



Not All Maternal Seizures Are Eclamptic: A Case of Acute Maternal Water Intoxication

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Background:

- Parturients are often encouraged to stay hydrated during labor and may consume excessive amounts of water to meet this goal
- For most patients, strict ins and outs are not followed during labor and excessive water intake may go unnoticed
- Acute maternal water intoxication can lead to severe hyponatremia resulting in both maternal and neonatal seizures



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Case Description



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Labor Course

- 24 y/o G1P0 at 41w2d admitted for elective IOL
- PMHx: asthma, convulsive vasovagal syncope
- Induction was uneventful without oxytocin augmentation
- Epidural was placed upon request after patient pushed for 2 hours with little progress

30 Minutes After Epidural

- Patient complained of a worsening headache and became somnolent
- Vitals showed a new onset severe-range blood pressure
- Patient sustained a tonic-clonic seizure, for which she required emergent intubation for airway protection
- 6g magnesium bolus was given for presumed eclamptic seizure
- Taken to OR for emergent delivery for fetal bradycardia
- Intraoperative labs showed Na 115 mmol/L

Postoperative Course

- Head CT showed diffuse cerebral edema, urine maximally diluted
- Family reported excessive water intake during labor which was consistent with a diagnosis of primary polydipsia resulting in hyponatremic encephalopathy
- Patient's neurological status returned to baseline after slow correction of sodium and she was extubated with repeat head CT showing improved cerebral edema
- Neonate demonstrated seizure-like activity at birth and was found to have Na 115 mmol/L



Learning Points

- Maternal hyponatremia has been shown to cause both maternal and neonatal seizures as sodium concentration rapidly equilibrates across the placenta¹
- Parturients are susceptible to water intoxication due to increased extracellular volume, increased ADH secretion during labor, desire to stay hydrated, supplemental IV fluids, and high-dose oxytocin protocols
- Hyponatremic seizures may mimic eclamptic seizures, but should be treated with water restriction vs. hypertonic fluid replacement with frequent sodium monitoring^{1,2}
- Overall, acute water intoxication has a favorable prognosis for both mothers and infants³

References:

