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Heterotopic Pregnancy Presenting as Maternal Acute Abdomen at 19 Weeks of Gestation: A Case Report

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ABSTRACT

Heterotopic pregnancy is the simultaneous presence of intrauterine and ectopic gestations. It is typically diagnosed in the first trimester via sonography or when patients present with vaginal bleeding or abdominal pain. We report a case of a 26-year-old Asian primigravida woman who conceived through ovulation induction and presented at 19 weeks and 4 days of gestation—one week after a successful Macdonald cerclage, with severe abdominal pain and hemodynamic instability. Bedside ultrasound revealed significant hemoperitoneum and a viable intrauterine fetus. Emergency laparotomy identified an unruptured right fallopian tube containing a 5 × 6 cm mass. A right salpingectomy was performed due to suspected ectopic pregnancy, and no other bleeding source was found. Histopathology confirmed tubal ectopic pregnancy. The postoperative course was uneventful, and the intrauterine pregnancy successfully progressed to term. Heterotopic pregnancy should be considered in the differential diagnosis of hemoperitoneum, even in the second trimester.

Introduction

Heterotopic pregnancy (HP) is defined as the simultaneous presence of an intrauterine pregnancy and a concurrent ectopic pregnancy. Historically considered rare estimated to occur in approximately 1 in 30,000 pregnancies the incidence of heterotopic pregnancy has notably increased with the widespread use of assisted reproductive technologies (ART), including super-ovulation, intrauterine insemination, and in vitro fertilization (IVF) [1].

Additional risk factors for heterotopic pregnancy include a history of pelvic inflammatory disease and previous fallopian tube pathology [2]. Clinically, patients may present with abdominal pain and vaginal bleeding. In cases of ruptured tubal ectopic pregnancy, an acute abdomen and hemodynamic instability may develop.

Early diagnosis of heterotopic pregnancy remains

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challenging, as patients may be asymptomatic or diagnosed only after significant clinical deterioration or advanced gestational age. Heterotopic pregnancy poses a serious risk for maternal morbidity and can be life-threatening. A ruptured ectopic pregnancy should be suspected in patients presenting with sudden, severe, and persistent abdominal pain, syncope or presyncope, and signs of hemodynamic compromise such as hypotension or tachycardia. Prompt evaluation in an emergency setting is critical.

Case Presentation

A 26-year-old Asian primigravida woman, who conceived via ovulation induction, presented to the emergency department at 19 weeks and 4 days of gestation with abdominal pain. She had no underlying medical conditions.

Initial ultrasound at 8 weeks, prompted by delayed menstruation, confirmed a single intrauterine pregnancy with a normal fetal heart rate and no adnexal abnormalities. At 10 weeks' gestation, following vaginal bleeding, ultrasound revealed a viable intrauterine pregnancy and a 13 × 4 mm subchorionic hematoma, with no adnexal masses noted. A nuchal translucency scan at 13 weeks and 3 days demonstrated a live intrauterine fetus with no adnexal abnormalities (NT = 1.65 mm; 36th percentile for CRL = 73 mm). The combined first-trimester screening showed a risk of 1:205 for Down syndrome, and biochemical screening indicated a risk of 1:95 (PAPP-A = 0.59 MoM; free β-hCG = 3.54 MoM). During counseling, the patient opted not to pursue further genetic testing and continued the pregnancy.

At 18 weeks and 3 days, a fetal anomaly scan showed normal fetal growth and morphology. The placenta was anterior, the amniotic fluid volume was normal, and the cervical length measured 14 mm. On a repeat scan the following day, the cervical length had reduced to 11 mm, and the patient subsequently underwent McDonald cerclage placement. She was discharged in stable condition the next day, with a hemoglobin level of 11.8 g/dL.

One week later, at 19 weeks and 4 days, she returned to the emergency department with sudden-onset, generalized abdominal pain radiating to the shoulder, accompanied by orthostatic hypotension. Vital signs showed tachycardia (pulse 121 bpm), blood pressure of 90/60 mmHg, respiratory rate of 16 breaths per minute, oxygen saturation of 99%, and a Glasgow Coma Scale (GCS) score of 15. Physical examination revealed rebound tenderness and a gravid uterus consistent with gestational age. Fetal heart rate was 140 bpm and regular. Speculum examination showed no vaginal bleeding.

Ultrasound examination identified a large volume of free intraperitoneal fluid and a viable intrauterine pregnancy. In the right adnexa, a heterogeneous echogenic mass (5 × 4 cm) raised suspicion for ectopic pregnancy or a tubal lesion. Laboratory investigations revealed hemoglobin of 8.1 g/dL with a normal coagulation profile (INR = 1).

