

Molar Pregnancy in the Emergency Department

Lori Masterson, MD
Shu B. Chan, MD, MS
Bryan Bluhm, MD

Emergency Medicine Residency Program, Resurrection Medical Center, Chicago, Illinois

Supervising Section Editor: J. Christian Fox, MD

Submission history: Submitted November 3, 2008; Revision Received April 29, 2009; Accepted May 1, 2009 Reprints available through open access at http://escholarship.org/uc/uciem_westjem

A 15-year-old female presented to the emergency department with complaints of vaginal bleeding. She was pale, anxious, cool and clammy with tachycardic, thready peripheral pulses and hemoglobin of 2.4g/dL. Her abdomen was gravid appearing, approximately early to mid-second trimester in size. Pelvic examination revealed 2 cm open cervical os with spontaneous discharge of blood, clots and a copious amount of champagne-colored grapelike spongy material. After 2L boluses of normal saline and two units of crossmatched blood, patient was transported to the operating room. Surgical pathology confirmed a complete hydatidiform mole. [West J Emerg Med. 2009;10(4):295-296.]

CASE REPORT

A 15-year-old female patient presented via emergency medical services to the ED with complaints of vaginal bleeding and weakness. The patient had been bleeding for the past seven days and had mild cramping abdominal pain. She admitted to sexual activity but was unsure if she was pregnant. She believed her last menstrual period was approximately one month prior. Her past medical history and family history were unremarkable. She denied allergies to medications, smoking, drinking alcohol or any drug use.

The patient was alert and oriented and in obvious distress. She was pale, anxious, and weak. Her temperature was 98.2°F, blood pressure 129/64mmHg, heart rate 133bpm, respiratory rate of 16 breaths per min with a pulse oximetry of 100% on supplemental oxygen. On physical exam she was cool and clammy with mildly labored breathing. She was tachycardic with thready peripheral pulses and no murmurs. Her abdomen was gravid appearing, approximately early to mid-second trimester in size. She was soft and mildly tender to palpation in the lower quadrants bilaterally. Her lower extremities were nontender and moderately edematous. Pelvic examination revealed spontaneous discharge of blood, clots and a copious amount of champagne-colored grapelike spongy material. No fetal parts were identifiable (Figure 1). The cervical os was open to approximately 2cm with moderate cervical motion tenderness.

ED laboratory results showed hemoglobin of 2.4 g/dL, hematocrit of 7.3%, white blood count at 16,700 with 74%



Figure 1. "Bag of grapes" appearance to a molar pregnancy

neutrophils and 4% bands, platelets at 133,000, international normalized ratio of 1.3, and bicarbonate of 12 mmol/L. Bun was elevated at 36 mg/dL and creatinine was 0.6 mg/dL. Free T4 was 2.79 ng/dL (normal range: 0.93-1.7) and TSH was 0.01 mcu/mL (normal range: 0.27-4.2). Beta HCG was 460,318 mIU/mL, 64 times the upper limit of normal for an estimated gestational age of a five-week fetus. EKG revealed sinus tachycardia.

Obstetrics was emergently consulted and the patient transported urgently to the operating room for dilation and

curettage. While in the ED, the patient received 2L boluses of normal saline and two units of crossmatched blood. Surgical pathology confirmed a complete hydatidiform mole. The patient suffered postoperative complications including respiratory distress requiring intubation, cardiomyopathy (ejection fraction of 25%) and hyperthyroidism. She was medically managed in the intensive care unit and discharged one week later with improved ejection fraction, recovering thyroid function and no evidence of malignant gestational trophoblastic disease.

DISCUSSION

Hydatidiform mole (molar pregnancy) is a relatively rare complication of fertilization with an incidence in the United States of 0.63 to 1.1 per 1000 pregnancies, although rates vary geographically.¹ It is included in the spectrum of gestational trophoblastic diseases and is comprised of both complete molar pregnancies (CM) and partial molar pregnancies (PM). Pathologically, CM demonstrate diffuse villous edema and trophoblastic proliferation with absence of a fetus, whereas with PM villous edema and trophoblastic proliferation are variable and the fetus typically demonstrates congenital abnormalities and growth retardation.²

