

Title: Partial molar pregnancy with extreme elevation of quantitative β -hCG - A clinical and laboratory outlier

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Background/synopsis: Gestational trophoblastic disease (GTD) is a group of neoplastic conditions characterized by abnormal trophoblastic cell growth in the uterus, sometimes with hematogenous or lymphatic metastasis. A hydatidiform mole is a type of GTD, further classified as partial or complete. Partial molar pregnancies arise from fertilization of a haploid egg by two sperm or a diploid sperm, typically resulting in fetal triploid karyotypes of 69XXX, 69XXY, or 69XYY (1). Hydatidiform moles are uncommon, with an incidence of complete molar pregnancies of 1-3 per 1000 pregnancies and partial molar pregnancies of 3 per 1000 pregnancies in high-income countries (2). Risk factors for complete molar pregnancies include maternal age less than 15 years or over 40 years, previous miscarriage, Asian ethnicity and prior history of molar pregnancy. Partial molar pregnancies are less associated with extremes of age but are associated with prior miscarriages, long-term OCP use and prior molar pregnancies. Partial moles are typically asymptomatic, but may present with vaginal bleeding, pelvic tenderness, and mildly elevated β -hCG values of <100,000 mIU/mL, while complete moles exhibit significantly elevated HCG levels, often over 100,000 IU/mL. Post evacuation of the placenta, long term surveillance of β -hCG levels is necessary due to risk of progression to choriocarcinoma, which occurs in 1 in 40,000 pregnancies and develops in 0.5% of partial molar pregnancies (3).

Objective/Purpose: Most GTD cases present with quantitative β -hCG levels between 50,000 - 100,000 mIU/mL, with high β -hCG levels more associated with complete molar pregnancies (4). Our case describes a partial molar pregnancy with a β -hCG level over 2,000,000 mIU/mL with pre-eclampsia symptoms.

Case Presentation: A previously healthy 29-year-old female, G2P1001 at 16 weeks EGA, transferred from our high-risk OB clinic to the hospital with a suspected partial molar pregnancy. The patient reported intermittent vaginal bleeding for two weeks, worsening mid-thigh and lower extremity edema, shortness of breath, and a 38 lb weight gain during the pregnancy. Blood pressures were elevated at 161/109 and 159/118, pulse 112 bpm. Ultrasound revealed placentomegaly with hydrops and a grossly normal fetus at 131 g. Labs revealed a β -hCG of 2,247,800 mIU/m, TSH <0.02 mIU/L, and free T4 1.35 ng/dL. Interestingly, NIPT was negative for fetal aneuploidy, with a fetal fraction of 15%, female sex predicted.

Given the extremely elevated β -hCG level, hypertension, symptoms and ultrasound findings, partial molar pregnancy was considered most likely, with the possibility of an abnormal twin placenta pregnancy in the differential. The patient was appropriately counseled and agreed to proceed with termination of pregnancy.

During laminaria placement brisk cervical bleeding was encountered, prompting an urgent though uncomplicated dilation and evacuation procedure under ultrasound guidance. Tissue pathology confirmed edematous hydropic villi and fetal tissue consistent with a partial molar pregnancy. FISH revealed a DOUBLE TRISOMIC signal pattern for chromosomes 1 and 11 in 19/50 nuclei consistent with TRIPLOIDY - clinically associated with partial hydatidiform molar gestation.

Postoperatively, the patient received IV magnesium sulfate, PO labetalol and IV furosemide. She had a 6 L diuresis and a 7 lb weight loss over 24 hours and her condition improved markedly thereafter. A chest x-ray performed was negative for lesions and pulmonary edema. On postoperative day 2 the β -hCG was 170,640 mIU/mL. The patient was discharged on oral labetalol and oral furosemide with plans for long-term β -hCG monitoring and contraception for 6-12 months. β -hCG levels declined to below 5 mIU/mL after 2 months and remained negative at 4 months.

Conclusion: This case highlights a rare presentation of partial molar pregnancy with extremely elevated β -hCG levels and pre-eclampsia. Prompt diagnosis by ultrasound and β -hCG evaluation, uterine evacuation and confirmatory histopathology are essential for satisfactory maternal outcomes.

References:

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