The patient underwent emergent exploratory laparotomy under general anesthesia, with both obstetric and surgical teams present. Intraoperative findings included approximately 1000 mL of hemoperitoneum and a distended, unruptured right fallopian tube containing a 5 × 6 cm mass. Abdominal exploration was performed to identify any other potential sources of bleeding. A right salpingectomy was carried out as the presumed source of hemorrhage, with no other intra-abdominal bleeding sources identified (Figure 1). Two units of packed red blood cells were transfused intraoperatively, and the fetal heart rate remained stable at 150 bpm.

Her recovery was uneventful; she was discharged on postoperative day 3. Histopathological examination confirmed extensive hemorrhagic necrosis and necrotic fibrotic chorionic villi within the muscular layer of the fallopian tube, consistent with a tubal ectopic pregnancy, thereby establishing the diagnosis of heterotopic pregnancy. Although the fallopian tube did not rupture, it is believed that the severe hemoperitoneum resulted from blood leakage from the fimbrial end.

Throughout the remainder of the pregnancy, fetal well-being scans continued to be reassuring, with fetal growth tracking at the 20th percentile. The McDonald cerclage was removed at 37 weeks. The patient presented in early labor at 37 weeks and 2 days and delivered a healthy female infant weighing 2810 g via spontaneous vaginal delivery (Table 1). The postpartum course was uncomplicated. The patient experienced initial psychological distress due to the unexpected diagnosis and surgical intervention. However, she remained cooperative throughout the pregnancy, and the successful delivery of a healthy infant ultimately transformed the experience into one of resilience and gratitude.

Discussion

Heterotopic pregnancy is a rare condition in which two pregnancies coexist in separate implantation

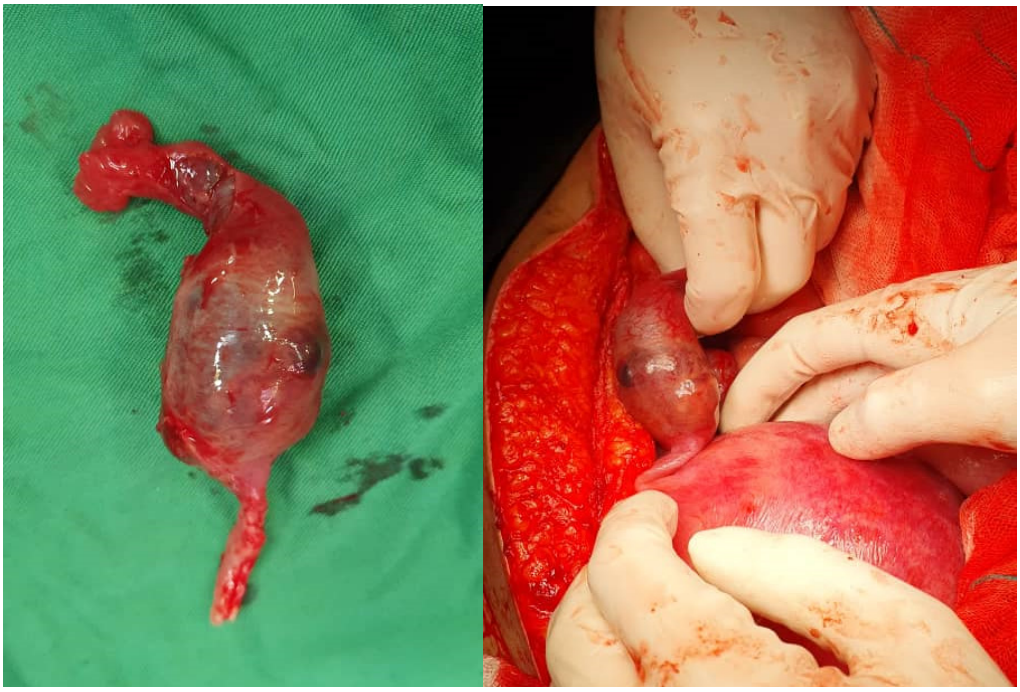

Fig. 1. Right salpingectomy performed intraoperatively for an unruptured ectopic component in heterotopic pregnancy.

Table 1. Summary of key clinical events and interventions during pregnancy

GESTATIONAL AGE (WEEKS +DAYS)	SUMMARY OF EVENTS
8	Viable intrauterine pregnancy confirmed via ultrasound; no adnexal abnormalities.
10	Vaginal bleeding; subchorionic hematoma (13×4 mm) detected. no adnexal masses noted.
13+3	Normal NT scan; no adnexal findings.
18+3	Normal anomaly scan; cervical length 14 mm, with no adnexal masses or pelvic free fluid observed.
18+4	Cervical length reduced to 11 mm; McDonald cerclage placed.
19+4	Acute abdominal pain; hemoperitoneum and right adnexal mass found; laparotomy and right salpingectomy performed; pathology confirmed tubal ectopic pregnancy.
20	Postoperative discharge.
32	Fetal growth is at the 20th percentile.
37	Cerclage removed.
37+2	Spontaneous vaginal delivery of a healthy female infant (2810 g).

sites one intrauterine and one ectopic usually within the fallopian tube [3]. The primary risk factors for heterotopic pregnancy include assisted reproductive technologies (ART), particularly IVF in fresh, non-donor cycles or following multiple embryo transfers. Additionally, a history of extrauterine pregnancy, prior pelvic surgeries (such as salpingectomy, salpingostomy, or tubal reconstruction), and pelvic inflammatory disease increases susceptibility to heterotopic pregnancy [4].

