Emergency Cesarean in a Parturient with Unrecognized Gestational Diabetes Insipidus Complicated by Heart Failure

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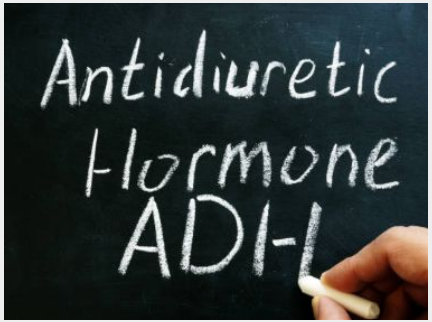

Background:

- Arginine vasopressin (AVP) disorders during pregnancy are rare, affecting only 4 per 100,000 pregnancies[1].
- If not managed properly, electrolyte imbalances can occur, potentially leading to devastating neurological complications.
- AVP disorders can be a result of AVP deficiency, AVP resistance, or a transient AVP deficiency from placental release of vasopressinase.
- The presentation of these disorders can occur during any trimester, and symptoms include polydipsia and polyuria that may mimic normal physiological pregnancy changes, and complicate current medical conditions .

References
1) MC Hume, JA Richardson. Obstet Gynecol Surv.1978;33(6):375.

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37-year-old G6P1041 with a history of HF with recovered ejection fraction, an AICD in place, type II diabetes, OSA, BMI of 59

- Presented from the clinic at 35.3 weeks due to an abnormal BPP.
- Sodium of 159 mmol/L, chloride 124 mmol/L, and elevated serum creatinine of 1.01 mg/dL.
- Emergent cesarean delivery for a category III fetal tracing under GA.
- Intraoperatively, severely hypovolemic, requiring arterial line placement, aggressive fluids, and high-dose phenylephrine. The sodium level continued to rise despite resuscitation.
- Extubated neurologically intact, then transferred to the MICU for sodium monitoring.
- 1 mcg IV desmopressin daily for 5 days and IV hydration with D5W was prescribed for her gestational DI, which improved her urine osmolarity and AKI.
- Further complicated by biventricular pressure overload on right heart catheterization for which Cardiology recommended IV diuresis and oral antihypertensive therapy. She was eventually discharged in stable condition on POD #9 with oral desmopressin, antihypertensives, and close follow-up.

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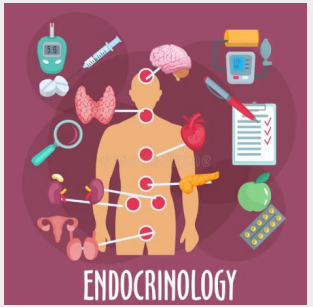
Teaching Points



- Hypovolemia in pregnancy can be challenging to recognize due to physiologic plasma volume expansion, with hemodynamic instability often presenting as a late clinical sign.
- Although rare, endocrine causes of hypovolemia can result in severe neurological complications, namely hypernatremia. Once hemorrhage is excluded, gestational DI should be considered, particularly in the presence of adequate urine output.
- This case highlights the challenges of unrecognized hypovolemia due to gestational DI, further complicated by concurrent heart failure and biventricular overload following resuscitation.
- Given the potential for competing treatment goals, clinicians should maintain a broad differential for intraoperative hypotension, including endocrine disorders, and utilize additional assessment tools such as metabolic panels and echocardiography to optimize fluid management.