Unilateral Ectopic Twin Pregnancy Following an IVF Cycle

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Abstract

We report here a 37-year-old woman who underwent ovulation induction and *in vitro* fertilization (IVF) and intracytoplasmic sperm injection (ICSI) treatment because of infertility who developed vaginal bleeding at the 6th week of gestation. Abdominal ultrasonography was insufficient to distinguish the intrauterine gestational sac. Subsequently, vaginal doppler ultrasonography detected two separate unilateral twin ectopic pregnancies with cardiac activity in both fetuses, which were operated on pelviscopically.

Key words: twin ectopic pregnancy, assisted reproductive technology, transvaginal sonography

Introduction

Ectopic pregnancies are more common after assisted reproductive technology (ART) cycles and we report here a case of unilateral tubal twin pregnancy consisting of two intact gestational sacs with fetal cardiac activity at the sixth gestational week, after replacement of three embryos in an *in vitro* fertilization cycle.

This case illustrates that such complications should be considered during ART cycles and that sonography is essential for the diagnosis.

Case Report

The patient was a 37-year-old woman (gravida 1, para 0), attending to the ART programme at the Ege University Familly Planning and Infertility Research and Treatment Center 16 year history of fertility problems who developed vaginal bleeding at the 6th week of gestation. Previously she had undergone a laparoscopic myomectomy in 1997 and ovulation induction and in vitro fertilization treatment and embryo transfer in 1998. The laparoscopic findings showed good bilateral tubal structure and tubal patency and there were no andrologic problems. She was accepted as an idiopathic infertility patient and since she had undergone ovulation induction and intrauterine insemination 4 times, we selected ART treatment. During this cycle, ovulation induction treatment with 225 IU luteinizing hormone and folliclestimulating hormone and homologous (Humegon amp., FSH 75 IU, LH 75 IU, i.m., Organon Pharmacy Ind.) was performed for 8 days, resulting in 4 oocytes with ovum pick-up and 3 embryos were transferred. Progesteron in oil 100 ml/d (Progesteron 25 mg amp., i.m. Eifelfango, Germany) and human chorionic gonadotropin 2000 IU (Profasi 2000 IU amp., i.m., Serono LTD) every 3 days were used for luteal phase support.

Twelve days after embryo transfer, blood sam-

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Fig. 1. Two gestational sacs on the left adnex, beside the uterus.

ples showed the following results: estradiol, 445 pg/ml; progesteron, 68 ng/ml; and HCG was 66 IU/l. One week later, estradiol was scheduled 665 pg/ml, progesteron was 46 ng/ml, and HCG was 5,546 IU/l, which showed a continuing pregnancy. The patient was scheduled for ultrasonographic control 2 weeks later. However, 4 days before the examination day, she was admitted to the hospital with vaginal bleeding. On the admission day, estradiol level was 1,003 pg/ml, while progesteron was 71 ng/ml and the HCG level was 55,845 IU/l. Abdominal ultrasonography could not distinguish the intrauterine gestational sac, but vaginal doppler ultrasonography detected 2 separate unilateral twin ectopic pregnancies with fetal cardiac activity in both at the left adnexal region and no evidence of any other intrauterine gestational sacs (Fig. 1). Both of the sacs were 22.1 mm in diameter, which was consisted with a 6 week gestation. Diagnostic laparoscopy revealed unilateral intact twin tubal pregnancy on the left ampulla. Laparoscopic salpingectomy without any complication to the patient.

Discussion

ART is effective for the management of infertility, and it has an acceptable incidence of complications, and complications rarely threaten the life of patient. However, one of the serious complications, ectopic pregnancy, may be the only lifethreatining complication in which prevalance has increased as mortality has declined.^{1,2)} Approximately 95% of extrauterine implantations occur in the oviduct and the ampulla is the most common site, with approximately 55% of all tubal implantations.³⁾ de Mouzon *et al.*¹⁾ reported that with the use of assisted reproductive techniques for infertility treatments, ectopic pregnancy rates have increased to 6–7% as compared to 1% with normal conception. However, the occurrence of unilateral twin ectopic pregnancies has remained very rare in spite of the rapidly rising incidence of singleton ectopic gestations:⁴⁾ only about 100 cases have been reported worldwide.^{5,6)} Recently, Parker *et al.*⁶⁾ calculated the incidence to be approximately 1:125,000 pregnancies.

Since this is a lifethreatening complication, early diagnosis and immediate intervention before rupture can save the patient's life and preserve fertility. Unilateral twin pregnancies were mostly diagnosed during or after surgery.⁷⁾ Parker et al.⁶⁾ reported that, to date, only 4 previous cases with 2 fetal heart motions have been reported to be detected by ultrasonography; one of them was treated by laparoscopy while the others were treated by laparotomy. The introduction of high resolution transvaginal ultrasound has resulted in the earlier diagnosis of ectopic pregnancy and contributed to the decrease in morbidity that has occurred over recent years. Thus, ectopic pregnancy becoming a condition that can be treated at reduced expense with faster recovery and higher subsequent fertility. We report here a case in which early sonographic diagnosis of unilateral tubal twin pregnancies both with cardiac activity was possible and in which successful laparoscopic treatment was performed using laparoscopic salpingectomy. Interesting finding was that of serum HCG levels were high for ectopic pregnancy, which may be characteristic of viable twin tubal pregnancies in the early gestational period.

In conclusion, ectopic pregnancy and related conditions should be considered after ART cycles, and early sonographic investigations and timely surgical interventions can lead to a good prognosis.

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