Most cases of heterotopic pregnancy are diagnosed early in pregnancy, typically before 11 weeks of gestation. However, late presentations such as the one described at 19 weeks are rare and pose significant diagnostic challenges [4]. In this case, serial ultrasound evaluations at 8, 10, 13, and 18 weeks failed to identify the ectopic component, underscoring the difficulty of diagnosis in general settings where heterotopic pregnancy is infrequent.

Transvaginal ultrasonography (TVUS) remains the most sensitive and specific imaging modality for detecting heterotopic pregnancy, especially in IVF patients. Nonetheless, cognitive biases such as anchoring bias and satisfaction of search can contribute to missed or misinterpreted findings.

Given the advanced gestational age and previously normal imaging, ruptured heterotopic pregnancy was initially excluded, highlighting the importance of sustained clinical suspicion throughout all

stages of pregnancy [3]. In clinically stable patients, magnetic resonance imaging (MRI), combined with ultrasonography, can aid in confirming the diagnosis and directing appropriate management [5].

Conclusion

Heterotopic pregnancy should be considered as a potential differential diagnosis when evaluating hemoperitoneum in the second trimester [4]. The coexistence of an intrauterine and ectopic pregnancy presents unique diagnostic and therapeutic challenges, particularly at later gestational ages [3]. Employing advanced imaging modalities and maintaining a high index of clinical suspicion are critical for the timely identification and effective management of this condition, ultimately improving maternal and fetal outcomes [5].

List of Abbreviations

HP: heterotopic pregnancy, ART: assisted reproductive technology, IVF: in vitro fertilization, ED: emergency department, bpm: beats per minute, BP: blood pressure, GCS: Glasgow Coma Scale, TVUS: transvaginal ultrasonography.

Ethical Considerations

Ethics Approval

This study was approved by the Ethics Committee affiliated with Tehran University of Medical Sciences.

Consent to Participate

Written informed consent was obtained from the patient. All procedures were conducted following the Declaration of Helsinki, Good Clinical Practice guidelines, and applicable U.S. regulations.

CARE Guidelines Compliance

This case report has been prepared by the CARE (CAse REport) guidelines.

Availability of Data and Materials

The data supporting the findings of this study are available from the corresponding author upon reasonable request. Due to privacy and ethical restrictions, the data are not publicly accessible.

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None.

Competing Interests

The authors declare that they have no competing interests.

Authors' Contributions

BS and AZ contributed to study conception, supervision, data collection, and clinical management. MHG was responsible for manuscript writing, visualization, and editing. FG assisted with data collection, clinical management, and data processing. NS and MS contributed to writing the original draft, methodology development, resource gathering, and manuscript review.

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Conflict of Interests

The authors have no conflict of interest to declare.

References

[1] Molinaro TA, Barnhart KT. Cesarean scar pregnancy, abdominal pregnancy, and heterotopic pregnancy [Internet]. UpToDate. Updated 2021 Apr 21. Available from: https://www.uptodate.com.acs.hcn.com.au/contents/abdominal-pregnancy-cesarean-scar-pregnancy-and-heterotopic-pregnancy

[2] Jeffers K, Koyfman A, Long B. Updates in emergency medicine: ectopic pregnancy. Am J Emerg Med. 2024;85:90-7. https://doi.org/10.1016/j.ajem.2024.09.005

[3] Gabriel G, Taylor RAM. Late presentation of a heterotopic pregnancy at 19 weeks of gestation leading to maternal collapse: a case report. Case Rep Womens Health. 2021;31:e00331. https://doi.org/10.1016/j.crwh.2021.e00331

[4] Li X, Zhang W, Chen X. A unique case of diagnosis of a heterotopic pregnancy at 26 weeks - case report and literature review. BMC Pregnancy Childbirth. 2020;20:465. https://doi.org/10.1186/s12884-020-03465-y

[5] El-Sayed MA, El-Sayed SA. Heterotopic pregnancy: a case report. Egypt J Radiol Nucl Med. 2020;51:325. https://doi.org/10.1186/s43055-020-00325-9