Delayed Recognition and Treatment of Headache from Intracranial Hypotension Following Uneventful Epidural for Vaginal Delivery

Abstract Type: Case Report/Case Series
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Introduction: Post Dural Puncture Headache (PDPH), a form of intracranial hypotension (ICH) is a well-recognized complication of neuraxial anesthesia (1). The diagnosis may be missed when patients don’t present with classic signs and symptoms. We present a case of delayed diagnosis and treatment of PDPH and an analysis of factors that contributed to the delay.

Case: A 22 yo G1P0 with spontaneous labor at 38 4/7 weeks had uneventful epidural analgesia for vaginal delivery and was discharged without complaints. On postpartum day (PPD)3, she returned with frontal, non-positional, 8/10 headache (HA), reported as present since immediately after delivery. She was treated for tension HA and discharged. She returned the next day with increased pain(10/10). BP was 154/100 with trace proteinuria. She was admitted for treatment of preeclampsia. Independent assessments by obstetrics, anesthesiology and neurology were contradictory as to change with position, nature and severity of the HA. She was given magnesium, antihypertensives, analgesics and caffeine. Head MRI was done. Preliminary report was normal. On PPD6 the HA had improved and she was discharged. The final MRI report mentioned diffuse dural enhancement and mild pituitary enlargement, described as normal variants in pregnancy. She returned on PPD10 with no relief of HA. BP was 179/109. BP was treated and HA improved. On PPD 11, HA worsened despite normal BP. She was seen by another anesthesiologist who noted improvement in a head down position with legs raised. Epidural blood patch (EBP) was done and the HA resolved completely.

Discussion: Several factors contributed to the delay in diagnosis and treatment.
- Failure to appreciate “unrecognized dural puncture” as cause in as many as 30% of cases of PDPH.(2)
- Findings consistent with alternative diagnoses: elevated BP and proteinuria suggested preeclampsia. Neck and arm muscle spasm suggested tension HA.
- Confusing clinical picture and unclear cause and effect. Were BP and muscle spasm causes or effects of HA?
- Co-administration of multiple therapies hindered the ability to determine individual effects.
- Communication lapses: MRI had findings consistent with ICH (dural enhancement and pituitary enlargement)(3), but was reported as normal. Evaluations were done without formal collaboration.
- Delayed use of diagnostic maneuvers: Head down positioning helped confirm the diagnosis.(4)
- Finally, it is possible that this HA was not due to dural puncture but to spontaneous ICH, which can be precipitated by straining, has a similar presentation, and responds to EBP.

Conclusion: Definitive treatment did not occur until PPD11 with several hospital readmissions. The factors identified suggest opportunities for practice improvement applicable to diverse clinical situations.

1. JAMA 1956;161(7):586-91
2. Anaesthesia 1987;42:1110-3
4. Headache 2008;48:1366-71