What's in a Headache?

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Obstetric History

- 22 year old G1 P0
- Booking BMI 39 (weight 98Kg)
- PMH – asthma, nil else
- Seen in Antenatal Clinic for routine check
- ?PET – Bp 140/90 150/92 140/90
- Associated with Headache
- Admitted @ 35+6 weeks gestation
- PCR 266mg / 24hr

Obstetric History (2)

- On Ward – Bp 124/82
- Plan
- CTG -normal
- Steroids
- Continue Observations

Obstetric History (3)

- Next day
- 37 weeks
- Headache persisting
- No visual disturbance
- Bp 140/92
- Plan - Induction of Labour however pre- prostin CTG suspicious
- By 14.15 – CTG pathological - for C-Section

Caesarean Section

- Anaesthetic - Single shot spinal injection
- 2.5 mls Heavy Bupivicaine & 20mcg Fentanyl & 100mcg Morphine
- Block tested with Ethyl Chloride
- Baby Boy born - uneventful C-section –patient taken to post op LDU
- In LDU - Baby BM 1.1 & Temp 34.4 - SCBU
- Clexane 40mg @21.30 given

Headache

- 3 Days Post C-section mentions headache to midwives
- Bp normalised post C-section (128/89)
- Reviewed by Consultant and Trainee Anaesthetist 1 hour later
- Headache and vomiting mentioned in notes. Patient sitting up in bed, no headache at the time, Bp stable.
- Impression – not PDPH
- Plan - for a review later
- Midwives documented anaesthetist reviewed again – nil documented

Headache (2)

- Patient c/o headache Day 3
- Patient c/o headache Day 4
- Vomited day 4 several times
- Vomited day 5
- Headache day 5 c/o frontal headache and shoulder pain
- Day 6 review by GpST1 due to history of persistent headache / vomiting
- Plan – repeat PET bloods, monitor Bp 4 hourly

Headache (3)

- Bloods - Urate within normal limits
- No further review
- Bp 137/96, 132/91, 135/91, 117/84
- Day 10 slight headache
- Day 12 headache - Bp 121/81

Collapse

- Patient on SCBU visiting baby early hours of the morning day 12
- Patient had already c/o headache to midwife @ 01.50am
- Crash call to SCBU
- Patient having Tonic clonic seizure on SCBU
- Self terminated
- Post-ictal, confused
- BM 7
- Bp 115/49

Collapse (2)

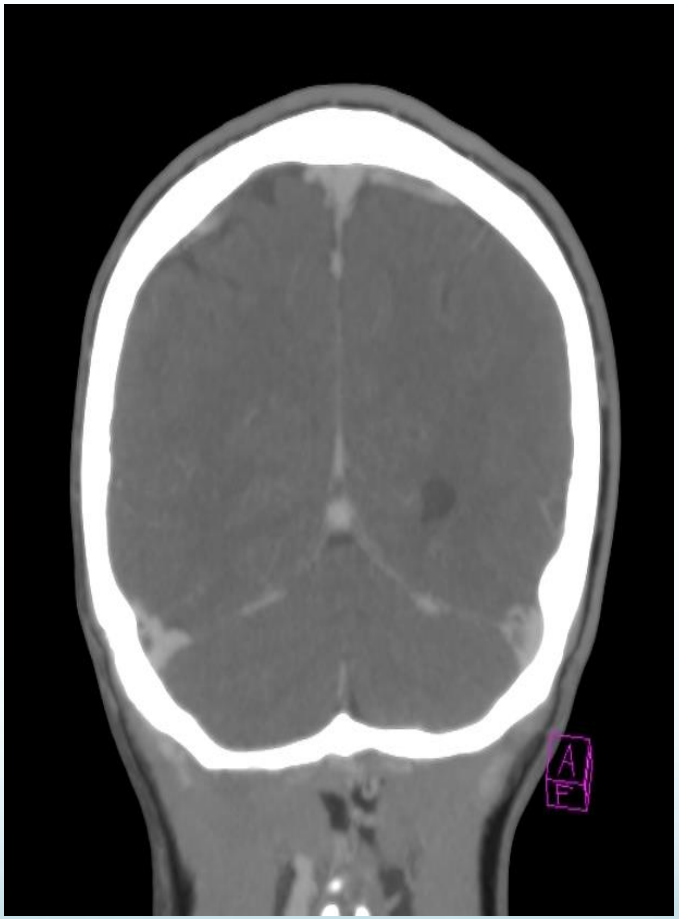
- Examination by Obs SpR - No clonus, brisk reflexes
- Otherwise neurological examination NAD
- Bloods: Hb 132 WCC 13.1 Plt 339 Fibrinogen 5.9
- Examination by Medical SpR
- No acute neurology, reflexes “intact”, fundi – NAD,
- ECG - normal sinus rhythm
- Imp – delayed presentation of eclampsia
- For CT Brain / CT & 24hr infusion of Magnesium

