keep me in good warm contact with my neighbors. There is nothing like the medical profession for that: one can have the exclusive scientific life that touches the distance, and yet befriend the old fogies in the parish too.—George Elliot (1818–1880)

References


Case reports

Molar pregnancy presenting with hyperemesis gravidarum

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Nausea and vomiting are common complaints in pregnancy, occurring in more than 50% of pregnant women. Occasionally, the vomiting becomes severe and persistent enough to develop into the syndrome called hyperemesis gravidarum and sometimes requires hospitalization. A 20-year-old woman presented with hyperemesis gravidarum, which was later found to be associated with a molar pregnancy. Hyperemesis gravidarum is reported to occur in as many as 26% of molar pregnancies. Increases in the level of serum β-human chorionic gonadotropin may be the mechanism of hyperemesis gravidarum in molar pregnancy. Hyperthyroid states linked to molar pregnancy may further exacerbate hyperemesis gravidarum. Physicians should be aware of this possibility of molar pregnancy in all patients with hyperemesis gravidarum and be familiar with the appropriate management to monitor and prevent an often-fatal trophoblastic neoplasm.

(Key words: Hyperemesis gravidarum, molar pregnancy, nausea and vomiting, hyperthyroidism)

Hyperemesis gravidarum is an important presentation of molar pregnancy. The following report describes a 20-year-old who presented with hyperemesis gravidarum in early pregnancy. A partial hydatidiform mole was later diagnosed.

Report of case
A 20-year-old woman, gravida 2, para 0, aborta 1, at 8 4/7 weeks’ gestation estimated by her last menstrual period, was seen in the emergency department with a 3-week history of intractable nausea and vomiting. The patient reported that she was unable to “keep anything down,” especially liquids. She was seen earlier in the day for prenatal care and was sent to the emergency department because of ketonuria and an 8-pound weight loss during the previous 3 weeks. The patient complained of decreased appetite for 2 to 3 weeks and occasional headaches during this time. She denied having had fever, chills, diarrhea, dysuria, and dizziness. Past medical history included a spontaneous abortion in 1996 at 5 weeks’ gestation and a chlamydia infection in 1996. She denied use of tobacco, ethanol, or recreational drugs. Current medications included promethazine hydrochloride and prenatal vitamins.

At initial physical examination, the patient was not in acute distress. Measurement of her vital signs revealed the following: pulse rate, 93 beats per minute; respiratory rate, 18 breaths per minute; blood pressure, 140/81 mm Hg; and temperature, 98.9°F. Her pupils were equally round and reactive to light. Her mucous membranes were remarkably dry. Her neck was supple with no
thryromegaly or masses. Her lungs were clear to auscultation, and her heart had a regular rate and rhythm without murmur. Her abdomen was soft with active bowel sounds and no peritoneal signs. No fetal heart tones were heard at that time. Her skin was fairly turgid with no rashes. Neurologic examination revealed no deficits.

Urinalysis revealed 3+ ketones; 1+ protein; specific gravity, 1.038; white blood cells, 8 to 20 per high-power field; and mucus (3+) but no bacteria. Laboratory studies revealed the following values: sodium, 138 mmol/L; potassium, 3.9 mmol/L; carbon dioxide, 24 mmol/L; chloride, 100 mmol/L; blood urea nitrogen, 8 mg/dL; creatinine, 0.7 mg/dL; and anion gap, 14.

The patient was admitted to the hospital with a diagnosis of hyperemesis gravidarum, volume depletion, and urinary tract infection. Treatment consisted of intravenous rehydration; promethazine hydrochloride, 25 mg intravenously every 6 hours; ceftriaxone, 1 g intravenously every 24 hours; and vitamin B₁₂, 50 mg intravenously every day. The next day, the patient improved and was tolerating a regular diet without nausea and vomiting. Vital signs remained stable, and the patient was discharged to home on a regimen of metoclopramide hydrochloride, 10 mg four times a day, trimethobenzamide hydrochloride suppositories, and nitrofurantoin monohydrate twice a day for 7 days.

