

Pre-Operative Diagnostic Dilemma-Ovarian Ectopic Pregnancy

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Abstract

Primary ovarian pregnancy is one of the rarest varieties of ectopic pregnancies. Patients frequently present with abdominal pain and menstrual irregularities. Preoperative diagnosis is challenging but transvaginal sonography has often been helpful. A diagnostic delay may lead to rupture, secondary implantation or operative difficulties. Therefore, awareness of this rare condition is important in reducing the associated risks. Here, we report a case report of ovarian pregnancy presented. A 29-year-old woman, nulliparous, was admitted to the hospital for suspected ectopic pregnancy. A transvaginal sonography failed to hint at ovarian ectopic. She was successfully managed by surgery and histological studies confirmed an ovarian pregnancy.

Keywords

Ovarian, Pregnancy, Transvaginal Ultrasound

1. Introduction

Ovarian pregnancy is a rare form of ectopic pregnancy. It is often difficult to distinguish from tubal pregnancy and diagnosis and management are frequently a challenge. The incidence is estimated to be 3% of diagnosed ectopic pregnancies [1]. We report a case of ruptured ovarian pregnancy misdiagnosed as tubal pregnancy which caused significant haemoperitoneum and was successfully treated by conservative laparoscopy.

2. Case Report

A 29-year-old nulliparous women presented to the Accident and Emergency Department complaining of light vaginal bleeding and lower abdominal pain. She reported a history of five weeks amenorrhea and her previous menstrual cycles were regular. She had no history of sexually transmitted disease or pelvic inflammatory disease

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or previous gynaecological surgery. On examination her blood pressure was BP 115/70 mmHg, pulse 80/min, temperature 36.6°C and tenderness in the left iliac fossa were observed. On speculum examination there was a small amount of blood in the vagina but the cervical os was closed. On bimanual examination she was found to have a normal size anteverted uterus and no cervical tenderness. The left adnexa was tender to palpation but no adnexal mass was felt. Urine pregnancy test was positive and the serum beta-chorionic gonadotropin (beta-hCG) level was 2459 mIU/ml. Transvaginal ultrasound examination showed an empty uterus, the right ovary was normal and left ovary contain a small cystic structure measuring 8.8 × 10.4 mm with a transonic area at its centre measuring 5.1 × 4.4 mm. There was a small amount of free fluid noted in the pouch of Douglas. Her initial laboratory results were: haemoglobin (Hb): 12.9 g/dL, white blood cells (wbc): 8.9, platelets: 172. She was informed that an ectopic pregnancy was suspected.

She was discharged home but returned later that night for a follow up the following day, she complained of severe lower abdominal pain and there was rebound tenderness during physical examination. Her pulse 90/min and blood pressure 80/57 mmHg. Hb level dropped to 10.2 g/dL. She was immediately taken to theatre with a presumptive diagnosis of a ruptured ectopic pregnancy and hemoperitoneum. Emergency laparoscopy was performed. During laparoscopy, 1 litre of fresh blood along with dark blood clots was evacuated from the abdominal cavity. Both fallopian tubes were normal. Active bleeding was observed from the left ovary, where a hemorrhagic mass suggestive of ruptured ovarian ectopic was present (**Figure 1(a)**) The gestation sac was easily shelled out of the encasing ovarian tissue (**Figure 1(b)**) The ovarian ectopic pregnancy was resected with conservation of the left ovary. Pathological analysis confirmed a left ovarian pregnancy with the presence of decidualized stroma, blood clot and chorionic villi. After laparoscopy, haemoglobin was 8.8 g/dL, and no blood transfusion was needed. She had an uneventful postoperative course and was discharged 2 days later.

3. Discussion

Ovarian pregnancy is a rare variant of ectopic pregnancy, constituting 1% - 3% of all ectopic Pregnancies [1]. It is one of the causes of maternal death in the first trimester accounting for approximately 10% of deaths related to pregnancy [2] [3].

The aetiology of ovarian pregnancy remains unclear, it occurs as a result of a fertilised ovum getting implanted on the ovarian tissue. Although several factors, such as pelvic Inflammatory disease and previous gynaecological surgery are closely linked to tubal pregnancies but do not seem to be related to ovarian pregnancies [4]. Ovarian ectopic pregnancies have been mostly associated with high parity, younger age and people receiving *in-vitro* fertilisation treatment [5] [6]. It has been found that intrauterine device use and ovulation induction are the most common risk factors for ovarian ectopic pregnancy [7].

