Epidural Analgesia in a Preterm Parturient with Syringomyelia and Severe Preeclampsia

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Syringomyelia is a progressive neurologic disorder characterized by the presence of cavities within the spinal cord or brainstem, known as syrinxes. There are only a few cases describing anesthesia for parturients with this condition, and none involving vaginal delivery. Vaginal delivery can be complicated, as the ICP increases associated with pushing can worsen an existing syrinx, and even result in brainstem herniation.

Here we describe the management of a 33 year-old, G2 P1, woman with PMH of syringomyelia of the cervical and thoracic spine, syringobulbia, and marked thoracic scoliosis, who was admitted for hypertension at 28 weeks gestation. A diagnosis of severe preeclampsia was made and imminent delivery planned. Due to the early gestational age, the Obstetric and Neurology teams felt the best delivery option for mother and baby would be induction and assisted vaginal delivery with avoidance of maternal pain and pushing. It was felt this plan could be successful given the small size of the preterm neonate and the patient’s history of a prior, uncomplicated vaginal delivery. We agreed to provide epidural analgesia for the induction and delivery.

Initially, we inserted an arterial line to facilitate hemodynamic monitoring. A lumbar epidural was placed and infusion of bupivacaine 0.1% with fentanyl 2 mcg/mL was initiated at 10 mL/hour. The epidural was placed prior to the onset of labor to avoid potential ICP increases with painful contractions. Blood pressure was stable during epidural dosing and throughout the labor course, which ended with assisted vaginal delivery approximately 20 hours after epidural placement. Pain control was excellent. Ultimately, forceps delivery was facilitated by dosing the epidural with a total of 10 mL of lidocaine 2%, plus 100 mcg of fentanyl, which provided complete analgesia for the delivery. The patient tolerated the procedure well, with minimal blood pressure fluctuations and no evidence of new neurological deficits on post-delivery examination.

This is an unusual case of a parturient with syringomyelia and severe preeclampsia. The anesthetic challenges are multiple. Epidural blocks carry a small but serious risk of dural puncture with potential syrinx enlargement or brainstem herniation. In addition, anesthesia has to be perfect to avoid maternal pain. General anesthesia in this patient could be complicated by a difficult airway, severe hypertension, ICP increases, and impaired respiratory function from scoliosis. Balancing these risks with the patient and fetal benefits of an awake, forceps vaginal delivery, we opted to provide epidural analgesia for this case.
