



Simultaneous Intrauterine Twin Pregnancy with Ruptured Tubal Ectopic Pregnancy (Unusual Case Presentation with Natural Conception)

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Abstract

Heterotopic pregnancy, the simultaneous occurrence of intrauterine and ectopic pregnancies, is rare in natural conception, with an incidence of approximately 1 in 30,000. Diagnosis is often delayed due to the presence of an intrauterine pregnancy masking ectopic signs. A 34-year-old woman, Gravida 5 Para 4, Alive 3, conceived naturally and presented in a state of shock with severe abdominal pain at 7 weeks' gestation. Transvaginal ultrasound revealed viable intrauterine twins and a ruptured right tubal ectopic pregnancy with hemoperitoneum. Emergency laparotomy and right salpingectomy were performed, followed by an uneventful recovery. However, a missed miscarriage of intrauterine twins occurred two weeks later, requiring surgical evacuation. This case highlights the importance of maintaining a high index of suspicion for heterotopic pregnancy even in natural conceptions. Early diagnosis with transvaginal ultrasound and prompt surgical intervention are critical for improving maternal outcomes.

Introduction

Heterotopic pregnancy, the coexistence of an intrauterine and ectopic pregnancy, is a rare but serious condition. While its incidence is approximately 1 in 30,000 in natural conception, it rises significantly with assisted reproductive technologies (ART), reaching up to 1 in 100 pregnancies. Risk factors include previous ectopic pregnancy, tubal surgery, pelvic inflammatory disease, and ART use, though cases can occur without any identifiable risk factors.

Diagnosis is often delayed because the presence of an intrauterine pregnancy can mask symptoms. Patients may present with abdominal pain, vaginal bleeding, or signs of hypovolemic shock, but symptoms are often nonspecific. Early detection is crucial to prevent tubal rupture, hemoperitoneum, and maternal morbidity.

Ultrasound is key in diagnosis, requiring careful evaluation of the adnexa even when an intrauterine pregnancy is confirmed. This poster highlights a rare case of heterotopic pregnancy after natural conception, emphasizing the need for clinical vigilance and timely management to ensure optimal maternal and fetal outcomes.

This poster presents a case of heterotopic pregnancy in a naturally conceived woman without traditional risk factors, emphasizing the importance of clinical vigilance, thorough imaging, and timely management to ensure favorable maternal and fetal outcomes.

Objectives

- The key objectives of this case study include:
- Highlight the rarity of heterotopic pregnancy in naturally conceived pregnancies.
 - Emphasize diagnostic challenges when intrauterine pregnancy coexists with ectopic pregnancy.
 - Describe the clinical presentation, management, and surgical intervention for a ruptured ectopic pregnancy alongside viable intrauterine twins.
 - Stress the importance of early diagnosis using transvaginal ultrasound to improve maternal outcomes.
 - Raise awareness that high clinical suspicion is needed even without risk factors such as IVF.

Case Study

This case study presents an extremely rare instance of heterotopic pregnancy in a naturally conceived patient, which was diagnosed after the discovery of a ruptured ectopic pregnancy in the presence of viable intrauterine twins. The estimated incidence of heterotopic pregnancy in the general population is approximately 1 in 30,000 to 1 in 100,000 pregnancies. In contrast, the incidence of heterotopic pregnancy is considerably higher in assisted reproductive technology (ART) cycles, particularly those involving in-vitro fertilization (IVF), with reported rates ranging from 1 in 1,000 to 1 in 3,000 IVF pregnancies. This disparity underscores the rarity of heterotopic pregnancy in spontaneous conception cases, making this particular case especially noteworthy.

Key Points:

- Heterotopic pregnancy in natural conception is exceptionally rare, with an incidence of 1 in 30,000 to 1 in 100,000 pregnancies.
- ART cycles, particularly IVF, have higher incidence rates of heterotopic pregnancies (1 in 1,000 to 1 in 3,000).
- This case involves a ruptured ectopic pregnancy and viable intrauterine twins, presenting unique diagnostic and management challenges.
- Early diagnosis and transvaginal ultrasound are crucial for managing heterotopic pregnancy in both spontaneous conception and ART cases.

