



## Heterotopic Pregnancy: Diagnostic and Management Challenges in Private Practice

Najmatun Jikria<sup>1\*</sup>, Samanta Islam<sup>2</sup>, Afifa Safayet<sup>2</sup>

<sup>1</sup> MO, 250 Beded Sadar Hospital, Naogaon, Bangladesh

<sup>2</sup> 1<sup>st</sup> Batch, Naogaon Medical College, Naogaon, Bangladesh



**\*Corresponding author:**

Dr. Najmatun Jikria  
Email: drboney2011@gmail.com

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**ABSTRACT:** Heterotopic pregnancy, an exceedingly rare and intricate medical condition, poses formidable challenges, particularly in resource-constrained environments. This case study into the management of a 38-year-old woman who had previously experienced an ectopic pregnancy. She presented with amenorrhea and mild per-vaginal bleeding, marking the onset of this unusual occurrence. Despite the constraints of limited resources, the urgency of accurate diagnosis and swift intervention was paramount in preserving the patient's life. This case serves as a poignant reminder of the critical interplay between a patient's clinical condition and the availability of medical resources when determining the most appropriate course of treatment. It underscores the rarity and complexity of heterotopic pregnancy, emphasizing the imperative nature of early detection and intervention, especially in settings with resource limitations.

**Keywords:** Heterotopic Pregnancy, Ectopic Pregnancy, Diagnostic Challenges, Management.

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## INTRODUCTION

Heterotopic pregnancy is a rare and complex clinical entity that presents a diagnostic and management challenge for healthcare providers. This condition, characterized by the simultaneous presence of both an intrauterine and an extrauterine pregnancy, occurs in approximately 1 in 30,000 pregnancies.<sup>1</sup> While the overall incidence of heterotopic pregnancy is relatively low, it is essential to recognize and manage this condition promptly due to its potential for life-threatening complications. Heterotopic pregnancies typically involve the coexistence of both intrauterine & extrauterine pregnancy, most commonly located in the fallopian tube.<sup>2</sup> However, variations in the presentation and locations of ectopic pregnancy have been reported, making this condition

even more challenging to diagnose and manage. One of the primary difficulties in diagnosing heterotopic pregnancy is its presentation, which can mimic other gynecological conditions. The symptoms often include abdominal pain and vaginal bleeding, which are also common in ectopic pregnancies and miscarriages.<sup>3</sup> Moreover, the presence of an ongoing intrauterine pregnancy can mislead healthcare providers into attributing these symptoms to a benign cause, delaying the diagnosis of the ectopic component.

The risk factors for heterotopic pregnancy include a history of assisted reproductive technologies (ART), such as in vitro fertilization (IVF), and a history of pelvic inflammatory disease (PID). In patients undergoing IVF,

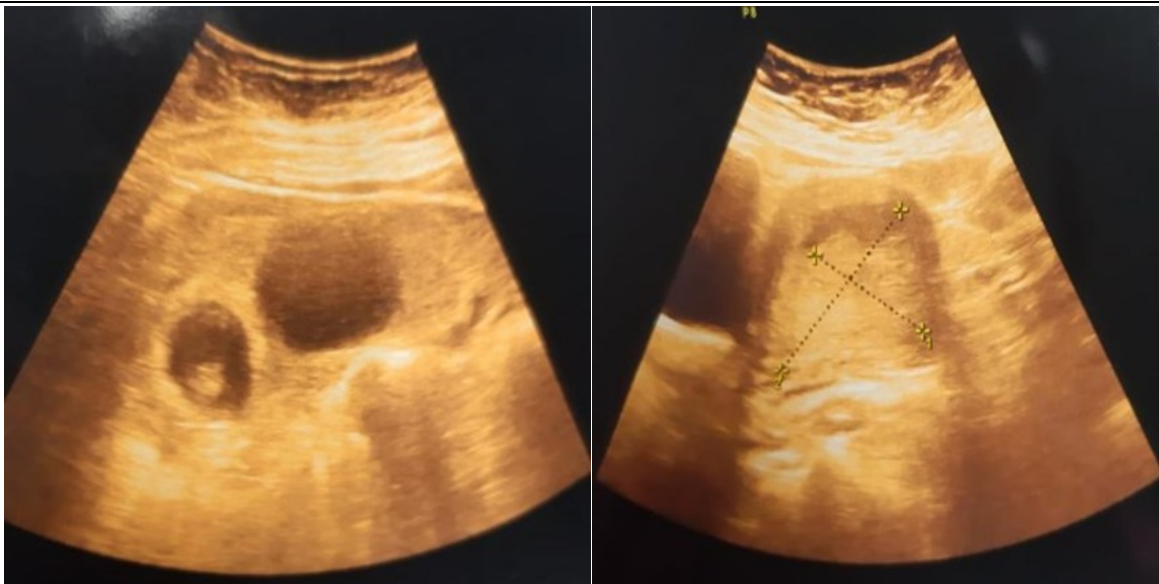
the risk of heterotopic pregnancy is higher due to the transfer of multiple embryos into the uterus.<sup>4</sup> In such cases, the intrauterine pregnancy often obscures the diagnosis of the ectopic pregnancy, leading to delayed recognition. The limitations of available diagnostic tools compound the diagnostic challenge posed by heterotopic pregnancy. Transvaginal ultrasound is a valuable tool in the assessment of early pregnancy, but the detection of both intrauterine and ectopic pregnancies can be challenging, particularly in cases with minimal symptoms. In some instances, serum beta-human chorionic gonadotropin ( $\beta$ -hCG) levels may not provide a clear indication of the presence of an ectopic pregnancy, as the ectopic component may produce lower  $\beta$ -hCG levels compared to a singleton ectopic pregnancy.<sup>3</sup>