The clinical findings of ectopic pregnancy include secondary amenorrhoea, abdominal pain and vaginal bleeding, with a clinical picture of varying acuteness [8]. It has been reported that the presentation of ovarian ectopic pregnancies can be delayed [4] [9].

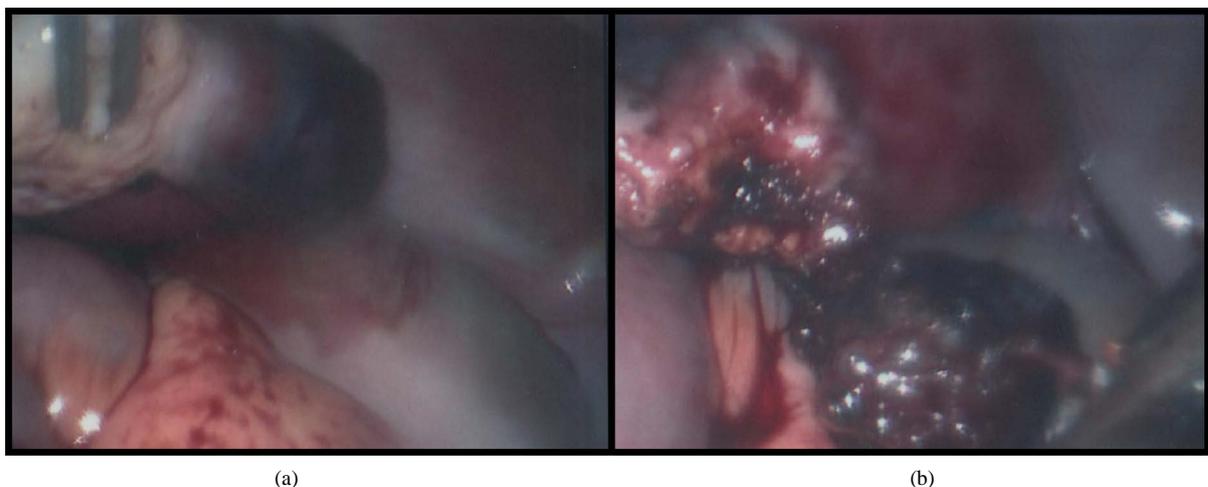


Figure 1. (a) Showing intraoperative primary ovarian pregnancy; (b) Showing the appearance of the left ovary after removal of ectopic pregnancy.

This case meets all the diagnostic criteria as described by Spiegelberg:

- 1) An intact fallopian tube on the affected side;
- 2) A gestational sac must occupy the normal position of the ovary;
- 3) The ovary and gestational sac must be connected by the Utero-ovarian ligament to the uterus;
- 4) Histological confirmation of ovarian tissue in the gestational sac wall [10].

Investigation is mainly with transvaginal ultrasound scan which can detect ovarian ectopic pregnancy. However, ultrasound scan may not be able to diagnose all cases of Ovarian pregnancy due to anatomical location. Laparoscopy is the gold standard for both investigation and therapeutic intervention [11] [12]. It is the treatment of choice for haemodynamically stable patients [12]. The aim should be to conserve the ovary on which the ectopic pregnancy is attached to by doing an ovarian cystectomy or wedge resection [8]. Patients who are haemodynamically unstable would need an urgent laparotomy [8]. Methotrexate is a good alternative to laparoscopic management in unruptured ovarian ectopic pregnancy; however, its toxicity has to be taken into account [13] [14].

Learning points:

- Ovarian ectopic pregnancy can present with mild pain and tenderness and very subtle clinical findings and can therefore be easily missed and even discharged, posing a big diagnostic challenge.
- One should have a high index of suspicion of ovarian ectopic pregnancies even when the patient has no risk factors.
- Ovarian ectopic pregnancy can have a delayed presentation compared to tubal ectopic pregnancies.
- In the case of an ovarian ectopic pregnancy, the ovary can be conserved in many cases.

4. Conclusion

Ovarian ectopic pregnancy may appear as a challenging diagnostic case. It is especially so because of its rare incidence, it is a serious complication of pregnancy accounting for 0.25 to 1.5 of all pregnancies. Early diagnosis though necessary to ensure a successful outcome may be difficult unless this condition kept in mind. Our findings suggest that laparoscopic management by ovarian electro-cauterization, resection of the ectopic pregnancy and retaining as much ovarian tissue as possible is an appropriate method with good efficacy and low complication rate for infertility.

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