

Spontaneously Conceived Heterotopic Pregnancy in a Lady with Recurrent Pregnancy Loss-Diagnostic Dilemma and Management

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Abstract: *Heterotopic pregnancy is characterised by an ectopic gestation existing with an intrauterine pregnancy. It is rare in a spontaneous conception, with incidence increasing with advent of artificial reproductive techniques. The diagnosis remains challenging, with symptoms presenting as complications of first trimester pregnancy, and early ultrasound imaging may be inconclusive. Hence, it requires high clinical suspicion and timely intervention to avoid serious complications. We present a case of naturally conceived heterotopic pregnancy in a lady with previous two abortions, with autoimmune disease. On initial presentation, the case was diagnosed as an intrauterine pregnancy with corpus luteal cyst rupture. On subsequent presentation, diagnosis of heterotopic pregnancy with ruptured ectopic was made. The patient was managed by emergency laparotomy. Post surgery, patient carried her intrauterine pregnancy well, successfully delivering a healthy baby at term. The case highlights the need for clinical suspicion, supported with imaging modalities and timely management for a favorable outcome.*

Keywords: Ectopic pregnancy, Heterotopic pregnancy, Adnexal mass, Ultrasound imaging, Laparotomy

1. Introduction

Heterotopic pregnancy is a rare condition of an intrauterine and an extra uterine pregnancy occurring simultaneously [1]. Fallopian tube is the most common site of extra uterine pregnancy, but other locations like ovary, cervix, and peritoneal cavity have also been reported [2].

In a spontaneous pregnancy, its incidence has been estimated to range from 1:7963 to 1:30000 [3]. Assisted reproductive techniques have increased the risk of heterotopic pregnancies, with incidence reported as approximately 1:100 pregnancies [4]. Other risk factors include previous pelvic inflammatory disease, pelvic adhesion, endometriosis, tubal pathologies such as infection, previous tubal surgeries, or previous ectopic pregnancy [5].

In the initial 4-5 weeks of pregnancy, patient may remain asymptomatic and later present with abdominal pain, vaginal bleeding and dizziness, mimicking symptoms overlapping with normal intrauterine pregnancy, making diagnosis challenging.

Ultrasound imaging remains the investigation of choice, with transvaginal sonography being considered the best method. In a review article, transvaginal ultrasonography has been shown to have a sensitivity ranging from 74% to 84% and a specificity of 84% to 99% for detection of ectopic pregnancy [6].

Often presenting as a gynaecological emergency, its diagnosis and complications possess a challenge, requiring high index of clinical suspicion and timely management.

2. Case Report

A 28 year G3A2, with known case of systemic lupus erythematosus and hypothyroidism presented at 8 weeks of gestation from her last menstrual period, with left sided abdominal pain since one day. It was a spontaneous conception. Patient had a history of previous 2 spontaneous first trimester abortions, and due to her condition of autoimmune disorder, she was on anticoagulants- oral aspirin and injectable low molecular weight heparin. At the time of presentation, patient had stable vitals. Abdomen was soft, with mild tenderness over left lower abdomen. Per Speculum examination was normal. On ultrasound examination, a single live intra uterine fetus with crown rump length of 8 weeks with good cardiac activity was noted, along with a left adnexal complex mass measuring 2 cm by 3 cm, with hemoperitoneum. A suspicion of ruptured corpus luteal cyst was considered. Patient's blood investigation showed hemoglobin of 8 mg/dl. Her anticoagulants were discontinued. Patient was planned for conservative management as her vitals were stable and patient was reluctant for invasive procedures owing to the precious pregnancy. She was transfused 2 units of packed RBC, and a close monitoring was done.

Repeat ultrasound after 48 hours showed live intrauterine pregnancy with resolving minimal fluid in right hypochondrium. Patient was symptomatically better, and discharged in stable condition after 72 hours of admission with advice to follow up.

The patient presented again within 48 hours with complaints of pain abdomen. Repeat ultrasound showed live intrauterine pregnancy of 8 weeks and 1 day (Fig.1), with another

gestational sac in right adnexa with single embryo with CRL of 7 weeks and 6 days without cardiac activity, with hemoperitoneum (Fig. 2). Her Blood Pressure was 94/60 mm Hg and pulse rate was 108 per minute. A diagnosis of heterotopic pregnancy with ruptured ectopic was made.

