



Unexpected Heterotopic Pregnancy in the Postoperative Period following Spontaneous Conception

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Abstract:

Heterotopic pregnancy is a rare condition with high fetal and maternal morbidity and mortality. Diagnosis and management of heterotopic pregnancy is at times difficult. The bleeding in our case was presumed to be due to ectopic pregnancy, the patient was managed by surgical intervention. However, presence of HCG surge and uterine gestational sac seen on ultrasound proved that it was a heterotopic pregnancy following spontaneous conception ultimately.

Key words: Fertilization, Gestational Sac, Heterotopic Pregnancy, Pregnancy, Uterus.

Introduction

Heterotopic pregnancy (HP) is a rare clinical condition in which intrauterine and extrauterine pregnancies occur at the same time [1,2]. In recent years, with the development of assisted reproductive technology, HP has been more frequently diagnosed in clinical settings [3]. It can be life-threatening and easily missed, with the diagnosis being overlooked, especially in some spontaneous conceptions [7]. We present the case of a 16-year-old patient who was treated for an ectopic pregnancy. She had transabdominal emergency surgery due to abdominal bleeding secondary to abortion of ectopic pregnancy.

Case Report

A 16-year-old female presented with sudden onset of dizziness, lower abdominal pain, nausea,

vomiting and cold sweating. She denied any vaginal bleeding. A urine pregnancy test was positive. The physical examination revealed hypotension and tachyarrhythmia. Culdocentesis was suggestive of abdominal bleeding. Diagnosis of ruptured ectopic pregnancy was considered in view of positive urine pregnancy test and abdominal bleeding seen on culdocentesis.

Through laparotomy, there was approximately 2000 ml hemoperitoneum found in the abdomen. Upon careful examination, a bleeding spot was detected on the right tubal fimbria, which was covered by a lot of blood clots. Few chorionic villi were found on the surface of the blood clots. The uterus, bilateral tubes and ovaries appeared normal. An abortion of tubal pregnancy

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was considered. The doctor communicated the above information to the patient's father. With the informed consent, the father demanded to keep the bilateral tubes. Suturing was done at the bleeding spot.

A serum beta hCG taken just before surgery was 6140 U/L. It decreased to 1668 U/L on the second day after surgery. The patient made an unremarkable recovery from the surgery and was discharged on the third day after surgery. The tissue specimen was sent and the histology from the specimens confirmed chorionic villi, suggestive of an ectopic pregnancy. On the fourth postoperative day, the serum HCG was examined again, and was 1635 U/L. Four days later, the serum HCG rose to 5707 U/L [Fig.1]. The patient came back for a check-up. An emergency transvaginal ultrasound showed that there was an obvious gestational sac in the uterus, without adnexal mass. After one week, the transvaginal ultrasound detected a heartbeat in the uterus. The patient was able to sustain this pregnancy [Fig.2]. This was a spontaneous conception with no previous fertility treatment. She did not use any contraception in the interim.

Discussion

HP following spontaneous conception is a very rare condition, with an incidence that varies between 1/10,000 and 1/30,000 pregnancies [1]. With assisted reproductive techniques (ART), the incidence is as high as 1% [2,3]. Gynecologists sometimes face diagnostic dilemmas and challenges in heterotopic pregnancies because early transvaginal ultrasounds may not diagnose an ex-utero gestation in all cases. Identification of a pseudo-sac should be made with caution, as even in the presence of a pseudo-sac, there can be a high false positive diagnosis of an ectopic pregnancy [4]. Sometimes, the presence of a large hemorrhagic corpus luteum can confuse and delay the diagnosis of a heterotopic pregnancy as well [5]. However, in our case, the missed diagnosis

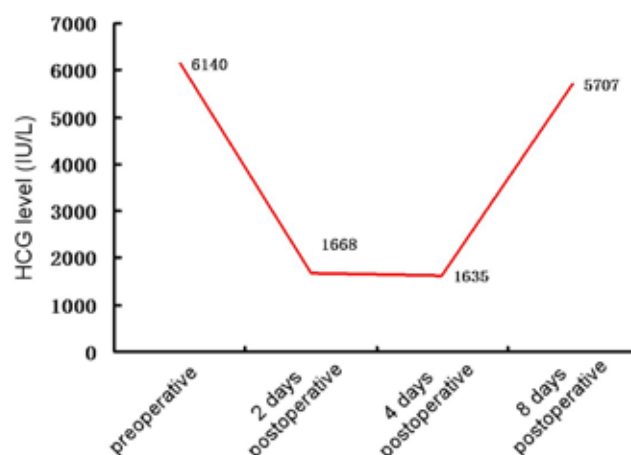


Fig.1: Serum HCG level at different time points.

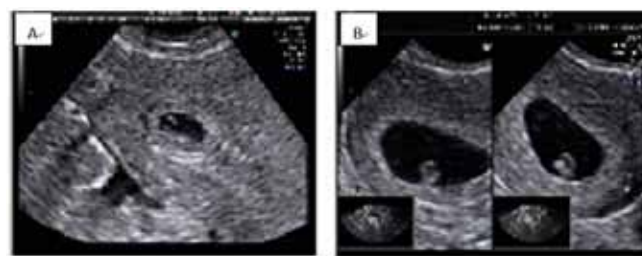


Fig.2(A): Transvaginal ultrasound of uterus showing an intrauterine gestational sac of approximately 5+ weeks. **(B):** Transvaginal ultrasound showing gestational sac with fetal pole in uterus.

of HP refers to the misdiagnosis of the intrauterine pregnancy. It is a rare case and is easily and mistakenly treated as persistent ectopic pregnancy.

The diagnostic role of serum beta hCG levels in heterotopic pregnancies is debatable and inconclusive [6]. One of the reasons for this unexpected observation is that HP is a rare condition and most patients with HP present in the emergency department with typical symptoms of ruptured ectopic pregnancy. Emergency ultrasound is not always available. Thus, a preoperative diagnosis of HP is still a challenge. In our case report, undoubtedly it was a typical ectopic pregnancy

with acute abdominal pain and intra-peritoneal hemorrhage. Emergency surgery was performed. Postoperative tissue histology also supported the diagnosis. Initially, the hCG decreased as expected. The hCG rise alerted us to the possibility of a persistent ectopic pregnancy, as the bilateral tubes were not excised. Thus serum hCG plays a more important role in follow-up than in the diagnosis of HP.

In women with a previous ectopic pregnancy, increased risks and close monitoring are required, even if the women are asymptomatic and an intrauterine gestation is confirmed. Moreover, if a patient continues to have ongoing abdominal pain with a confirmed intrauterine pregnancy, heterotopic pregnancy should be considered. Conclusions from this case report can be made that after treatment of ectopic pregnancy, either by using surgical or non-surgical means, follow-up of serum hCG is very important. Further increases in hCG are not only caused by persistent ectopic pregnancy, but can also be caused by intrauterine pregnancy of HP. Certainly, timely ultrasound examination is necessary.

Until now, ART, including ovarian hyperstimulation, is the only known independent and reliable risk factor for heterotopic pregnancy. In this case, the patient is a young woman without any infertility treatment or ovulation induction drugs. Likewise, the detection of intrauterine pregnancy

does not totally exclude the possibility of the simultaneous existence of an ectopic pregnancy. Hence, in all patients of reproductive age, even in the presence of an ectopic pregnancy, an ultrasound should be carefully done to rule out the presence of a heterotopic pregnancy.

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