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Idiopathic Intracranial Hypertension in Pregnancy Treated with Serial Lumbar Punctures

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Introduction: Idiopathic intracranial hypertension (IIH) is a syndrome of elevated intracranial pressure with normal CSF composition and no evidence of hydrocephalus or mass lesion. We describe the anesthetic management of a parturient with IIH who required multiple lumbar punctures during pregnancy and delivery secondary to worsening neurological symptoms.

Case: A 20 year-old G2P1 African-American female at 17 weeks gestation presented to the emergency room with complaints of increasing dizziness and lightheadedness of 10 days duration. Her 1st pregnancy was without complication and resulted in a vaginal delivery three weeks early secondary to premature rupture of the membranes. She was diagnosed with mild dehydration, given fluids and discharged to home. At 24 ½ weeks gestation, the patient was seen by her obstetrician with continued complaints of headache, visual disturbances, and neck pain. She was referred to a neurologist who found significant blurring of the optic nerve borders. She was diagnosed with IIH. Lumbar puncture (LP) was placed at Magee-Womens Hospital, with opening pressure of 380 mm H2O reduced to 220 mm H2O after drainage of 14 mL of CSF over 45 minutes. She reported immediate relief of her visual symptoms. She was seen by her neurologist again at 26 weeks, ten days after the first LP. At that time she reported minor back pain from the LP but generally was feeling much better. She denied visual symptoms and headache. Her optic nerves were noted to be more distinct bilaterally and her papilledema appeared to be improving. Cesarean section was recommended to avoid bearing down during delivery and potentially elevated intracranial pressure. At 31 weeks gestation, the patient was seen again by her neurologist for returning and worsening symptoms. A repeat LP was scheduled at 36 weeks gestation. The patient continued to have neck pain, blurred vision, intermittent blindness, lightheadedness, generalized weakness, nausea and vomiting at that appointment. The LP was performed successfully with an opening pressure of 400 mm H2O reduced to 180 mm H2O after drainage of 22 mL of CSF. She subsequently noted relief of symptoms. She was scheduled for an elective cesarean section to be performed at 38 weeks. On the day of her surgery, the patient again complained of dizziness and blurred vision. A LP showed opening pressure of 440 mm H2O which was reduced to 200 mm H2O with the removal of 20mL of CSF. After CSF removal, the patient was given a spinal using the needle already in place. The C-section proceeded uneventfully with delivery of a healthy boy.

Discussion: A variety of treatment options were considered in this parturient with IIH. The ultimate decision was to use serial lumbar punctures, as that would provide immediate resolution of signs and symptoms with minimal added risks to the fetus. No further interventions were required and the patient experienced complete resolution of symptoms after delivery.