Unilateral Twin Tubal Pregnancy Treated with Single-Dose Methotrexate: The Importance of Pre-Treatment Diagnosis and Follow-Up

S. Cunningham, MD, PhD
e-Medical Education LLC, Miami, FL

Background

Unilateral twin tubal gestations are extremely rare. A case is reported involving a 19-year-old primigravida with 6 weeks of amenorrhea who had undergone an outpatient dilation and curettage 5 days previously at another healthcare facility, and sought re-evaluation for persistent vaginal bleeding and left lower quadrant abdominal pain. Three-dimensional transvaginal ultrasonography revealed two extrauterine gestational sacs without cardiac activity in the ampulla of the left fallopian tube. The patient was treated with single-dose intramuscular methotrexate (50 mg/m2) and had a β-HCG < 5 mIU/mL within 24 days.

Introduction

It has been reported that ectopic tubal gestations occur with a frequency of 1 in 200 pregnancies[1]. Unilateral twin tubal gestations are very rare, with a reported incidence of 1 in 125,000 pregnancies,[2] 95% of which are monozygotic[3].

Case Report

A 19-year-old primigravida presented at a free health clinic for evaluation of persistent vaginal bleeding and left lower quadrant pain 5 days after undergoing an outpatient dilatation and curettage in a local hospital. According to the patient, she had laboratory testing and a physical examination, but no imaging studies prior to the surgical procedure. No hospital records were available despite written request.

At the time of re-evaluation, the patient had a blood pressure of 110/60 mmHg and a pulse of 66 bpm. The abdomen was soft and tender without rebound tenderness. The posterior fornix of the vagina contained a 10-cc pool of old, non-clotted blood. The cervix was nulliparous and closed with no active bleeding. The uterus was normal in size and shape, and non-tender. The right adnexa was non-tender without a palpable mass. The left adnexa was tender without a palpable mass. The rectovaginal examination confirmed. A serum β-HCG level was 13,445 mIU/mL. The hematocrit was 36%. A three-dimensional transvaginal sonography revealed a uterus (31 x 73 mm), an endometrial thickness of 8.6 mm, and an irregular-appearing endometrial cavity without a gestational sac. The right adnexa was unremarkable. The left adnexa revealed two separate gestational sacs in the ampulla of the left fallopian tube (2.8 and 2.9 mm) without cardiac activity. There was minimal fluid in the cul-de-sac.

The patient had benign medical and gynecologic histories. Coitarche occurred with marriage at 16 years 2 months of age. She had one lifetime sexual partner and had been attempting pregnancy for 3 years. She had no history of sexually-transmitted diseases, either diagnosed or based on symptoms.

The patient was given the option to return to the hospital at which she was initially treated for surgical management or in-office medical treatment. She opted for the latter, in part for financial reasons. Thus, after explaining the risks and benefits of systemic methotrexate therapy, the patient was administered a single intramuscular dose of methotrexate (50 mg/m2). The patient returned to the clinic 3 days later for a scheduled follow-up evaluation. She was completely asymptomatic. The β-HCG level was 10,195 mIU/mL. The patient returned weekly for 21 days, at which time the β-HCG level was < 5 mIU/mL.

The contemporary management of pathologic intra- and extra-uterine gestations, including twin tubal gestations, is surgical (dilatation curettage, laparotomy, and/or laparoscopy), medical, or expectant. The choice of management is based on the hemodynamic stability of the patient, anatomic location of the gestation, level of β-HCG, embryonic/fetal cardiac activity, and size of the gestational sac. To avert hemorrhagic complications, emergent surgical procedures, and reduced reproductive capacity following missed or persistent pathologic gestations, it is essential to follow the patient until the β-HCG is negative.

Discussion

The known risk factors for tubal gestations include salpingitis, tubal surgery (tuboplasty and tubal anastomosis), impaired blastocyst transport, hormonal imbalance (supraphysiologic estrogen and/or progesterone), abnormal embryo development, and cigarette smoking. The incidence of tubal gestations is on the rise, which may reflect improved diagnostic modalities, such as color Doppler and three-dimensional ultrasonography, and increased availability of assisted reproductive techniques in women with tubal disease.

Greater than 100 unilateral twin gestations have been reported, fewer than 10% of which have been diagnosed pre-operatively or prior to medical treatment. It is noteworthy that ectopic gestations continue to account for approximately 10% of pregnancy-related deaths[4]. Fortunately, most women conceive spontaneously following an ectopic gestation (62%-73%), and the repeat ectopic gestation rate is only slightly increased (9.6%-17.3%).[5] Given the significant morbidity and mortality associated with ectopic gestations, it is important to establish an accurate diagnosis pre- or intra-operatively, or prior to medical treatment, and offer compulsive follow-up.

A tubal dizygotic twin gestation in a primigravida who conceived spontaneously and had no known risk factors for an ectopic gestation is reported. The patient underwent a surgical procedure without a thorough pre-operative evaluation and inadequate post-operative follow-up at another facility prior to re-evaluation and successful medical treatment.

References

1. Centers for Disease Control and Prevention. Ectopic pregnancy—United States, 1990-1992. MMWR Morb Mortal Wkly Rep 1995; 45:46-8.

2. Breen JL. A 21 year survey of 654 ectopic pregnancies. Am J Obstet Gynecol 1970; 106:1004-19.

3. Goker ENT, Tavmergen E, Ozcakir HT, Levi R, Adakan S. Unilateral ectopic twin pregnancy following an IVF cycle. J Obstet Gynaecol Res 2001; 27:213-15.

4. Grimes DA. Estimation of pregnancy-related mortality risk by pregnancy outcome, United States, 1991 to 1999. Am J Obstet Gynecol 2006; 194:92-4.

5. Krag Moller LB, Moeller C, Thomsen SG, et al. Success and spontaneous pregnancy rates following systemic methotrexate versus laparoscopic surgery for tubal pregnancies: a randomized trial. Acta Obstet Gynecol Scand 2009; 88:1331-7.