CASE REPORT

Hetero pregnancy. A case report

Bassmah Hassan Alrowaithi1, Norah Ali Hakami1, Buthaina Alwafi2*

ABSTRACT

Background: Heterotopic pregnancy is a rare condition that refers to the simultaneous existence of intrauterine pregnancy (IUP) and ectopic pregnancy. It is a life-threatening condition that requires early diagnosis and prompt management.

Case Presentation: A 30-year-old African pregnant woman was presented to the emergency department complaining of severe abdominal pain, especially on the right side. She was checked for history and underwent a physical examination and ultrasound which reveals intrauterine pregnancy with right adnexal mass. While undergoing laparotomy for management of the adnexal mass, a small fetus was found; therefore, a right salpingo-oophorectomy for removal of this ectopic pregnancy was done. She was improved and discharged in good condition with a recommendation to follow up on her pregnancy. Five months later, she was admitted again as she experienced an eclamptic fit with tonic-clonic convulsion lasting for 10 minutes. She experienced a deteriorating condition that required medical termination of pregnancy. She did not improve and she was admitted to the intensive care unit and well-managed, then she improved and was shifted to the ward for observation for 10 days and then discharged in good condition.

Conclusion: The presence of IUP does not exclude the presence of ectopic pregnancy. Follow-up during pregnancy is necessary, especially if the patient is known to have previous gestational complications. Examination using transvaginal ultrasound is necessary for early diagnosis of heterotropic pregnancy (HP). Surgical treatment of HP and subsequent follow-up can contribute to maintaining IUP and its successful delivery.

Keywords: HP, ectopic pregnancy, outcomes, IUP, case report.

Introduction

Heterotopic pregnancy (HP) is a pathological pregnancy that involves the coexistence of intrauterine pregnancy (IUP) and ectopic pregnancy; its incidence is 1/30,000 normal pregnancies [1]. HP is rare, but it is potentially a life-threatening condition with a high risk of maternal mortality, tubal rupture, and intraperitoneal hemorrhage; therefore, it is necessary to early and accurately diagnose and manage it, early to reduce such complications [2].

Case Presentation

The presented case was a 30-year-old African woman, who was presented to the emergency department with gravidity two and parity one+0 (G2P1+0) and at 13 + 2 of gestation. She was complaining of severe lower abdominal pain, especially on the right side which increased over the previous days combined with nausea and vomiting that were not resolved by analgesia. Her past medical and surgical history was not remarkable, but she had no history of blood transfusion and had no allergy to any medication. Her obstetric history displayed preterm delivery at 28 weeks due to preeclampsia (PET) complicated by eclampsia.

The physical examination displayed a conscious patient in severe pain, with vital signs of blood pressure of 113/75, pulse of 145 bpm, respiration rate (RR) of 20, saturation of peripheral oxygen (SPO 2) 99%, and temperature of 36.7°C. Her hemoglobin (Hgb) was 7.9 with the O+ blood group. The abdomen was tense and rigid with tenderness on the right side. The ultrasound revealed a single intrauterine viable fetus with a right adnexal mass of 10 × 6 cm with intraperitoneal free fluid (Figure 1).

The female was prepared for emergency laparotomy under general anesthesia. The patient displayed hemoperitoneum and blood clot which obliterated the...
hole of intraperitoneal space with a volume around 1,500 ml. While removing the blood clot, a small fetus was found intraperitoneally; therefore, a right salpingo-oophorectomy was performed (Figure 2).

The estimated blood loss was 2,000 ml, hence, the case received two units of packed red blood cells. After the procedure, the female was fine and well tolerated and was kept under observation with daily fetal heart checks until full recovery then she was discharged in good condition with a recommendation to follow up with the clinic.

However, she did not undergo follow-up and she was presented to the emergency department 5 months later at 33 weeks of gestation. At home, she experienced an eclamptic fit with tonic-clonic convulsion lasting for 10 minutes witnessed by her family. The patient was diagnosed with pregnancy-induced hypertension in the second trimester in polyclinics and she was prescribed Aldomet 500 mg twice a day (BID), but she did not comply with the medication as it was not available.

The examination showed that she was conscious, drowsy, and disoriented with a blood pressure of 173/137. Her abdomen was soft and lax with no tenderness and displayed fundal level consistency with the gestational age. Ultrasound revealed mild ascites, and a single cephalic non-viable fetus consistent with 32 weeks, oligohydramnios with retroplacental hematoma. The vaginal examination displayed an unfavorable cervix with a Bishop score of 5.

The patient was stabilized in the emergency room through the insertion of two large pore cannulas and a Foley catheter with an infusion of magnesium sulfate of 4 mg as the starting loading dose. She received a 20 ml labetalol infusion STAT. Her urgent testing revealed Hbg of 15, white blood cells (WBCs) $8.4 \times 10^9/l$, platelet of $41 \times 10^9/l$, Aspartate aminotransferase (AST), and Alanine aminotransferase (ALT) of 716 and 338, respectively, creatinine and urea of 1.3 and 14, respectively.

