Intracranial Meningeoma during Pregnancy

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Introduction: Intracranial meningeoma is uncommon and poses significant risks to both mother and fetus. We present a case of a parturient that presented with acute mental status changes, and the decision making process that resulted in a positive outcome.

Case: A 29-week gestation woman, ASA 1, presented with acute language and speech deficits, and deteriorating mental status after two weeks of headache. Imaging demonstrated a large intracranial mass. A multi-disciplinary meeting (Neurosurgery, MFM, Neonatology, Anesthesia) was held to determine the best treatment plan. The decision was to proceed with cesarean delivery under epidural anesthesia to allow intraoperative neuro-monitoring. Monitors included ASA standard, and radial arterial line. After uneventful epidural placement with 2mg midazolam for anxiolysis, 20cc of 2%lidocaine was administered. A vigorous preterm neonate was delivered, and taken to the NICU. 3mg epidural morphine was given after delivery for pain control. The patient maintained baseline alertness during surgery and postoperatively. Six hours after successful delivery, the patient had acute mental status changes, and she was taken to the operating room for resection of a clear cell meningeoma. She did well after both surgeries, and recovered fully.

Discussion: Cerebral meningeoma is usually a slow-growing tumor; however, during pregnancy these masses may expand rapidly due to hormonal receptor expression. The presentation of this patient would have normally led to urgent resection of the mass. But the complicating factor was pregnancy, as the standard intra-operative treatment during neurosurgery can adversely affect the fetus. Multidisciplinary meeting was invaluable in decision-making.

The choice of anesthesia was difficult. Spinal anesthesia was relatively contraindicated due to elevated ICP. Epidural analgesia provides stable hemodynamic environment and ability to monitor the unstable neurologic state. Accidental dural puncture could be managed by inserting an intrathecal catheter to prevent acute decrease in ICP. General anesthesia provides acceptable surgical anesthesia, but could confound the picture if the patient does not recover mental status rapidly. The advantage of epidural anesthesia was demonstrated in this case, where the mental deterioration was clearly not temporally related to anesthesia. We believe that the risk-benefit assessment favors epidural analgesia in the case of an unstable meningeoma in pregnancy.

Extra Files: