Seizure from CSF leak post epidural anaesthesia

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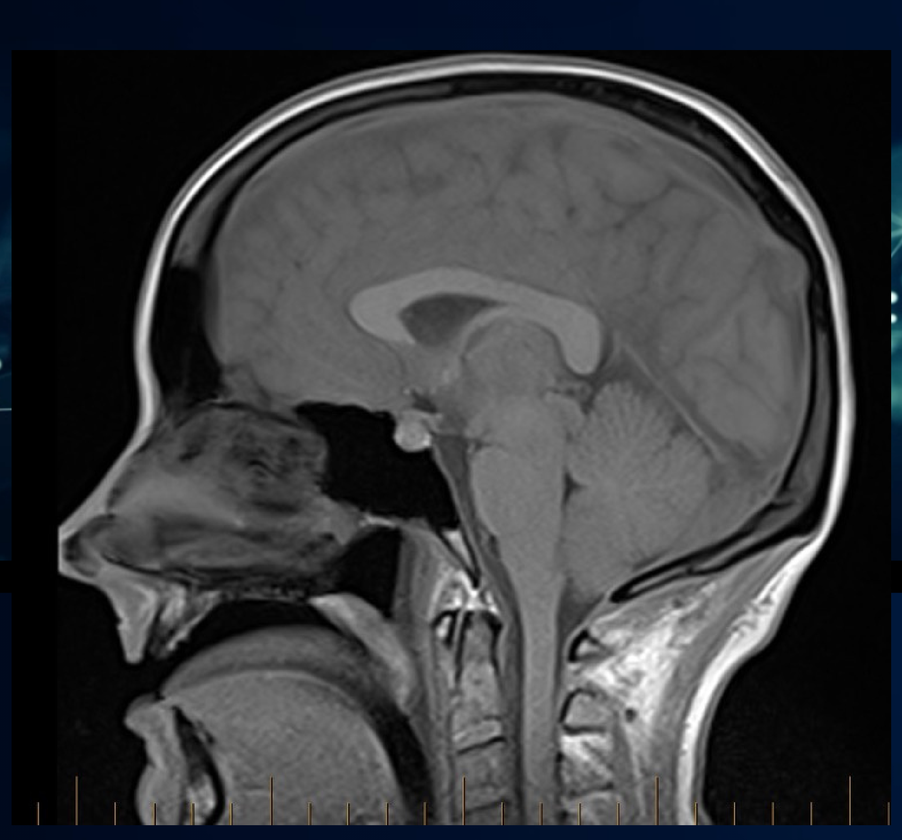
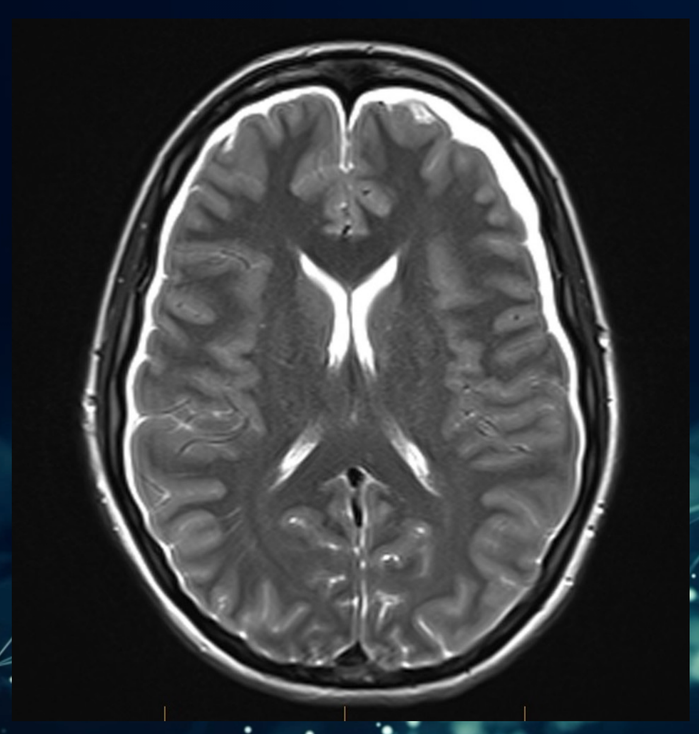
BACKGROUND

This is a rare case of seizure from intracranial hypotension secondary to significant spinal cerebral spinal fluid (CSF) leaking following epidural anaesthesia. A post dural puncture seizure is caused by CSF leaking and losing the volume of CSF that surrounds the brain and spinal cord resulting in new-onset positional headache and neurological symptoms. The seizure occurs from cerebral oedema and venous congestion leading to cranial hypotension.

MRI BRAIN





CASE

32F G2P1 had an epidural inserted for pain relief after 6 failed attempts. Day one postnatally the patient complained of an orthostatic headache with no neurological symptoms and was diagnosed with post-dural puncture headache (PDPH). No signs or symptoms or laboratory findings of preeclampsia. Day four she developed new nausea and vomiting with photophobia and a single episode of hypertension with no focal neurology and unremarkable bloods. Day five she had a postpartum seizure that developed to status epilepticus requiring intubation in ICU. She was afebrile and normotensive. It was managed broadly with Keppra, MgSo4 and antibiotics. CTB showed bilateral subdural collection, bulging dural venous sinuses and slumping of the mid brain showing intracranial hypotension. MRI confirmed CSF in paravertebral region at L3-L4 tracking to L5. An effective blood patch showed CSF leakage at L3-4. The symptoms resolved with the blood patch and stepped down from the ICU ward. On discharge she had mild persistent vertigo-dizziness and mild blurring from right eye with no ataxia or headache with referral to a neurologist. She was followed up by anaesthetics and the obstetrics team at 6 weeks for debrief and review. She had occasional twitches in the left leg and occasional headache. For her next birth she will in the high-risk clinic to discuss options of mode of delivery and pain relief.

DISCUSSION

This is a rare case of seizure due to the structural defect in the spinal dura that normally holds the CSF secondary to an epidural. It is treatable and curable by a blood patch test. A blood patch test is when blood is taken from the patient's vein and injected into the patient's epidural space. There were features of eclampsia including brisk reflexes however given an isolated episode of hypertension without biochemistry of PET or proteinuria and abnormal CTB (no posterior reversible encephalopathy syndrome that can be seen in eclampsia or PET) it remained a differential but did not meet diagnostic criteria. Eclamptic seizures can manifest prior to diagnosis of PIH or PET. She had no history of epilepsy and had no infective signs to indicate infection or meningitis. There were no focal brain lesions to suggest a stroke or trauma. It was managed broadly due to the context of this. There were no features of HUS/TTP as alternative causes of seizure.

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