The blood pressure of the patient was 221/133 and she received Labetalol 40 mg intravenous (IV) STAT. She was prepared for the medical termination of pregnancy and she was still drowsy. Induction of labor was initiated by prostaglandine E2 3 mg via vaginal suppository, she

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Figure 1. Ultrasound of the patient's abdomen.
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underwent delivery progression and delivered a macerated baby girl with no gross anomaly. Active management of the third stage was performed with complete delivery of placenta and membrane with retroplacental clots and no postpartum hemorrhage.

The postpartum evaluation of the female demonstrated a drowsy, but alert patient and oriented by time, place, and person with blood pressure 107/72. After 6 hours, she had a platelet of $34 \times 10^9$/l, AST, and ALT of 534 and 304, respectively. Brain computed tomography displayed posterior reversible encephalopathy syndrome with multiple areas of hypo-density suggesting infarctions.

The patient was considered a case of eclampsia and HELLP syndrome complicated by intrauterine fetal demise and abruption and disseminated intravascular coagulation led to hypovolemic shock, so she was admitted to the intensive care unit. The patient became unresponsive with GCS of 6/15, so she was intubated and received fluid boluses (30 ml/kg), fentanyl 50 MIC/hour and midazolam 3 mg/hour, levophed 0.1–0.2 MIC/kg/min, tazocin, metronidazole and thromboembolic prophylaxis. She started dexamethasone 10 mg IV BID for 24 hours then followed by 6 mg IV BID for 24 hours for thrombocytopenia. After 24 hours, she became stable with a GCS of 15/15, so she was extubated and started oral feeding with a urine output of 50 ml/hours. The laboratory tests were improved; Hgb 8.3, AST 97, ALT 213, platelet $112 \times 10^9$/l, creatinine 0.6, INR 08, and WBCs $23 \times 10^9$/l. The patient was shifted to the ward and observed for 10 days then discharged in good condition.

Discussion

The incidence of HP has increased due to the application of assisted reproductive technology (ART) which might be related to fallopian disease history [1]. HP risk factors involve a history of ectopic pregnancy, previous inflammatory pelvic disorders, surgery of fallopian tubes and abdomen, endometriosis, and infertility therapy [3]. However, the present female had an unusual case of HP as she had no previous history of ART or any of the previously stated risk factors. The confirmation of IUP using ultrasound does not exclude the existence of ectopic pregnancy. This makes the early diagnosis of HP challenging, especially in asymptomatic patients [4].

Ultrasound is the gold standard for diagnosis, with a complex mass or second gestational sac additional to the IUP [5]. It was reported that HP should be suspected in females who underwent ART, using ovulation induction agents and presenting with acute lower abdominal pain,
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The ectopic gestational sac of HP is mostly located in the fallopian tube [1], this typically was the same in the current case and as a result, the patient underwent salpingo-oophorectomy. The major goal of HP treatment is to ensure the safety of the mother, reducing the IUP damage and reducing the risk of adverse gestational outcomes [1]. There is no standard surgical management protocol has been established [5]; however, laparoscopic intervention is a safe and effective modality for the removal of ectopic pregnancy with no risk of abortion [1]. The advantages of laparoscopy involve good operative field exposure, less blood loss, fewer surgical wounds, less post-surgical pain, and shorter hospitalization [6]. However, expectant treatment has a high failure rate [1]. Therefore, the current study patient underwent salpingooophorectomy and was recovered and discharged in good condition.

The presented patient was recommended for follow-up, but she did not undergo follow-up; therefore, she was admitted 5 months later with an eclamptic fit and tonic-clonic convulsion and she was diagnosed as PHI which led to the medical termination of her pregnancy, but the patient eventually was appropriately managed. However, such deterioration might not be related to HP as she was managed successfully and recovered well. This might return to the fact that the patient had a previous history of PET complicated by eclampsia which led her to preterm delivery at 28 weeks. The patient was supposed to undergo follow-up during early pregnancy and after the removal of ectopic pregnancy, especially as she has a known history of PET complicated with eclampsia.

**Conclusion**

The presence of IUP does not exclude the presence of ectopic pregnancy. Follow-up during pregnancy is necessary, especially if the patient is known to have previous gestational complications such as PET and eclampsia such as in the present case. Examination using transvaginal ultrasound is necessary for early diagnosis of HP. Surgical treatment of HP and subsequent follow-up can contribute to maintaining IUP and its successful delivery.

**List of Abbreviations**

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<tr>
<td>ALT</td>
<td>Alanine aminotransferase</td>
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<td>AST</td>
<td>Aspartate aminotransferase</td>
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<td>G2P1</td>
<td>Gravidity 2 parity 1</td>
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<td>GCS</td>
<td>Glasgow coma scale</td>
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<td>HP</td>
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<td>IUFD</td>
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<td>IUP</td>
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<td>IV</td>
<td>Intravenous</td>
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<td>PET</td>
<td>Preeclampsia</td>
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<td>Postpartum hemorrhage</td>
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<td>RR</td>
<td>Respiratory rate</td>
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<td>SP0₂</td>
<td>Saturation of peripheral oxygen</td>
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<td>WBCs</td>
<td>White blood cells</td>
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**Conflict of interest**

The authors declare that there is no conflict of interest regarding the publication of this case report.

**Funding**

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**Consent for publication**

Informed consent was obtained from the participant.

**Ethical approval**

Ethical approval is not required at our institute to publish an anonymous case report.

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**References**