A Cerebral Confusion; Spontaneous Subarachnoid Haemorrhage in Labour

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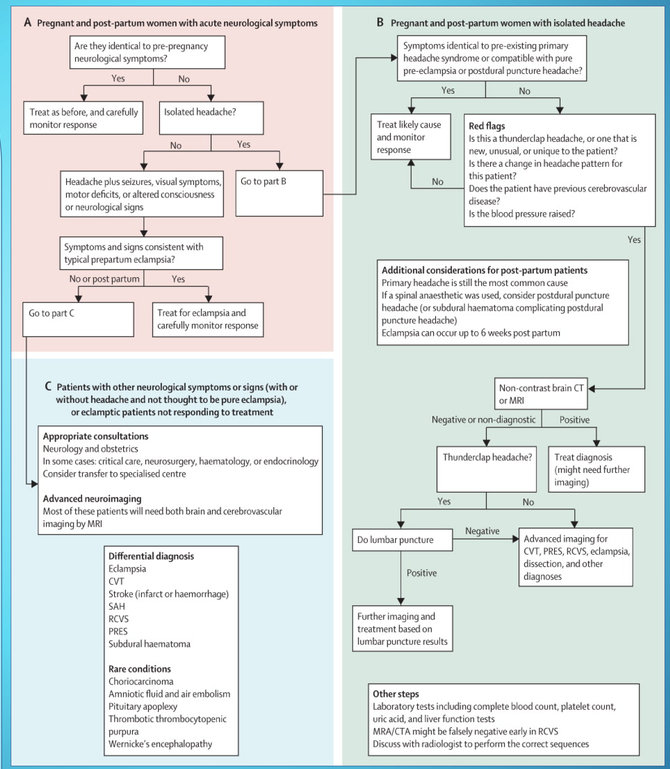
Introduction: Whilst relatively rare (1.5/100000) neurological pathology remains the second most common cause of UK maternal deaths[1]. Seizures in the peripartum period are uncommon, with eclampsia the most frequent cause after epilepsy[1,2]. However rarer causes do occur, necessitating a wider differential and multidisciplinary management.

Case Report

- A 39-year-old, fit and well, multiparous female (G2P1+1) started induction of labour for IVF pregnancy. It was an otherwise low-risk pregnancy.
- After 10 hours on labour ward the patient was 4cm dilated. She was noted to be 'acting strangely' by husband and midwife. She then collapsed into a generalised tonic-clonic seizure, which self-terminated within two minutes.
- She developed a post-ictal state with significant confusion, agitation and did not tolerate clinical examination.
- An arterial blood gas was in keeping with a seizure: pH 7.13, lactate 12.4mmol/l.
- Laboratory blood tests were unremarkable.
- Magnesium (four grams) was initiated for a working diagnosis of eclampsia, albeit no prior indication of pre-eclampsia (PET).



- Decision was made for Category 1 caesarean section due to the maternal clinical state.
- The patient underwent a general anaesthetic (GA) with minimal hypertensive response to laryngoscopy.
- A postpartum CT head and angiogram brain under GA was performed due to lack of clinical correlation with PET. This revealed a left parietal focal subarachnoid haemorrhage, no vascular abnormalities were seen.
- Neurosurgeons advised conservative management.
- She was later extubated on ICU with no neurological sequelae. No antihypertensive therapy was required, and magnesium was stopped.
- Mother and baby were discharged home two days later with a three-month course of seizure prophylaxis and outpatient follow up.
- Concluding diagnosis of spontaneous subarachnoid haemorrhage in labour.



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Discussion

This case demonstrates important learning points for two main areas:

- **Firstly**, the considerations of an anaesthetic being performed on a post-ictal, agitated, labouring parturient, whose cause of cerebral irritation, at that point, was unknown.
- These considerations included the physical safety of the patient and those members of staff caring for her, as well as the physiological health of mother and the foetus.
- The logistical considerations of this case should also not be overlooked, such as to how to get a combative labouring mother safely from the floor to theatre, where in this case, there was also a second obstetric emergency occurring at the same time in our unit.

- **Secondly**, the differential diagnosis of seizures in this patient cohort.
- Whilst causes relating to pregnancy and labour are obvious considerations such as eclampsia or amniotic fluid embolus (AFE), other aetiologies should be ruled out. Patient comorbidities such as underlying epilepsy or thrombophilias may form part of the differential. Medications, either illicit or prescribed, must be considered.
- Recent guidance considers the impact of oxytocin and fluids on development of maternal hyponatraemia[4]. In fact, a search of similar case reports revealed a case of seizure due to hyponatraemia secondary to excessive oral fluid consumption during labour[5].
- And as this case demonstrates intracerebral events do occur; such as subarachnoid haemorrhage, venous sinus thrombosis, subdural haematoma or a stroke.

References

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