Prompt diagnosis of heterotopic pregnancy is essential to prevent life-threatening complications such as rupture of the ectopic pregnancy. In cases where the ectopic pregnancy is located in the fallopian tube, rupture can lead to significant hemorrhage and shock, necessitating emergency surgical intervention.<sup>2</sup> This emphasizes the importance of maintaining a high index of suspicion for heterotopic pregnancy, particularly in patients with known risk factors or presenting with abdominal pain and vaginal bleeding. Given the rarity of heterotopic pregnancy and its potential for severe complications, healthcare providers need to be aware of its existence, risk factors, and diagnostic challenges. This case report aims to contribute to the growing knowledge surrounding heterotopic pregnancy by presenting a challenging case managed in a private practice setting

with limited resources. By discussing the diagnostic and management strategies employed in this case, we hope to shed light on the complexities of this condition and emphasize the importance of early recognition and intervention.

### Case Presentation

The patient in question is a 38-year-old woman who has previously given birth to two healthy children and experienced a previous ectopic pregnancy. She presented to our medical facility with a six-week history of amenorrhea and mild per-vaginal bleeding. Her urinary pregnancy test yielded a positive result, raising concerns about her current pregnancy status. Upon examination, we noted that the patient's uterus was soft and slightly bulky. The external os was open, while the internal os was closed. Additionally, mild per-vaginal bleeding was observed during the examination, further warranting investigation. Given the patient's history and the clinical findings, an initial ultrasound was performed to assess the situation. The initial ultrasound results suggested the possibility of incomplete abortion or retained products of conception. Given these findings and the need for further evaluation, the patient received comprehensive counseling on her treatment options. After careful consideration and counseling, the patient made the informed decision to proceed with surgical management, opting for a dilatation and curettage (D&C) procedure. This approach was chosen as it is a common and effective method for treating incomplete abortion or retained products of conception.



**Figure 1: Ultrasound (USG) Findings**

Our medical team encountered unexpected challenges during the D&C procedure, which was intended to address the suspected issue. A significant number of products of conception were discovered, indicating a more complex situation than was initially anticipated. Moreover, the bleeding observed during the procedure was more profuse than expected, raising concerns about the patient's safety and well-being. Due to the severity of the hemorrhage, the patient urgently required a blood transfusion. Her Rh-negative blood type posed an additional challenge, necessitating the administration of Anti-D immunoglobulin to prevent Rh isoimmunization. Seven days following the D&C procedure, a follow-up ultrasound was conducted to assess the patient's progress and ensure the resolution of her condition. The ultrasound results at this stage appeared normal, offering hope for the successful management of her pregnancy-related issues. However, the situation took a sudden and critical turn 14 days post-D&C when the patient presented with acute and severe lower abdominal pain. This distressing symptom was accompanied by significant anemia, as evidenced by a high pulse rate and low blood pressure.

