

# Beware the Sudden Headache of Pre-Eclampsia: An Unforgettable Case Report

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## Background

Pre-eclampsia is a multi-system disorder that complicates 3–10% of all pregnancies and is associated with a broad spectrum maternal and fetal morbidity and mortality. Intracranial haemorrhage in pregnancy is a rare event, yet remains a significant cause of maternal mortality in Australia.

## Case Presentation

A MET call was initiated for a patient that was 25 years old, G2P2(+1) day 1 post emLSCS for preterm labour at 34-weeks gestation with MCDA twins, under spinal anaesthesia. She had awoken from sleep with a sudden-onset occipital headache, pulsatile, extending around to frontal region with associated vomiting. No visual disturbance/photophobia or abdominal pain.

She has a background of a previous caesarean section and history of migraines (childhood), otherwise fit and healthy. No previous PET.

On examination, she appeared alert but unwell. Afebrile.

CNS: GCS 15. Agitated. UL and LL power normal. EOM normal. CN exam normal. PEARL 3mm. Brisk reflexes left UL and LL. Normal reflexes right. 3 beats clonus.

CVS: HSDNM. BP 168/90 settled to 140/70 post-fentanyl.

RESP: SpO2 96% on RA. RR 20. Chest clear.

GIT: Abdo soft, tender appropriately post-op. Fundus contracted.

Renal: IDC in situ - urine clear

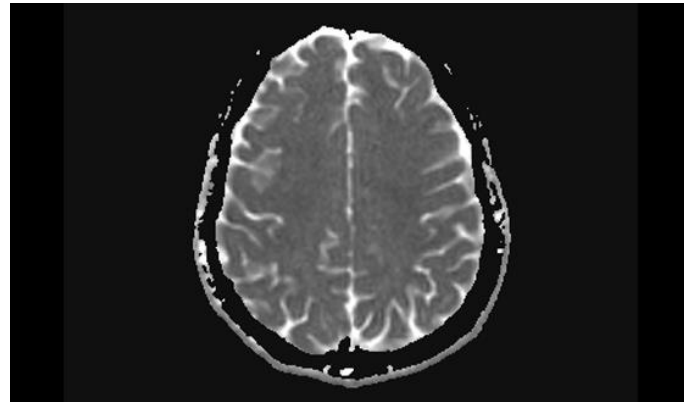
## Investigations

Bloods – Cr 35 Urate 0.37 AST 90 ALT 75 Hb 133 PLT 141

Urine – PCR: 155

The patient was given analgesia, commenced on antihypertensives and magnesium sulphate infusion, which continued for 24 hours. The patient was admitted to ICU and newly diagnosed pre-eclampsia following a raised urine protein-creatinine ratio.

She shortly underwent a CT brain and venogram that revealed a small right cerebral convexity subarachnoid haemorrhage. A subsequent MRI brain the following day demonstrated the same, with no evidence of aneurysm/dissection/AVM/stenosis/thrombosis or other source of haemorrhage identified.



Therefore, in the absence of a clear haemorrhagic source, this patient likely had a subarachnoid haemorrhage secondary to a typical pre-eclampsia.

The patient was discharged on day 4, without requiring neurosurgical intervention. Her 6-week postnatal follow-up with the Obstetric Medicine Team was unremarkable, with well controlled blood pressures and no neurological sign/symptoms.

## Discussion

Between 2008 and 2017, the most frequent causes of maternal death in Australia were cardiovascular complications and non-obstetric haemorrhage, which includes intracranial haemorrhage.<sup>1</sup> The risk of haemorrhage increases during third trimester and peaks during parturition and the puerperium.<sup>2</sup> Immediate CT is the investigation of choice for diagnosing SAH, followed by MRI to confirm the underlying cause of the haemorrhage. The natural history of untreated aneurysmal SAH is devastating, with 65% mortality rate within one year.<sup>3</sup> The management principles for ICH are similar in pregnant and non-pregnant patients, which require the expertise of a multidisciplinary team of neurosurgeons, neurologists, obstetricians and neuroradiologists.

## Conclusion

This interesting and rare case serves as a key reminder for obstetricians to consider all differential diagnoses and to maintain a degree of heightened attention for patients with severe headache as this common presentation may unexpectedly turn fatal.

## References

1. Australian Institute of Health and Welfare 2020. Maternal deaths in Australia. Cat. No. PER 99. Canberra: AIHW. Viewed 14 December 2020, <https://www.aihw.gov.au/reports/mothers-babies/maternal-deaths-in-australia>
2. Fairhall, J.M. and Stoodley, M.A., 2009. Intracranial haemorrhage in pregnancy. *Obstetric medicine*, 2(4), pp.142-148.
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