The most well characterized risk factor for CM is extreme of maternal age. Maternal ages less than 20 or greater than 40 years have been associated with relative risks for CM as high as 10- and 11-fold greater respectively.^{3,4} However, the majority of molar pregnancies occur within the 20-40 year range, as these represent the most common reproductive years. History of prior molar pregnancy is another important risk factor for both CM and PM, with repeat molar pregnancies occurring 0.6 to 2.6 percent of the time.¹ Other potential risk factors include oral contraceptive use, maternal type A or AB blood groups, maternal smoking, and maternal alcohol abuse.^{1,3}

Molar pregnancy typically presents in the first trimester and may be associated with a wide array of findings, including vaginal bleeding (most common), uterine size larger than expected according to pregnancy date (CM), uterine size smaller than expected according to pregnancy date (PM), excessive beta-human chorionic gonadotropin (β -hcg) levels, anemia, hyperemesis gravidum, theca lutein cysts, preeclampsia, and respiratory distress.^{2,5,6} β -hcg is a glycoprotein hormone structurally similar to thyroid-stimulating hormone, and for this reason many patients will present with clinical hyperthyroidism.⁷ This patient's peripheral edema is most likely related to her significant peripartum cardiomyopathy, although differential diagnosis also includes preeclampsia, hyperthyroidism, high output failure, or a hypoalbuminemic state. Studies comparing modern clinical presentations of CM with historical presentations have demonstrated a significant reduction in many of the classic presenting signs and symptoms such as vaginal bleeding and excessive uterine size.^{8,9,10} This reduction is attributed to early detection by

transvaginal ultrasound and increasingly sensitive β -hcg assays. Numerous studies evaluating the efficacy of ultrasound in detecting molar pregnancy demonstrate a 57-95 percent sensitivity for the detection of CM compared to only 18-49 percent sensitivity for PM.¹¹

This case is of particular interest due to its late presentation and classic features. It is unusual for this type of patient to expel diagnostic tissue in the ED, and it serves as a reminder that patients who delay medical attention may not present as expected.

Address for Correspondence: Shu B. Chan MD, MS, Resurrection Medical Center, Emergency Medicine, 7435 West Talcott Avenue, Chicago, Illinois 60631. Email: schan@reshealthcare.org

Conflicts of Interest: By the WestJEM article submission agreement, all authors are required to disclose all affiliations, funding sources, and financial or management relationships that could be perceived as potential sources of bias. The authors disclosed none.

REFERENCES

1. Smith HO. Gestational trophoblastic disease epidemiology and trends. *Clin Obstet Gynecol.* 2003; 46:541-56.
2. Soper JT. Gestational trophoblastic disease. *Obstet Gynecol.* 2006; 108:176-87.
3. Altieri A, Franceschi S, Ferlay J, Smith J, La Vecchia C. Epidemiology and aetiology of gestational trophoblastic diseases. *Lancet Oncol.* 2003; 4:670-8.
4. Garner EI, Goldstein DP, Feltmate CM, Berkowitz RS. Gestational trophoblastic disease. *Clin Obstet Gynecol.* 2007; 50:112-22.
5. Niemann I, Petersen LK, Hansen ES, Sunde L. Differences in current clinical features of diploid and triploid hydatidiform mole. *BJOG.* 2007; 114:1273-7.
6. Soper JT, Mutch DG, Schink JC; American College of Obstetricians and Gynecologists. Diagnosis and treatment of gestational trophoblastic disease: ACOG Practice Bulletin No. 53. *Gynecol Oncol.* 2004; 93:575-85.
7. Hershman JM. Physiological and pathological aspects of the effect of human chorionic gonadotropin on the thyroid. *Best Practice & Research. Clinical Endocrinology & Metabolism.* 2004; 18:249-65.
8. Soto-Wright V, Bernstein M, Goldstein DP, Berkowitz RS. The changing clinical presentation of complete molar pregnancy. *Obstet Gynecol.* 1995; 86:775-9.
9. Mangili G, Garavaglia E, Cavoretto P, Gentile C, Scarfone G, Rabaiotti E. Clinical presentation of hydatidiform mole in northern Italy: has it changed in the last 20 years? *Am J Obstet Gynecol.* 2008; 198:302.
10. Coukos G, Makrigiannakis A, Chung J, Randall TC, Rubin SC, Benjamin I. Complete hydatidiform mole. A disease with a changing profile. *J Reprod Med.* 1999; 44:698-704.
11. Kirk E, Papageorghiou AT, Condous G, Bottomley C, Bourne T. The accuracy of first trimester ultrasound in the diagnosis of hydatidiform mole. *Ultrasound Obstet Gynecol.* 2007; 29:70-5.