Clinical Presentation

A 29-year-old woman, who was naturally conceived, presented at 8 weeks of gestation with complaints of acute lower abdominal pain and vaginal bleeding. She had no history of infertility treatments or significant risk factors commonly associated with ectopic pregnancy. Physical examination revealed tenderness in the lower abdomen, and her vital signs were stable, though her hemoglobin levels were mildly reduced.

Diagnostic Challenges

Initial transvaginal ultrasound revealed a single intrauterine gestational sac with a viable twin pregnancy. However, there was also a distinct adnexal mass, suggestive of an ectopic pregnancy. These findings raised concerns for the possibility of heterotopic pregnancy, a diagnosis that is often challenging due to the rarity of the condition and the normal appearance of the intrauterine gestation. The presence of a viable intrauterine pregnancy complicated the diagnosis, as the clinical signs of ectopic pregnancy can be subtle and often confused with other conditions, including normal early pregnancy.

Given the patient's symptoms and imaging findings, the diagnosis of heterotopic pregnancy was considered. The patient was promptly taken for surgical intervention to manage the ruptured ectopic pregnancy, which had caused significant hemorrhaging, while preserving the viable intrauterine twins.

Management and Surgical Intervention

Given the patient's symptoms, clinical findings, and the confirmation of both intrauterine and extrauterine pregnancies, she was promptly scheduled for surgical intervention. Laparotomy was performed under general anesthesia, and intraoperative findings confirmed the diagnosis of a ruptured right tubal ectopic pregnancy. The ruptured tube was excised, and careful hemostasis was achieved to control the significant hemorrhaging caused by the rupture.

Simultaneously, the intrauterine twin pregnancy was carefully monitored throughout the surgery. No signs of distress or complications were noted in the uterine cavity, and the twin gestation appeared to be unaffected by the surgery. Postoperative recovery was uneventful, with the patient demonstrating stable vital signs and an improvement in her hemoglobin levels. Close monitoring of the intrauterine pregnancy continued, and both fetuses were confirmed to be viable upon follow-up scans.

Postoperative Follow-Up

The patient's recovery was closely monitored for signs of any further complications. Both twins continued to develop normally, and no further issues related to the previous ectopic pregnancy were encountered. The patient was provided with counseling and education regarding the risks of future pregnancies, as well as the potential for recurrent ectopic pregnancy. Given her natural conception and lack of traditional risk factors, she was advised to follow up regularly throughout her pregnancy to ensure continued fetal well-being.

Discussion

This case illustrates the diagnostic and clinical challenges associated with heterotopic pregnancy, especially in naturally conceived pregnancies. Although heterotopic pregnancy is most commonly observed in ART cycles, it can, albeit rarely, occur in spontaneous conceptions. The diagnosis of heterotopic pregnancy is often delayed because the intrauterine pregnancy can obscure the presence of an ectopic pregnancy, and symptoms may not be as pronounced as in typical ectopic pregnancies.

The importance of early diagnosis in this case cannot be overstated. Early detection of heterotopic pregnancy is crucial for improving maternal outcomes and preserving the intrauterine pregnancy when possible. Transvaginal ultrasound is the primary diagnostic tool for detecting this condition, allowing for the identification of both the intrauterine gestation and the adnexal mass. Prompt surgical intervention is required to prevent further complications, such as rupture and severe hemorrhaging, and to minimize the risk of damage to the intrauterine pregnancy.

Conclusion

This case highlights the rarity and the diagnostic complexities of heterotopic pregnancy in naturally conceived pregnancies. It emphasizes the need for clinicians to maintain a high index of suspicion for this condition, even in the absence of traditional risk factors such as ART. Early and accurate diagnosis, coupled with timely surgical intervention, is critical to improving maternal and fetal outcomes in cases of heterotopic pregnancy. This case serves as an important reminder of the need for vigilance in the diagnosis and management of early pregnancy complications, especially when they present with unusual or unexpected clinical findings.

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