Given the patient's condition and the situation's urgency, immediate intervention was imperative. Another ultrasound was performed to reevaluate her pelvic region, and the findings were alarming. The uterus appeared empty, and a clear gestational sac was identified in the right adnexal region. This indicated a highly concerning

diagnosis of ectopic pregnancy, a life-threatening condition that requires immediate attention. With the confirmation of an ectopic pregnancy, the medical team swiftly initiated resuscitation measures to stabilize the patient's deteriorating condition. Recognizing the urgency of the situation, a decision was made to proceed with a laparotomy, a surgical procedure involving the opening of the abdominal cavity. During the laparotomy, a significant amount of clotted blood was discovered within the abdominal cavity, affirming the presence of internal bleeding. The rupture site, which was the source of this life-threatening hemorrhage, was meticulously identified and assessed. In response to the critical situation, a right-sided salpingectomy was performed to remove the ectopic pregnancy and address the life-threatening condition surgically.

This case presentation underscores the complexity and diagnostic challenges associated with heterotopic pregnancy. The patient's history, initial presentation, unexpected complications during the D&C procedure, and the subsequent diagnosis of ectopic pregnancy highlight the critical need for vigilance, timely intervention, and comprehensive care to ensure the safety and well-being of pregnant patients in such challenging clinical scenarios.

## DISCUSSION

Heterotopic pregnancy, characterized by the coexistence of both an intrauterine and an extrauterine pregnancy, is a rare and complex condition that poses unique diagnostic and management challenges. This case report highlights several key aspects of heterotopic pregnancy management, particularly in a private practice setting with limited resources. Firstly, the patient's history of a previous ectopic pregnancy was a significant risk factor, as prior ectopic pregnancies increase the likelihood of experiencing another ectopic event.<sup>5</sup> This underscores the importance of thoroughly reviewing a patient's obstetric history, as it can provide valuable insights into their risk profile. The initial presentation of the patient with vaginal bleeding and a positive urinary pregnancy test raised suspicion of incomplete abortion or retained products of conception. This is a common initial diagnostic dilemma in cases of heterotopic pregnancy, as the symptoms can overlap with other gynecological conditions, such as miscarriage or ectopic pregnancy.<sup>6</sup> In low-resource settings like the private practice described in this case, healthcare providers often rely on clinical judgment and limited diagnostic tools to make critical decisions.

In this case, dilatation and curettage (D&C) were chosen as the initial management option. D&C is a common procedure for the treatment of incomplete abortion or retained products of conception. However, this decision resulted in unexpected hemorrhage during the procedure, highlighting the need for preparedness to address unforeseen complications.<sup>7</sup> The patient's Rh-negative status added complexity to the management, requiring a blood transfusion and Anti-D immunoglobulin administration. This case serves as a reminder that even routine procedures can carry risks, and healthcare providers must be ready to manage complications swiftly, particularly when resources are limited. Another significant challenge in diagnosing heterotopic pregnancy is the potential masking of symptoms by the presence of an intrauterine pregnancy. In this case, the ongoing intrauterine pregnancy initially obscured the signs of the ectopic component. This phenomenon is not uncommon in heterotopic pregnancies, as the symptoms of the intrauterine pregnancy can overshadow those of the ectopic pregnancy.<sup>8</sup> The delayed presentation of the patient with

severe abdominal pain, occurring 14 days post-D&C, finally raised suspicion of ectopic pregnancy rupture. The delay in diagnosing the ruptured ectopic pregnancy underscores the importance of maintaining a high index of suspicion, especially in patients with known risk factors or a history of ectopic pregnancy.<sup>9</sup> Timely diagnosis is crucial to prevent life-threatening complications such as significant hemorrhage and shock, as seen in this case.

## CONCLUSION

Heterotopic pregnancy is a rare and life-threatening condition that requires prompt and accurate diagnosis and treatment. In low-resource settings, where resources may be limited, physicians must be prepared for unexpected complications and make treatment decisions based on the patient's condition and available resources. In this case, laparotomy was chosen over laparoscopy due to the patient's critical condition. Despite its challenges, the successful management of heterotopic pregnancy is essential to save the life of the mother and prevent complications. Physicians should remain vigilant and consider the possibility of heterotopic pregnancy, especially in patients with a history of ectopic pregnancy or risk factors.

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