Working diagnosis

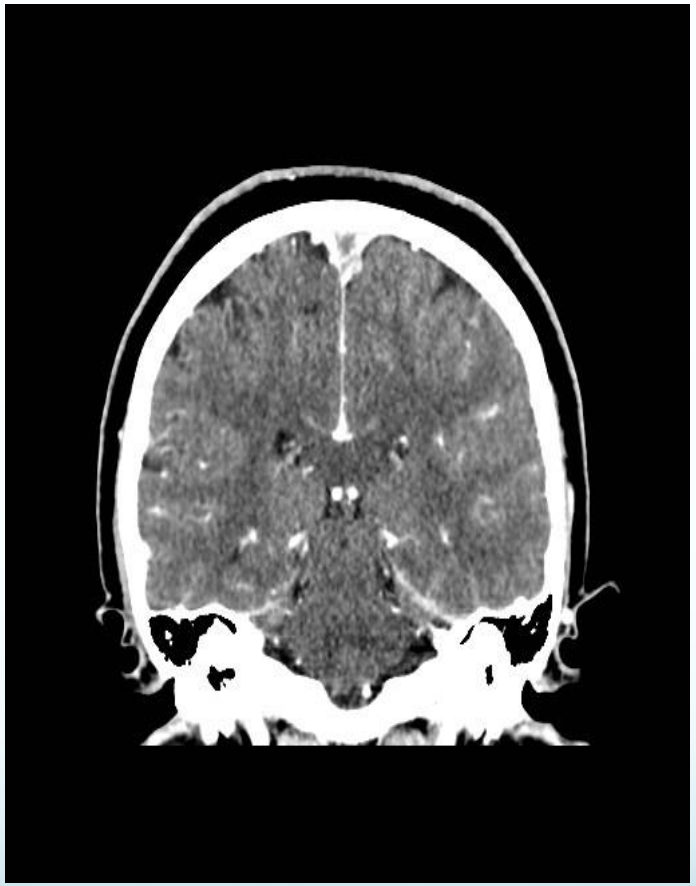
- “Stress induced seizure type activity”

(medical SpR)

Normal CT Venogram



Patient's CT Venogram



CT Scan Results

On the contrast CT the anterior superior sagittal sinus and cortical veins are dilated and hyperdense raising the suspicion of thrombus, subsequently confirmed on the CT Venogram.

The appearances are consistent with **Extensive Superior Sagital Sinus Thrombosis and Bilateral Cortical Venous Thrombosis.**

Further treatment

- Mg SO4 infusion stopped
- Treatment - Unfractionated Heparin infusion
- Warfarin therapy started
- Transferred for further management under Neurologists.
- Discharged home day 13 post C-section

Differential Diagnosis of PP Headache

Headache Aetiology	% of Postpartum headaches	Symptoms / Signs
Tension Headache	38.3-39%	Mild- Mod headache lasting 30min- 7 days. Bilateral.
Migraine	11- 34%	Recurrent mod- severe headache lasting 4-72 hours, often unilateral, pulsating % assoc with nausea, photophobia
Musculoskeletal	11.3-14.7%	Mild-moderate & neck / shoulder pain
Pre-eclampsia/Eclampsia	8.1-24%	Hypertension +/- symptoms of HELLP, bilateral, pulsating and aggravated by physical activity
PDPH	4.7-16%	Headache within 5 days of dural puncture, worse with sitting /standing, assoc with tinnitus, nausea, photophobia

Differential Diagnosis of PP Headache

Headache Aetiology	% of Postpartum Headaches	Symptoms / Signs
Cortical Vein Thombosis	3%	Nonspecific headache always present, accomp by focal neurology/ /seizure
Meningitis	1%	Temperature, generally unwell, neck stiffness, photophobia

MBRRACE - Saving Mothers Lives 2018

- **Key Points:**

Death from **Thrombosis and Thromboembolism** remains the leading cause of **Direct** Maternal Death

