

Heterotopic Pregnancy with Intrauterine Device: A Typical Case Report

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Introduction

Heterotopic pregnancy (HP) is a pathological pregnancy manifested the simultaneous coexistence of an intrauterine and an ectopic gestation; it is also a special type of multiple gestation essentially [1]. The incidence of HP is estimated as in 30,000 spontaneous pregnancies and is more rare about 1/6,000,000 women years of use in intrauterine device (IUD) users [2-5]. History of ectopic pregnancy, abortion, Ovarian Hyperstimulation Syndrome (OHSS) and *in vitro* fertilization (IVF)-embryo transfer (ET) are notable risk factors of HP [6,7]. Due to its rarity, misdiagnosis and missed diagnosis usually happened in clinic. This typical HP case with IUD is introduced to accelerate our understanding of such a rare disease onset and progression, treatment and outcomes, to ensure patient benefit.

Case Report

A 25-year-old G2P1 woman was admitted to local township hospital emergency department with sudden abdominal pain lasted an hour. The patient had painful and anemic appearance. Upon physical examination, vital signs were within normal limit, and lower abdominal tenderness especially on the left side was tested. Upon gynecological examination, a 2 cm diameter mass of left adnexa with tenderness was touched; 1 ml non-clotting blood was drawn off by posterior vaginal fornix puncture. Blood test showed hemoglobin level is 88 g/L, red blood cell count is $2.8 \times 10^9/L$ and white blood cell count is $12.6 \times 10^{12}/L$. Trans-abdominal ultrasound showed a left adnexal mass (3×2 cm) and uterine rectum fossa effusion (18 mm deep) with strong spot.

Look back to her medical history; she ever visited to the hospital due to 44 days menopause 10 days ago. At that time, the urine pregnancy test was positive and the trans-abdominal ultrasound showed an intrauterine gestation, a suspected left tubal pregnancy and an IUD in uterine cavity. Due to contraceptive failure, the woman choose an artificial abortion to terminate the unintended pregnancy and the useless IUD was taken out simultaneously. The villi was seen in intrauterine aspirates, so the doctors didn't pay attention to the suspected left tubal pregnancy any more.

Signs of acute abdomen and suspected ectopic pregnancy warranted urgent intervention. The patient and her husband were informed of all the benefits and risks of the disease progression and the emergency operation. With their agreement, an emergency laparotomy was operated immediately. It was found that much blood (1200 ml) and blood clots (400 ml) in the abdominal cavity. The left fallopian tube turned thick obviously and a 1.5 cm gap with active bleeding was seen and the villus was exposure. Other organs were normal in the abdomen and pelvic. So the ruptured fallopian tube was removed

finally. The postoperative pathology confirmed preoperative diagnosis. The patient was discharged well and used condoms for contraception.

Discussion

IUD is a safe and effective contraceptive method for women. Pregnancy with IUD means contraceptive failure. HP with IUD is extremely rare and its report is few [5]. It is not difficult to diagnose the independent intrauterine pregnancy or ectopic pregnancy in clinic now. However, diagnosis of HP is difficult and isn't as direct as the diagnosis of an ectopic pregnancy. Because of the low incidence and the well HCG support of intrauterine embryos, the patient may not present any symptoms of ectopic pregnancy such as bleeding, so it is usually ignored by doctors or patients but be found by acute abdominal pain that need emergency operation even endanger life [8-11].

Immediate intervention remains the only viable option for acute presentation of HP. Laparoscopy often be considered as a safe option among most of the clinicians, because it offers both diagnosis and management and allows for minimal handling of the uterus. If the patient wants to keep the intrauterine fetus, laparoscopy is an ideal choice; the outcome of the intrauterine pregnancy is comparable to that obtained with laparotomy [12-15]. Our reported case is an unintended pregnancy with IUD, so the patient selected artificial abortion to terminate the intrauterine pregnancy before the found of coexistent ectopic pregnancy.

The occurrence and development of our case is typical. The patient was admitted to hospital because of menopause without any other symptoms. When they found villus in the aspirated tissues and the patient had no risk of HP such as ART, PID, they ignored the suspected left tubal pregnancy reported by ultrasound. So it was found 10 days later because of rupture of tubal pregnancy. Fortunately, the patient was rescued from danger by emergency laparoscopy.

Through our typical case sharing, we want to alert all clinicians that IUD is a relative safe contraceptive method; there is still some risk of failure. If the user appears some pregnancy symptoms, we should cognize the possibility of pregnancy and follow-up to exclude suspected HP and as far as possible to give the patient the best outcome in the future.

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