Postpartum pre-eclampsia presenting with subarachnoid haemorrhage and HELLP syndrome

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Background

- Postpartum pre-eclampsia is an important and increasingly recognised cause of maternal morbidity, with onset possible up to six weeks after delivery.
- Although most postpartum headaches are benign, secondary causes such as intracranial haemorrhage must be excluded, particularly in the presence of hypertension or neurological features.
- Subarachnoid haemorrhage (SAH) and HELLP syndrome are rare but life-threatening complications. Their coexistence is exceptionally uncommon and represents a neuro-obstetric emergency requiring rapid recognition and multidisciplinary management.

Case Presentation

- A generally fit and well woman in her early 30s underwent an uncomplicated assisted vaginal delivery at 38+2 weeks.
- She received 2 dose of syntometrine 5IU/500ug (during 3rd stage and 30 minutes later after suturing 2nd degree tear).
- Within 15 minutes postpartum, she developed:
  - Sudden severe frontal headache.
  - Hypertension (BP up to 178/80 mmHg).
  - Bradycardia (45 -55).
  - Severe epigastric pain.
  - GCS 15 with no focal neurological deficit.

Investigations

- CT Head: subtle sulcal effacement and frontal lobe hyperdensity consistent with subarachnoid haemorrhage, secondary to cerebral vasoconstriction syndrome. No acute infarction was identified.
- CT chest: no aortic pathology
- Troponin: normal – ECG: Bradycardia - sinus rhythm.
- Bloods: haemoglobin 129 g/L - platelet count 101 × 10^9/L - ALT 338 IU/L - bilirubin 38 µmol/L

Management

- Multidisciplinary team approach.
- Antihypertensive therapy (nifedipine, GTN).
- Magnesium sulphate bolus and infusion.
- Urgent neurosurgery review: ICU admission for neurological monitoring and conservative management.
- Follow up FBC and LFT.

Parameter	Initial (Postpartum)	24 hours Postpartum	12 hours after Platelet Transfusion
Haemoglobin (g/L)	129	107	107→ 97
Platelets (×10^9/L)	101	30	79 →81
ALT (IU/L)	338	224	134 → 111
Bilirubin (µmol/L)	38	75	27 → 17

- Neurosurgery and haematology: Platelet transfusion was recommended with a target platelet count >70 × 10^9/L, and ideally close to 100 × 10^9/L in the context of intracranial haemorrhage.
- 2 pools of platelets transfused.

Outcome and follow up

- No neurological deficits.
- Clinical resolution of headache and epigastric pain.
- Biochemical recovery.
- Discharge plan:
  - BP monitoring and FBC and LFT follow-up by GP.
  - Planned MRI/MRA and neurology follow-up.

Discussion

- Postpartum pre-eclampsia can present abruptly and is associated with severe complications, including HELLP syndrome and intracranial haemorrhage.
- Subarachnoid haemorrhage (SAH), though rare, carries high maternal risk.
- In this case, SAH was likely secondary to reversible cerebral vasoconstriction syndrome, potentially triggered by pre-eclampsia or ergometrine.
- HELLP syndrome may develop rapidly postpartum, requiring repeated laboratory monitoring.
- SAH & HELLP combined is time-critical emergency.

References

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