Cause of death	2006–08			2009–11			2010–12		
	n	Rate	95% CI	n	Rate	95% CI	n	Rate	95% CI
All Direct and Indirect deaths†	261	11.39	10.09–12.86	253	10.63	9.36–12.03	243	10.12	8.89–11.47
Direct deaths									
*Genital tract sepsis**	26	1.13	0.77–1.67	15	0.63	0.35–1.04	12	0.50	0.26–0.87
Pre–eclampsia and eclampsia	19	0.83	0.53–1.30	10	0.42	0.20–0.77	9	0.38	0.18–0.71
Thrombosis and thromboembolism	18	0.79	0.49–1.25	30	1.26	0.85–1.80	26	1.08	0.71–1.59
Amniotic fluid embolism	13	0.57	0.33–0.98	7	0.29	0.12–0.61	8	0.33	0.14–0.66
Early pregnancy deaths	11	0.48	0.27–0.87	4	0.17	0.05–0.43	8	0.33	0.14–0.66
Haemorrhage	9	0.39	0.20–0.75	14	0.59	0.32–0.99	11	0.46	0.23–0.82
Anaesthesia	7	0.31	0.15–0.64	3	0.12	0.03–0.37	4	0.17	0.05–0.43
Other Direct‡	4	0.17	0.07–0.47	‡	‡	‡	‡	‡	‡
All Direct	107	4.67	3.86–5.64	83	3.49	2.78–4.32	78	3.25	2.57–4.05
Indirect									
Cardiac disease	53	2.31	1.77–3.03	51	2.14	1.60–2.82	54	2.25	1.69–2.93
Other Indirect causes	49	2.14	1.62–2.83	72	3.03	2.37–3.81	61	2.54	1.94–3.26
Indirect neurological conditions	36	1.57	1.13–2.18	30	1.26	0.85–1.80	31	1.29	0.88–1.83
Psychiatric causes	13	0.57	0.33–0.98	13	0.55	0.29–0.93	16	0.67	0.38–1.08
Indirect malignancies	3	0.13	0.04–0.41	4	0.17	0.05–0.45	3	0.13	0.03–0.37
All Indirect	154	6.72	5.74–7.87	170	7.15	6.11 –8.30	165	6.87	5.86–8.00
Coincidental	50	2.18	1.65–2.88	23	0.98	0.61–1.45	26	1.08	0.71–1.59
Late deaths	33†	†	†	325	13.66	12.22–15.33	313	13.03	11.63–14.56

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Case Report - MBBRACE

A woman with a BMI over 35kg/m^2 was in lithotomy for 90 minutes for suturing of vaginal and cervical tears. She had multiple 'fainting' episodes postnatally that were not investigated until day 44. She was admitted to a medical unit where the diagnosis was considered but they delayed LMWH because of concerns over breastfeeding. A few hours later she collapsed and died.

Case Report - MBBRACE

A woman was admitted in the third trimester and had leg pain and shortness of breath. She smoked and had a high platelet count. She was seen by a student midwife and junior doctor. The student's midwifery mentor was not present. No investigation of these symptoms and no escalation to senior staff took place. She died from a subsequent massive pulmonary embolism.

Case Report - MBBRACE

A woman in the second trimester collapsed at work with headache. The woman spoke to NHS 24 twice and was advised to take paracetamol. The woman also saw her GP and was given the same advice. Her symptoms deteriorated and she was taken again to see the GP by her family with a temperature, severe headaches and poor balance. The GP's advice was to increase analgesia. Her conscious level deteriorated over the following few hours and the family called an ambulance. On arrival at A&E she was intubated and a CT scan demonstrated meningoencephalitis. She died 24 hours later from an invasive pneumococcal infection.

Case Report - MBBRACE

A woman had a three month history of left frontal headache during the second and third trimester. She saw her GP multiple times about this complaint but she was not given any antibiotic therapy. Four weeks before her death she was also reviewed by a doctor in the antenatal unit who did not refer for further investigations despite localising features and a prolonged history of pain. She presented again three days before her eventual death when her CNS infection was finally diagnosed.

Case Report - MBBRACE

Two women died who had experienced accidental dural taps while undergoing epidural cannula placement. One underwent a blood patch; the other was treated conservatively. Neither had hospital follow up or GP referral after discharge. Both women experienced headaches for some weeks before emergency presentations with what turned out to be cerebral vein thrombosis in one case and subdural haematomata in the other.

MBRRACE – Saving Mothers Lives 2014

- **Lessons For Anaesthesia**
- Subdural haematoma and cerebral venous sinus thrombosis are well recognised complications of dural puncture and pregnancy, respectively. Both should always be included in the differential diagnosis of persistent headache after dural tap or post dural puncture headache
- Any Pregnant or recently pregnant woman with serious neurological symptoms/signs needs urgent appropriate early referral and / or imaging

Discussion

- This was at least a “near miss” - still a serious case of morbidity and needing 6 -12 months Warfarin
- Clexane was probably under prescribed @ 40mg OD as weight was 98kg at booking
- In the future:
- 1. Presentation of Case to Obstetric colleagues
- 2. Presentation of Case to Midwifery colleagues
- 3. Write guidelines on persistent headache post-delivery and emphasis early input of multidisciplinary senior care /need for imaging