A unilateral twin extrauterine pregnancy occurring in a solitary fallopian tube: therapeutic choices

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Summary

A unilateral twin tubal pregnancy occurring in a solitary fallopian tube is presented. The gynecological history was notable for a previous extrauterine pregnancy in the contralateral fallopian tube and reconstructive surgery to the ipsilateral one. Radical total salpingectomy was performed. The rationale for this management is discussed and different therapeutic alternatives presented.

Key words: Extrauterine pregnancy; Twins; Solitary fallopian tube.

Introduction

Unilateral twin tubal pregnancy is a rare event. Since it was first reported in 1891, most cases have been diagnosed at the time of surgery. The first reported unruptured twin extrauterine pregnancy detected by ultrasonography was in 1986 [1].

In this report, we present a case of unilateral twin extrauterine pregnancy occurring in a solitary tube and detected by ultrasonography. A discussion of the different therapeutic options is presented.

Case Report

A 34-year-old woman, gravida 5, para 3, ectopic 1, presented at 6 weeks' gestation with a one-week history of vaginal spotting. Her past gynecological history was notable for a ruptured right tubal pregnancy five years earlier, which was treated by a total salpingectomy. Following a period of secondary infertility, hysterosalpingography was performed revealing distal left tubal obstruction. She subsequently underwent left tubal reconstructive surgery, and was started on controlled ovarian stimulation using a combination of clomiphene citrate (Serofene; Serono) and urinary follicle stimulating hormone (Metrodin; Serono). Following three months of treatment, she conceived. She failed to follow instructions on serial serum ß-human chorionic gonadotropin determinations, and appeared at the clinic at 6 weeks of gestation. Her serum ß-human chorionic gonadotropin level was 30,000 mIU/ml. Vaginal ultrasonography failed to demonstrate an intrauterine gestational sac, and revealed the presence of two well-delineated cystic structures in the left adnexa, 1 cm in diameter each. Fetal heart activity was detected in one of them. The physical examination was notable for the absence of adnexal masses and tenderness.

The patient underwent operative laparoscopy, which showed a 3.0 x 1.5 cm dilatation of the mid-ampullary portion of the left fallopian tube. Two well-separated adjacent nodular structures were identified. Total left salpingectomy was performed followed by an uncomplicated postoperative course. Pathology examination confirmed the above findings.

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Discussion

A high index of suspicion is key to the proper and prompt diagnosis of an extrauterine pregnancy. Early detection is of utmost importance and has proven to be life saving to many women. The incidence of an extrauterine pregnancy was found to increase significantly in the presence of specific risk factors. It was shown to 10-25% following a prior history of tubal pregnancy, 3-20% after tubal surgery, and 5% after ovarian stimulation [2]. In this particular case, all three risk factors were identified causing the patient to be at an excessively high risk for a repeat extrauterine pregnancy. Searching for predisposing factors during history-taking is therefore imperative, and can help identify women at risk in order to initiate early screening during the first few weeks of pregnancy and prevent potentially fatal complications.

The main therapeutic challenge this case presents relates to the choice of the most appropriate intraoperative management, i.e. whether to perform a radical salpingectomy as opposed to conservative salpingostomy. The choice of conservative surgery seemed technically feasible in the presence of an intact early ampullary tubal pregnancy. It also looked attractive as it offered the advantage of preserving the only remaining fallopian tube and hence keeping the option for natural conception. The occurrence of the tubal pregnancy in a single solitary fallopian tube however introduced a new management dilemma, based on the uncertainty of whether the adverse effects of particular risk factors on the reproductive outcome become more accentuated when a single fallopian tube remains in existence.

Unfortunately, there is little data in the literature to evaluate the outcome of conservative surgical management on the reproductive function of women with only one remaining fallopian tube. In his review of the literature, Oelsner found an extrauterine pregnancy rate of 15-17% in women with a previous ectopic pregnancy occurring in a solitary fallopian tube and treated conservatively [3].

This rate was not different from similar studies that involved women with the contralateral fallopian tube present. Interestingly, Oelsner observed a significant worsening in reproductive performance when previous tubal reconstructive surgery had been performed on the solitary fallopian tube, hence causing an increase in the extrauterine pregnancy rate to 38%. A possible explanation for this finding could be linked to the type of insult the fallopian tubes might have sustained in each situation. Women undergoing tubal reconstructive surgery for infertility are more likely to have tubal damage of advanced severity and long-standing nature. Such damage could involve the entire endosalpinx and occasionally the full thickness of the tube. In women with ectopic pregnancy however, tubal damage is likely to be more acute and often only segmental. The endosalpinx and fimbriae are usually well-preserved. It follows that the most appropriate management of an extrauterine pregnancy occurring in a solitary fallopian tube in a woman with a previous history of tubal reconstructive surgery, is therefore radical total salpingectomy.

One question remains unanswered. Does the occurrence of twin extrauterine pregnancy in a solitary fallopian tube increase the ectopic recurrence risk above that incurred by a single extrauterine pregnancy? Unfortunately, no data are available to address such concern. Yet, considering that the coincidence of finding two gestational sacs in the same fallopian tube is extremely unusual, it may be interpreted as a sign of more advanced stage of tubal disease and more involved type of tubal dysfunction. The use of conservative surgical management may therefore significantly increase the risk of future ectopic pregnancy in the same fallopian tube. Until further evidence accrues, the occurrence of a unilateral twin tubal pregnancy may be considered an additional risk factor that should influence the choice of the surgical management.

The emergence of assisted-reproductive techniques as a powerful and safe alternative to conservative tubal surgery has added a new treatment dimension for women at an excessively high risk for developing an extrauterine pregnancy. The use of radical salpingectomy followed by assisted-reproductive techniques remains the best and safest treatment option in women with previous tubal reconstructive surgery presenting with an extrauterine pregnancy in a solitary follopian tube.

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