modified rapid sequence induction with advanced airway approaches (videolaryngoscopic or fiberoptic) allows improved airway manipulation with reduced risks associated with endotracheal intubation of the obstetric airway. Currently, very few anesthetic drugs are avoided in the neurosurgical pregnant patient; however, ensuring access to critical care units for prolonged monitoring and assistance of the respiratory-compromised patient is necessary to ensure safe outcomes ¹⁾

Neurosurgical disorders are rare during pregnancy and challenge the **neuroanesthesiologist** with conflicting anesthetic considerations and little evidence to guide decision-making. Our objective was to review the anesthetic management of pregnant patients undergoing intracranial neurosurgery at our institution and to describe the perioperative complications and outcomes.

Kazemi et al used the institutional Discharge Abstract Database to identify patients assigned both neurological and obstetrical International Classification of Disease 10-A codes between April 1, 2001 and March 1, 2012. Pregnant patients who underwent intracranial neurosurgical procedures underwent a detailed chart review to extract demographic data and details about their anesthetic management and outcome.

Nine patients underwent full chart review with a median age of 28 (range, 17 to 35) years and a gestational age of 23 (range, 7 to 30) weeks. Patients underwent a craniotomy for vascular lesions (4), neoplasms (3), and traumatic brain injuries (2). One patient was hyperventilated (PaCO₂ 28 mmHg), and mannitol and furosemide were used in 6 and 3 patients, respectively, without complication. Maternal neurological outcomes were good in 5 patients (Glasgow Outcome Scale of >3), poor in 3 patients (Glasgow Outcome Scale 3), and 1 patient died. Fetal outcomes were good in 5 patients and poor in 4 patients (1 therapeutic abortion, 3 intrauterine fetal demises). All cases of fetal distress or demise were either remote or occurred before the anesthetic management.

Pregnant patients undergoing neurosurgery experience a high rate of morbidity and mortality. There were no adverse outcomes directly attributed to the use of osmotic diuretics and hyperventilation in this series ²⁾.

¹⁾

Bernstein K, Hussey H, Hussey P, Gordo K, Landau R. Neuro-anesthesiology in pregnancy. *Handb Clin Neurol*. 2020;171:193-204. doi: 10.1016/B978-0-444-64239-4.00010-2. PMID: 32736750.

²⁾

Kazemi P, Villar G, Flexman AM. Anesthetic management of neurosurgical procedures during pregnancy: a case series. *J Neurosurg Anesthesiol*. 2014 Jul;26(3):234-40. doi: 10.1097/ANA.0000000000000029. PubMed PMID: 24296540.

From:
<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:
https://neurosurgerywiki.com/wiki/doku.php?id=neuroanesthesiology_in_pregnancy

Last update: **2024/06/07 02:57**

