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Epidural and Subsequent Blood Patch in Patient with Subdural Hematoma Secondary to Spontaneous Intracranial Hypotension

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Introduction: Spontaneous intracranial hypotension (SIH) presents as a postural headache with associated symptoms such as nausea, neck stiffness, and auditory and visual changes in the setting of low cerebrospinal fluid pressure. This condition is very similar to postdural puncture headache, but the key difference is that no dural puncture has occurred. Characteristic MRI findings that can be useful for diagnosis of SIH include subdural fluid collections, pachymeningeal enhancement, venous engorgement, and sagging of the brain. In some cases, bridging veins can come under tension and rupture leading to a subdural bleed. SIH in pregnancy has been previously reported, but associated subdural hematoma has not.

Case Report: We report a case of SIH resulting in a subdural hematoma that developed at 36 weeks gestation which was initially managed conservatively. Our 34 year-old patient required cesarean section at 38 3/7 weeks EGA secondary to breech presentation and oligohydramnios. Prior to the procedure she continued to have a postural headache which worsened with neck flexion and right-sided head rotation. For cesarean, an epidural catheter was placed at the L2-L3 interspace and the patient was placed supine with left lateral tilt. The catheter was incrementally dosed with 20ml of 2% lidocaine with 1:200K epinephrine. Once a T4 pinprick level was obtained, the patient was assisted into the sitting position to determine the presence or absence of headache symptoms. She was able to flex her neck and rotate her head with ease, movements which had previously precipitated her pain. Delivery was uncomplicated and she gave birth to a healthy, 6 lb 7 oz female with Apgar scores of 9 and 9.

The patient’s headache gradually returned a few hours after cesarean. Neurosurgery requested a total spine MRI but no CSF leak was identified to explain SIH. Based on the transient improvement noted at cesarean after epidural dosing, an epidural blood patch was performed on postoperative day one. Two hours later she assumed the upright position and had complete resolution of her symptoms. The patient has had complete relief up to 12 weeks in follow-up.

Discussion: Headache is a common complaint during pregnancy. However, in cases of persistent headache of unknown etiology, imaging should be considered. Our patient was diagnosed with postural headache likely related to SIH, but her worsening symptoms were concerning for further pathology. Despite a normal initial CT, later MRI showed acute spontaneous subdural hematoma, a potentially devastating complication. Epidural anesthesia proved effective for symptomatic relief at the time of cesarean section. Ultimately, epidural blood patch resulted in complete resolution of symptoms.

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