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PTHrP-mediated hypercalcemia in gestational gigantomastia has only been reported once previously: a 24-year-old female experienced resolution of hypercalcemia after bilateral mastectomy, subsequently delivering a healthy infant at term (1). We present the first case of PTHrP-mediated hypercalcemia in gestational gigantomastia with resolution on termination of pregnancy.

A 33-year-old female was transferred to our institution at 17 weeks' gestation for management of hypercalcemia and bilateral mastitis. She had presented at week 13 with sepsis, suspected from mastitis. She reported a two month-history of fatigue, headache and constipation corresponding with development of gigantomastia. Initial labs had revealed serum calcium 14 mg/dL, undetectable 25(OH)D and mildly elevated PTHrP. There was no history of hypercalcemia during previous pregnancies. Whole body MRI failed to disclose evidence of malignancy and a breast biopsy revealed only hyperplasia.

Our initial laboratory evaluation revealed Ca 11.1 mg/dL (albumin-corrected 12.8 mg/dL), ionized Ca 1.63 mmol/L (nl 1.00-1.25), 25(OH)D 14 ng/mL (nl 25-80), 1,25(OH)2D 142 pg/mL (2nd trimester nl 72-160), PTH 0.7 pmol/L (nl 1.6-6.9), PTHrP 19.2 pmol/L (nl <3.4), and normal phosphate, prolactin, ACE level, SPEP and UPEP. She was initially treated with prednisone and thereafter switched to calcitonin and cinacalcet. Corrected Ca levels improved to the upper limit of normal, but soon climbed due to suspected calcitonin tachyphylaxis. The patient declined bilateral mastectomy and requested termination of pregnancy, which was performed at week 20 of gestation. She experienced rapid resolution of hypercalcemia: corrected Ca decreased from 12.8 to 10.9 and 9.5 mg/dL on post-op days 1 and 2, respectively. PTH increased from 0.7 to 2.0 pmol/L and PTHrP decreased from 29.7 to 5.0 and 2.9 pmol/L on post-op days 1 and 4, respectively. Unfortunately, she was lost to follow-up until six months later when she presented for bilateral mastectomy; two months post-op, labs showed Ca 9.4 mg/dL, PTH 4.0 pmol/L and PTHrP <2.0 pmol/L.

This rare case, which demonstrated resolution of hypercalcemia and PTHrP excess after termination of pregnancy in a patient with gestational gigantomastia, suggests either a pathologic placental source of PTHrP or excessive breast PTHrP due to over-sensitivity or over-production of placental hormones.
