



SUBDURAL HEMATOMA AFTER ACCIDENTAL DURAL PUNCTURE

Anna Cholewa, MD & Maria Muravyeva, MD
Department of Anesthesiology – Division of Obstetric Anesthesiology
Medical College of Wisconsin/Froedtert Hospital, Milwaukee, WI



Introduction

Subdural hematoma after accidental dural puncture is extremely rare, with an estimated incidence in obstetric practice of 1:250,000 to 1:500,000. Diagnosing subdural hematoma after neuraxial analgesia in postpartum women can be challenging. All women with postpartum headaches need to be closely followed and assessed as the source of the headache could be life threatening.

Case presentation: 31-year-old, G1P0, presents in labor

Epidural placement

- 1st attempt at 1am, L3-L4 -> wet tap, replaced at L2-L3 with success but poor sacral coverage
- 2nd attempt at 9pm, L3-L4 with success but inadequate coverage for C-section. C-section required due to cephalopelvic disproportion
- 3rd attempt at 1am, L2-L3 with success

Headache

- POD0: muffled hearing (only one day) and positional neck pain
- POD1: 3/10 headache and neck tightness
- POD2: 4/10 headache and neck pain
- Pain somewhat responsive to conservative treatment. Intermittent follow up after discharge

Vestibular disturbance

Six weeks after delivery, patient contacted OB anesthesiologist reporting new onset of decreased hearing in the right ear and intolerable tinnitus without a headache. Patient was advised to go to the ED immediately.

ED visit

In the ED, ENT was consulted. Right ear was irrigated and cerumen removed without improvement. CT head revealed bilateral subdural hematoma of varying ages with a maximum thickness of 7mm. Neurosurgery was consulted. Patient was admitted and an epidural blood patch was done the following day. Patient experienced full resolution of symptoms almost immediately. MRI of the brain seven months later showed complete resolution of hematoma.

Evaluation of postpartum headache and subdural hematoma

Up to 39% of women experience a postpartum headache. There are multiple causes. Common causes are migraines, sleep deprivation, and caffeine withdrawal. However, there exist more serious causes such as meningitis, central venous thrombosis, and hematoma. Therefore, all women with a postpartum headache, especially those who experienced an accidental dural puncture, should be informed of red flag symptoms and be followed up until symptom resolution. If red flags are present, further workup should take place. If there is suspicion of intracranial pathology, CT head or MRI can help with diagnosis. If subdural hematoma is present, involvement of neurosurgery is crucial to determine if a craniotomy is needed or if an epidural blood patch is indicated.

RED FLAGS: >2 weeks of headache, hearing or vision issues, neurologic deficits

Quality improvement and conclusion

After this incident, our institution developed a protocol for accidental dural puncture management at the time of procedure which includes threading an intrathecal catheter or redoing the epidural. All women who experience an accidental dural puncture are given an informative handout about PDPH and red flag symptoms. In addition, we follow up on all women who experienced a wet tap. We recommend imaging or an epidural blood patch for women with a postpartum headache without a clear trigger, with atypical features, or those whose headaches last for more than two weeks. If subdural hematoma is found on imaging, we involve neurosurgery to decide between surgical intervention and an epidural blood patch.

References

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Question/Comments? Please contact:
Anna Cholewa (acholewa@mcw.edu)