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Diagnostic and Therapeutic Challenges of New-Onset Hypercalcemia in Pregnancy: A Case Report

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Background

Hypercalcemia in Pregnancy

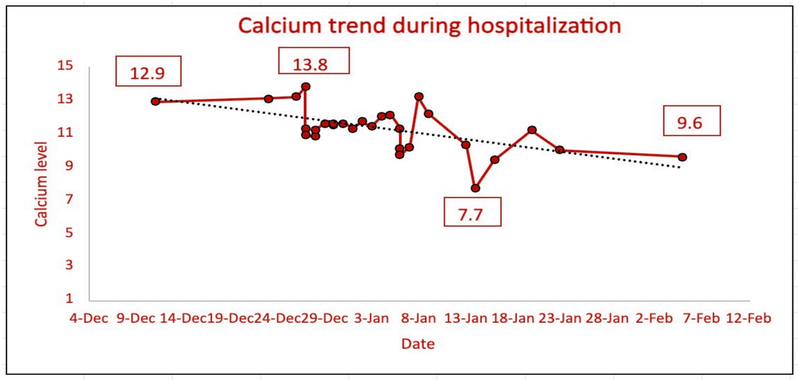
- Adverse Fetal Outcomes:
  Fetal growth restriction, preterm delivery, congenital anomalies, tetany from severe neonatal hypocalcemia
- Adverse Maternal Outcomes: nephrolithiasis, pancreatitis, preeclampsia
- Optimal management with concurrent obstetric complications remains unclear
- This is a 40-year old multiparous, high-risk pregnancy. Patient with incidental finding of hypercalcemia in the 3rd trimester
- This case underscores the importance of multidisciplinary care, individualized assessment, and vigilance for underlying malignancy

Case Presentation

- 40 y/o G4P0302, transfer of care to SFH at 30 weeks' gestation
- PMH: chronic hypertension controlled with labetalol, cholelithiasis PSH: cesarean section x2
- Family history: Diabetes and hypertension (father), thyroid cancer (sister, diagnosed at age 26)
- Normal baseline transaminase and creatinine tests were obtained two months prior to transfer of care
- Prenatal course was also complicated by gestational diabetes (treated with insulin) and fetal growth restriction
- Fetus was found to have an absent end diastolic flow in the umbilical artery; admission was recommended for fetal monitoring
- On admission, there was an incidental finding of serum calcium 13.2mg/dL (normal range 8.5-10.5 mg/dL). Other labs: normal CBC, serum Cr, AST/ALT, TSH/free T4, urine P/C ratio, 24 hr urine protein, urine excretion of calcium. Parathyroid hormone was elevated, parathyroid related peptide was low
- Neck ultrasound: multiple thyroid nodules, as well as parathyroid nodule measuring < 1cm
- Inpatient management: telemetry, two doses of calcitonin, daily furosemide. Goal calcium <12 mg/dL

Images

Obstetric History	
G1	IUFD @ 26w Complicated by anhydramnios and preeclampsia w/SF
G2	Preterm CS @36w for preeclampsia w/SF, also had GDMA2
G3	Preterm repeat CS @34w for preeclampsia w/SF, also had GDMA2
G4	Current



Hospital Course

- Parathyroidectomy recommended but contraindicated antepartum due to evidence of placental insufficiency
- Preeclampsia with severe features + delivery at 32 weeks
- Postpartum parathyroidectomy: intraoperative thyroid nodule uncovered, pathology consistent with papillary carcinoma of thyroid - total thyroidectomy performed and lymph node dissection
- Fetal calcium levels found to be normal, birthweight 1%ile, imperforate anus found on neonatal exam

Conclusion

- Hypercalcemia is not routinely screened for during pregnancy and has several known risks
- In patients who have associated sequelae such as preeclampsia or fetal growth restriction, or are symptomatic, a metabolic panel at least once in pregnancy may be valuable
- Several malignancies are associated with hypercalcemia
- In the third trimester, there is limited guidance regarding whether to prioritize delivery or surgical management with parathyroidectomy

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