The patient returned to the emergency department 3 weeks later complaining of continued nausea and vomiting approximately three to four times a day. She had an 11.5-pound weight loss during the past 5 weeks. She denied having vaginal bleeding, discharge, or uterine contractions. She had not noticed fetal movement yet. Her vital signs were normal, and she was not in acute distress. Findings of the physical examination were unchanged from the previous admission. Urinalysis again revealed ketonuria (3+); specific gravity, 1.035; trace protein; and no glucose. Results of laboratory chemistry studies were within normal limits. The thyroid-stimulating hormone (TSH) level was abnormally low (0.09 μIU/mL). The β-human chorionic gonadotropin (β-hCG) level was elevated at 161,000 mIU/mL, consistent with a 4- to 8-week gestational age pregnancy. An ultrasound examination showed intrauterine fetal demise (IUD) with moderate bleeding in the gestational sac and numerous cysts of the left ovary. The patient's nausea and vomiting were controlled with intravenous rehydration and promethazine. The patient was counseled about the suspected IUD and she was scheduled to follow up the next day to make further decisions regarding her care. She failed to keep this appointment but eventually returned 3 weeks later and decided to undergo dilation and curettage. DNA flow cytometry performed on the curetted tissue revealed triploid cell content consistent with partial hydatidiform mole. The patient's quantitative β-hCG level was subsequently measured after the dilation and curettage; it was decreased to 33,820 mIU/mL, but she was lost to follow-up.

**Discussion**

Hyperemesis gravidarum is a syndrome that involves severe vomiting, frequently in the first half of pregnancy. Vomit-
Vomiting is so severe that it can cause weight loss, dehydration, ketonuria, ketosis, and electrolyte imbalance, and it may require hospitalization. Although nausea and vomiting are present in more than 50% of pregnant women, hyperemesis gravidarum is relatively rare and occurs in about 0.5% of normal pregnancies. However, hyperemesis gravidarum has been reported to occur in as many as 26% of molar pregnancies. The pathophysiology of hyperemesis gravidarum remains unclear, but some researchers correlate it with a high or rapidly rising serum level of chorionic gonadotropin. Significantly higher total β-hCG concentrations were described in women with hyperemesis gravidarum compared with asymptomatic control subjects. The degree of vomiting in pregnancy may correlate with the concentration of β-hCG. Other studies have shown that an increased β-hCG level may be directly related to hCG-mediated hyperthyroidism, which in turn causes severe nausea and vomiting.

Molar tissue produces markedly elevated β-hCG levels. A common cause of the thyroid stimulation in patients with moles and hyperemesis gravidarum has been suggested. A study by Bruun and Kristoffersen compared three groups of pregnant women. These groups included normal pregnancy, hyperemesis without mole, and hydatidiform mole. Those with molar pregnancy showed the highest elevation in thyroid function. Thyroxine levels are usually elevated in both molar pregnancy and hyperemesis gravidarum, but clinically apparent hyperthyroidism is unusual. Researchers have proposed that molar trophoblastic tissue synthesizes hCG with high thyrotropic activity.

Another rare finding in molar pregnancy is theca lutein cysts. Detected on ultrasound examination in about 20% of cases, these thin-walled cysts develop in response to ovarian hyperstimulation from high hCG levels produced by hydatidiform moles.

As this patient illustrates, several findings suggest the possibility of a molar pregnancy when a patient has hyperemesis gravidarum. These findings include:

- Severe nausea and vomiting
- Low TSH level suggestive of hyperthyroid activity
- Elevated β-hCG level relative to gestational age
- Previous spontaneous abortion
- Theca lutein cysts

Figure 1 outlines key signs and symptoms of molar pregnancy.

If molar pregnancy is suspected, a few tests aid in diagnosis, including measurement of quantitative β-hCG, TSH, and free thyroxine and triiodothyronine. However, low TSH and high thyroxine levels may occur without signs of clinically apparent hyperthyroidism. With the advent of improved ultrasound technology, most molar pregnancies can be accurately determined. However, as in the case described, a partial mole may be difficult to distinguish from a missed abortion (IUFD). Tissue analysis evaluating for cell ploidy and close monitoring of β-hCG levels after evacuation are extremely important to ensure that no trophoblastic tissue remains. When molar pregnancy is diagnosed, follow-up and monitoring for 1 year are recommended. Figure 2 outlines a follow-up protocol.

Comment

Primary care physicians often see pregnant patients who complain of nausea and vomiting. These complaints are quite common and often not considered a serious indicator of underlying problems. Some studies even correlate nausea and vomiting as a positive predictor for pregnancy outcome. However, when vomiting becomes severe, it is important to be able to recognize hyperemesis gravidarum and determine the cause. It is important to recognize molar pregnancies in particular because of the risk of the development of a fatal trophoblastic neoplasm. A proper understanding of the proposed mechanism of nausea and vomiting in pregnancy and the knowledge that molar pregnancy can present as hyperemesis gravidarum are crucial to recognizing patients at risk.

References