Natural conception resulting in a ruptured heterotopic pregnancy in a multiparous woman

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ABSTRACT

A 31-year-old multigravida woman 16 weeks pregnant by natural conception presented with right lower abdominal pain and bloody emesis. She was hypotensive and anemic with hemoperitoneum resulting from rupture of an ectopic pregnancy. At operation, she was found to have a right tubal heterotopic pregnancy with attachments to the appendix and omentum.

KEYWORDS Hemoperitoneum; heterotopic pregnancy; natural conception; ruptured ectopic pregnancy; second trimester; ultrasound

Heterotopic pregnancies, or pregnancies with an extrauterine and intrauterine pregnancy concurrently, are rare, with a prevalence of 0.6 to 2.5 per 10,000 pregnancies.¹ They are becoming increasingly common with the advent of assisted reproduction techniques, with an incidence estimated at 1 to 3 in 100 for single embryo transfer. Since the incidence in natural fertilizations is low, at approximately 1 in 30,000,² most clinicians have a low index of suspicion for heterotopic pregnancy among patients presenting in the second trimester. We present the case of a multiparous woman who presented in hemorrhagic shock from a ruptured heterotopic pregnancy.

CASE DESCRIPTION

A 31-year-old woman who was 16 weeks' pregnant based on last menstrual period presented to the emergency department with complaints of constant right lower-quadrant pain, intractable emesis, and associated cramping. Her abdominal pain began shortly after her first prenatal visit for a natural pregnancy 3 weeks earlier. At that prenatal visit, ultrasonography was not done due to time constraints. She presented to a community emergency department multiple times over the following weeks with complaints of abdominal pain and had transabdominal bedside ultrasounds that demonstrated an intrauterine pregnancy but did not indicate an extrauterine pregnancy.

On her most recent presentation to the community emergency department, the patient was hypotensive, was tachycardic with a heart rate in the 120s beats/minute, and had a

hemoglobin of 6.0 g/dL. Formal transvaginal ultrasonography showed concern for heterotopic pregnancy with ectopic rupture and hemoperitoneum (*Figure 1*). The patient was then transferred to the nearest tertiary referral center.

At the receiving facility, the patient's hemoglobin level had dropped to 5.4 g/dL. She was transfused and taken emergently to the operating room, where she was found to have a right tubal heterotopic pregnancy with attachments to the appendix and omentum. She underwent right salpingectomy with removal of the extrauterine fetus as well as appendectomy. Pathology of the tubal pregnancy confirmed ruptured ectopic pregnancy of 17.3 weeks' gestation. Postoperatively, she miscarried her intrauterine pregnancy and was discharged on postoperative day 3 in stable condition.

DISCUSSION

In a natural pregnancy, the index of suspicion for heterotopic pregnancy is low, which may mislead the clinician to truncate bedside ultrasound evaluation. The current standard of practice for first-trimester ultrasonography includes evaluation of adnexa and cul-de-sac.³ While the incidence of heterotopic pregnancy is extremely low, the morbidity associated with a missed diagnosis of heterotopic pregnancy is significant.⁴ Diagnosis of the etiology of abdominal pain in pregnancy can be challenging given concern for effects of radiation coupled with anatomical and functional changes in pregnancy. Heterotopic pregnancy is usually diagnosed with transabdominal or transvaginal ultrasound. However, the diagnosis can be difficult even with use of transvaginal

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Figure 1. Ultrasound showing two fetuses with normal heart rates and hemoperitoneum in the pelvis.

ultrasound.⁵ In the absence of first trimester ultrasonography, as in this case, the first presenting indication of heterotopic pregnancy can be abdominal pain or vaginal bleeding.

The management options for heterotopic pregnancies depend on the age of the fetus at diagnosis. Earlier diagnosis may minimize the need for surgical management as well as decrease the risk to the patient and fetus. With the presentation of abdominal pain in a pregnant patient, further investigation is necessary to evaluate for heterotopic pregnancy while the provider investigates other emergent causes of abdominal pain in pregnancy. In particular, the adnexa should always be assessed when intrauterine pregnancy is established. Careful, complete pelvic ultrasonography in all pregnant patients with abdominal pain can help minimize the chances of missing a heterotopic pregnancy.

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