Patient was planned for emergency exploratory laparotomy.

Intraoperative findings showed hemoperitoneum of 1000 ml, with a bulky uterus corresponding to 8 weeks size, with adnexal mass of 2 cm by 5 cm in right fallopian tube in ampullary region (Fig. 3). Left tube and bilateral ovaries were normal. Right salpingectomy was done. Post operatively patient recovered well.

Ultrasound done after 24 hours showed live intrauterine pregnancy with good cardiac activity. Histopathology report confirmed the diagnosis of ectopic pregnancy (Fig. 4).

Patient carried on well with her pregnancy, and delivered a healthy live baby at term gestation.

3. Discussion

In a natural conception, heterotopic pregnancy is a rare event and an early diagnosis is challenging in the absence of clinical symptoms.

Ultrasound imaging, especially transvaginal sonography is an important tool for detection of an ectopic gestation in a heterotopic pregnancy, but it is dependent on the expertise of the operator. The fallopian tubes are the most common site for an ectopic pregnancy, appearing as an adnexal mass separate from ovary with thick wall echogenic ring on TVS, with peripheral circular vascularity on color doppler. However, the ectopic pregnancy can be mistaken for a corpus luteal cyst due to similar ultrasound findings [7].

Even in a suspected heterotopic pregnancy, the identification of ectopic gestation is difficult in the presence of hemoperitoneum.

In our case, a similar dilemma was encountered due to a vague finding of an adnexal mass with hemoperitoneum without visualisation of ectopic gestational sac or embryo during the initial ultrasound assessment, resulting in a delay in diagnosis and subsequent management.

In a diagnosed case of heterotopic pregnancy with unruptured ectopic, management options include medical management with potassium chloride or hyperosmolar glucose injected locally to the intact heterotopic gestational sac or fetus under ultrasound guidance [8].

Cases with ruptured ectopic pregnancy with viable intrauterine pregnancy should be managed surgically. Laparoscopy is safe in all trimesters, being safest in second trimester in terms of risk of abortion and teratogenesis. With respect to the outcome of intrauterine pregnancy, both laparoscopy and laparotomy have shown similar outcomes, with laparoscopy being preferred due to its less invasive nature, and better patient outcome [9].

Laparotomy is opted depending on the clinical condition and expertise. Our patient was managed by emergency laparotomy due to her deteriorating vitals.

Study on the outcome of patients with heterotopic pregnancy after surgical management shows a live birth rate of 75 percent [10]. The outcome in our case was also favorable, with a male baby delivered at term, weighing 2.9 kg with apgar score of 7 and 9 at 1 minute and 5 minutes respectively.

4. Conclusion

Any early pregnancy presenting with acute abdomen should be investigated with high clinical suspicion for concurrent ectopic pregnancy, especially if associated with adnexal mass.

The ultrasound scans during early pregnancy should also include the assessment of adnexa, and the presence of intrauterine pregnancy does not eliminate the need of scanning for ectopic sites.

The timing of diagnosis in a case of heterotopic pregnancy has an impact on the prognosis of both the mother and the fetus, and a delayed diagnosis can increase the morbidity and mortality for both.

Heterotopic pregnancy presenting with ruptured ectopic should be promptly managed surgically with laparoscopy being the preferred route, or by laparotomy as per the clinical situation and available facilities.

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Contribution details:

Dr. Millo Suka: Patient care, collecting data, drafting manuscript

Dr. Krupa Gada: Patient care, collecting data, providing inputs for manuscript drafting

