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Case Report

Case study on heterotopic pregnancy

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ABSTRACT

Heterotopic pregnancy (HP) is a rare, life–threatening condition due to the occurrence of pregnancies in at least two different implantation sites at the same time. The diagnostic dilemma often ends up in delayed treatment. This case report signifies the vitality in considering the possibility of heterotopic pregnancy, the need for precise ultrasound examinations, and timely intervention to reduce feto-maternal mortality.

Keywords: Heterotopic pregnancy, Ectopic pregnancy, Hemoperitoneum

INTRODUCTION

Heterotopic pregnancy (HP) is a rare complication of pregnancy, in which both extra-uterine and intrauterine gestation occur simultaneously. The estimated incidence in the general population is estimated at 1:30,000 (for a naturally conceived pregnancy).[1] The incidence among patients with assisted reproduction is higher and is thought to be around 1-3:100.[2] The most common ectopic pregnancies are located in the fallopian tubes. Abdominal location increases the risk of maternal mortality up to 90 times higher than a normal intrauterine pregnancy.[5] The main treatment consists of removing the ectopic pregnancy (EP), while preserving the intrauterine one.

CASE REPORT

A unique case of HP diagnosed at 7 weeks of spontaneous pregnancy in a patient without any significant risk factors.

A 40-year-old lady, gravida 3 para 2 living 2, was referred to our hospital with severe lower abdomen pain. She was examined in the emergency department on 8/8/24. As per the patient the intensity of pain had increased since morning and had spotting per vagina 2 weeks back.

She had previous 2 normal, vaginal deliveries. Her last child birth was 5 years back. Her first day of LMP was on 15/6/24. Beta-hCG done was 179110.00 mIU/ml.

On examination, her pulse rate was 108 beats per minute and blood pressure was 115/55mmHg. Per abdomen examination revealed tenderness in the lower abdomen.

Ultrasound examination showed heterotopic live gestation with one live intrauterine and a live adnexal ectopic gestation. Moderate hemoperitoneum noted.

Figure 1: Transvaginal ultrasound showing HP.

The intrauterine gestational sac was seen with a live embryo, 7 weeks 5 days gestational age and compatible with the patient's last period date.

The other gestational sac was located in the right adnexal region, consistent with EP, measuring 34×32 mm in size with a gestational sac within it. A live embryo was seen within.

She was taken immediately for laparoscopic right salpingectomy on 08/08/2024 explaining the risk of miscarriage.

Intra-operative findings

Right side tubal pregnancy with bleeding from the fimbrial end was noted. Isthmic ampullary area was the site of EP. Right salpingectomy was done. Postoperatively, ultrasound was done to confirm live intrauterine fetus. Histopathology report confirmed ruptured EP.

Trans-abdominal sonography during follow up reveled single live intrauterine pregnancy of 8 weeks and 4 days.

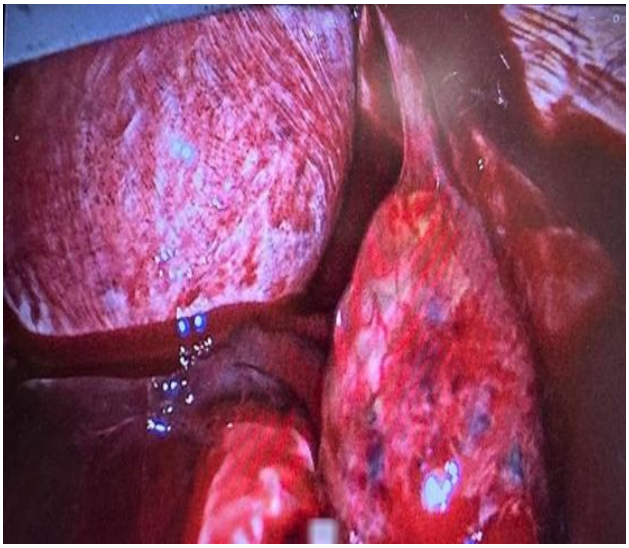

Figure 2: Laparoscopic image showing right tubal ruptured ectopic with hemoperitoneum.

DISCUSSION

The HP is defined by the coexistence of an ectopic and intrauterine pregnancy. The suspicious symptoms of heterotopic pregnancies are non specific as it can be seen in a normal intrauterine pregnancy/ EP as well. Tal et al report that in 70% of case, heterotopic pregnancies are diagnosed between 5th and 8th week of gestation. The major symptoms are abdominal pain-83%, surgical abdomen symptoms and shock-13% and vaginal bleeding- 50%of cases.[3]

The important risk factors for the development of a HP include family history, endometriosis, tubal disease, history of pelvic inflammation, high hormone levels, embryo transfer technique.[2] A detailed history and physical examination are important to explore all risk factors related to HP, which are common to those of EP: unnoticed chronic *Chlamydia trachomatis* infections. Pelvic inflammatory disease, previous ectopic pregnancies, tubo-ovarian abscess, previous tubal surgery.[5] Smoking has shown an increase in the incidence up to 1%.[6] Walker et al proved that in patients treated for infertility and those who underwent in-vitro fertilization, have a risk of HP 400-fold in comparison to natural conception.[4] In recent national assisted reproductive technology surveillance systems between 2001 and 2011, which reported 553,577 pregnancies, only 485 heterotopic pregnancies were identified-that is 1 per 1111.[7]

Continuous determination of serum beta hCG is essential for diagnosing EP, but it is meaningless for diagnosing HP.[11] The first line paraclinical examination is suprapubic and transvaginal pelvic ultrasound. It enables the diagnosis of two concomitant pregnancies, specifying the vitality or otherwise of the intrauterine pregnancy and the location of EP.[8] The visualization of hemoperitoneum supports the diagnosis.[9] The patient should be thoroughly investigated, magnetic resonance imaging can be useful, as it can show an adnexal lesion that may be cystic or looks like a gestational sac.[9]

Medical management, including systemic methotrexate is contraindicated because of its potential harmful effect on the viable intrauterine pregnancy.[13] Surgery is still the primary treatment for HP and no adverse effect on the foetus have been reported. It includes laparoscopy or laparotomy. Single incision laparoscopy was first introduced for the treatment of EP by Ghezzi et al.[14] According to studies, there is no statistically significant difference between the impact of laparotomy and laparoscopic surgery on the abortion rate of intrauterine pregnancy.[12] However, in hemodynamically unstable patients, laparotomy may be needed

CONCLUSION

HP is a life-threatening condition often linked with diagnostic difficulty and delays in treatment. This case report discussion points at the importance of clinical promptness and the need for precise ultrasound examination in order to make the diagnosis as early as possible. The visualisation of a normal, intrauterine pregnancy should not release the doctor from the necessity of imaging of adnexa. The clinicians should consider the possibility of HP in patients who had undergone assisted reproductive measures. A high index of suspicion and early surgical intervention can minimise the morbidity and mortality of the patient and her intrauterine foetus.

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