

Obstetric Anesthesia for History of Posterior Reversible Encephalopathy Syndrome

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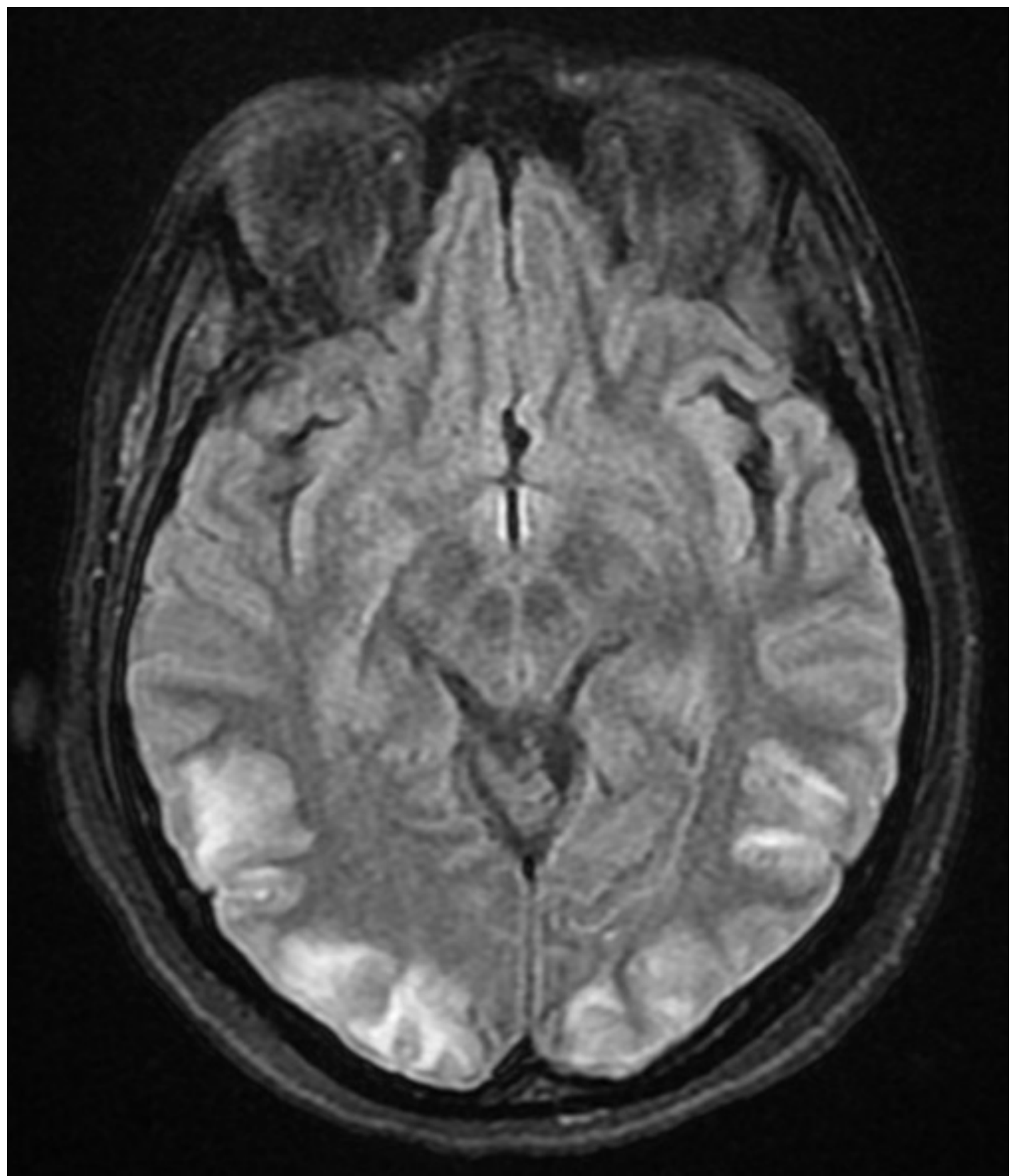
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Introduction

- Posterior reversible encephalopathy syndrome (PRES) is an acute or subacute neurological disorder characterized by headache, seizures, encephalopathy and visual disturbances.
- It is commonly associated with acute hypertension, eclampsia, preeclampsia, renal failure and other causes of endothelial injury. MRI is the gold standard for diagnosis.
- Perioperative PRES is a controversial topic for discussion. The body of literature has not produced robust evidence to refute or support anesthetics as a cause, warranting further study.
- A clear relationship between PRES and obstetric anesthesia outcomes is not well elucidated, thus management has been historically case dependent.

Case Description

- 38 year old female, G4P1 at 39 weeks with past medical history relevant for anxiety, peripartum posterior reversible encephalopathy syndrome (PRES), and seizure disorder not on treatment at time of admission who presented for trial of labor, notably, without neurological symptoms.
- During admission, the patient reported increasing pain; her case was reviewed with maternal fetal medicine and the obstetric anesthesiologist who offered early epidural catheter placement given the patient's lack of absolute contraindications.
- After placement of an epidural, fetal monitoring detected concerning decelerations as low as 70 beats per minute. The decision to transition to an emergent cesarean delivery was made with the patient's consent.
- The infant was delivered and both mother and infant were discharged to home without complication.



Case courtesy of Magdi Mahsoub, Radiopaedia.org, rID: 204533

Discussion

- Clinical suspicion is the most important factor in early recognition of PRES. Symptoms are nonspecific and include headache, visual changes, seizures, AMS and focal neurological deficits.
- While identification and reporting of PRES and PRES outcomes has increased with neuroimaging availability, it is believed to be underdiagnosed due to a lack of diagnostic guidelines and standardized management.
- Neurological comorbidities introduce uncertainty into obstetric anesthesia management due to a paucity of literature and recommendations as well as relative contraindications to conventional management.
- Recurrence of PRES is considered uncommon, as low as 4% in patients with chronic risk factors such as sickle cell disease, autoimmune conditions, hypertensive conditions, and renal failure.
- The American Society of Anesthesiologists obstetric guidelines suggest early neuraxial catheter placement “to reduce the need for general anesthesia if an emergent procedure becomes necessary,” though noting the literature was insufficient to assess for improved maternal or fetal outcomes.

Conclusion

- This case highlights a patient with prior PRES and untreated seizure disorder who presented for labor without neurological symptoms. Anesthesiologists may consider such patients higher risk for encephalopathy or seizure with neuraxial anesthesia or favor early epidural placement to avoid general anesthesia.
- Here, early epidural placement facilitated a timely transition to emergent cesarean delivery. This underscores a need for more data and clear guidelines in patients with untreated seizure disorders or prior PRES, moreover the importance of risk stratification and informed consent in individualized care.
- An ideal anesthetic plan for PRES management in the peripartum period is not established, and it is unclear whether anesthetics may cause or worsen neurologic dysfunction. Further investigation and additional reporting will be needed to determine the safest anesthesia plan for patients with PRES.

References

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