Dr. Tomar Basar: Patient diagnosis and management, revision of manuscript

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Figure Chart

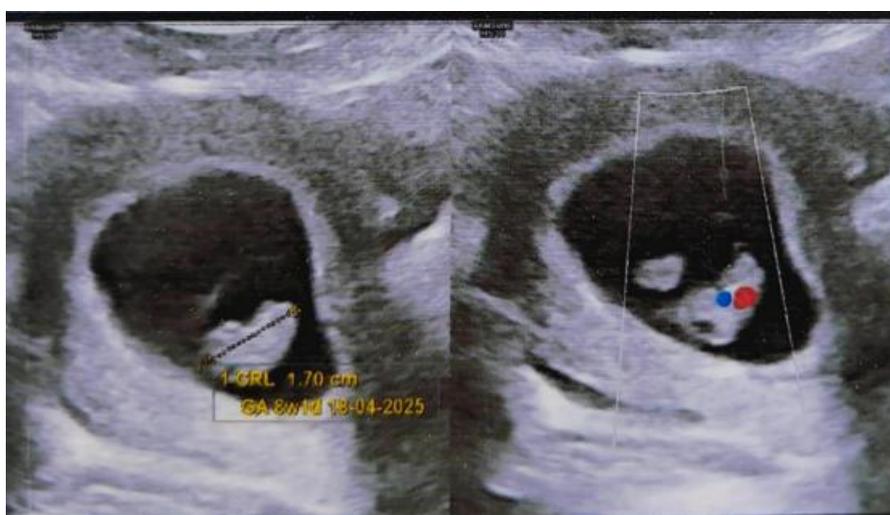


Figure 1: Ultrasound finding of live intra uterine pregnancy

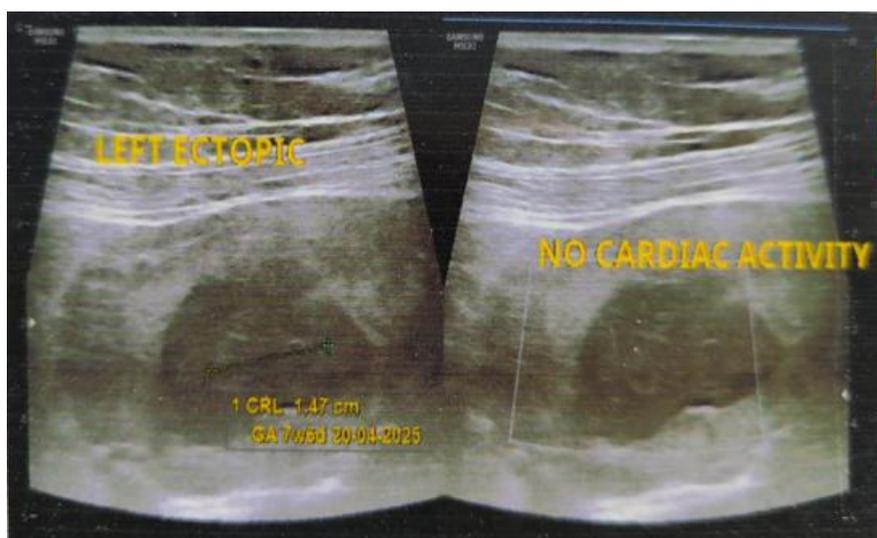


Figure 2: Ultrasound finding of left adnexal ectopic pregnancy



Figure 3: Intra operative finding of ectopic pregnancy in left fallopian tube

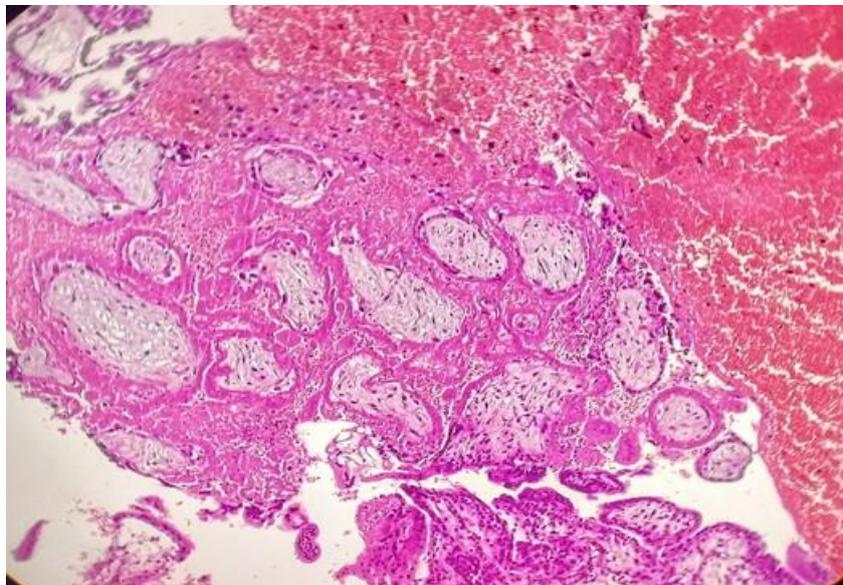


Figure 4: Histopathology finding of chorionic villi and trophoblastic cells in fallopian tube suggesting ectopic gestation