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Atypical Presentation of Partial Molar Pregnancy: Challenges in Diagnosis and Management

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Abstract **Case Report**

Background: Partial molar pregnancy is a rare and complex form of gestational trophoblastic disease that presents significant challenges in diagnosis and management. While it typically features abnormal placental development, it can occasionally coexist with a viable fetus, complicating clinical decision-making. Early recognition is critical to prevent complications such as hemorrhage, persistent trophoblastic disease, and potential impacts on future fertility. This report presents the case of a young woman with a high-risk pregnancy that was ultimately diagnosed as a partial molar pregnancy, emphasizing the importance of vigilance and timely intervention in atypical presentations. ***Case Presentation:*** A 29-year-old woman with a planned pregnancy presented with high-risk features, including a retroplacental collection and elevated fetal heart rate. A follow-up ultrasound revealed a partial molar pregnancy. The pregnancy was safely terminated via uterine evacuation, confirmed by histopathology. This case underscores the importance of early diagnosis and vigilant management in high-risk pregnancies. ***Conclusion:*** In conclusion, this case underscores the importance of prompt recognition and management of partial molar pregnancies. The presence of fetal cardiac activity and atypical ultrasound findings in this patient presented a diagnostic challenge, requiring careful interpretation and a multidisciplinary approach. Early intervention, coupled with meticulous planning, ensured an optimal outcome for the patient.

Keywords: Partial Molar Pregnancy, Fetal Heart Rate, USG, β-hCG.

INTRODUCTION

Gestational trophoblastic diseases (GTDs) encompass a spectrum of disorders arising from abnormal placental trophoblastic proliferation. Partial hydatidiform mole (PHM), a subset of GTD, results from an abnormal fertilization process where two sperm fertilize a single ovum, leading to a triploid karyotype [1, 2]. PHM is characterized by focal hydropic villi, trophoblastic hyperplasia, and the presence of fetal tissue. Although it is more common than its counterpart, the complete mole, PHM remains relatively rare, with an estimated incidence of 1 in 700–1,000 pregnancies in high-resource settings [3]. Its clinical presentation is often subtle, posing significant challenges for early diagnosis and management. Patients with PHM frequently present with signs and symptoms that mimic other obstetric conditions, such as missed abortion, incomplete abortion, or early pregnancy loss [4]. Vaginal bleeding is the most common presenting symptom, often accompanied by uterine size discrepancies and abnormally high or normal β-hCG levels [5]. These overlapping clinical features make the differentiation of PHM from other gestational abnormalities critically important, as its management, prognosis, and risk of progression to gestational trophoblastic neoplasia (GTN) differ substantially [6]. Advances in diagnostic modalities, including ultrasound and histopathological examination, have improved the detection and characterization of PHM. Ultrasound findings, such as a thickened, multicystic placenta and fetal anomalies, can provide early indications of PHM, although definitive diagnosis often requires histological evaluation [7]. Immunohistochemical staining, including p57kip2 analysis, has emerged as a valuable tool in differentiating PHM from complete moles [8]. The clinical significance of PHM extends beyond its diagnostic challenges. While most cases are benign and self-limiting, a small proportion progress to GTN, necessitating close surveillance post-evacuation [9]. Risk factors for malignant transformation include persistently elevated β-

hCG levels, large uterine size, and excessive trophoblastic proliferation [10]. Furthermore, PHM can coexist with viable pregnancies, complicating its management and leading to ethical dilemmas regarding pregnancy continuation. Understanding the epidemiology and pathophysiology of PHM is essential for tailoring management strategies. Incidence rates vary by geographic region, with higher prevalence in regions with nutritional deficiencies, such as folic acid and carotene deficiencies, and among younger and older maternal age groups [11]. The pathophysiology of PHM involves genetic and epigenetic alterations, including dysregulation of imprinting genes, which disrupt normal placental development and result in its characteristic features [12]. The rarity and diverse presentation of PHM underscore the importance of interdisciplinary collaboration in its management. Obstetricians, pathologists, radiologists, and oncologists play crucial roles in ensuring accurate diagnosis, effective treatment, and appropriate follow-up. Additionally, advancements in molecular genetics hold promise for improving our understanding of PHM's etiology and potential therapeutic targets [13].

CASE PRESENTATION

We present the case of a 29-year-old Bangladeshi woman who sought medical attention with a history of amenorrhea for 6 weeks, which was confirmed to be due to a planned pregnancy. Her obstetric history revealed two prior medical terminations of pregnancy. Upon her initial ultrasound examination, a single, alive intrauterine fetus was observed, corresponding to a gestational age of 9 weeks and 4 days. The fetal heart rate was noted to be 191 beats per minute, which was slightly elevated. A significant retroplacental collection was identified during the scan, raising concerns about the viability and course of the pregnancy. Given these findings, the pregnancy was classified as high-risk. She was prescribed intramuscular progesterone to support the pregnancy and antiemetics to manage excessive vomiting. Additionally, she was advised to undergo repeat ultrasonography (USG) at 3-week intervals to monitor the retroplacental collection and overall pregnancy progression. Two weeks later, the patient developed spotting accompanied by lower abdominal pain. Despite these symptoms, she remained hemodynamically stable. A decision was made to perform an earlier-than-scheduled ultrasound for a comprehensive evaluation of the pregnancy profile. This repeat USG revealed findings consistent with a partial molar pregnancy, characterized by cystic changes in the placenta, while fetal cardiac activity was still detectable at 175 beats per minute. The cervical length measured 3.42 cm, and no immediate evidence of cervical insufficiency was noted. Given the diagnosis of partial molar pregnancy, the clinical team prioritized the patient's safety and planned for the termination of the pregnancy. Preparations included arranging for immediate availability of blood products to manage potential hemorrhagic complications. The pregnancy was successfully terminated through uterine evacuation, and the diagnosis of partial molar pregnancy was confirmed through histopathological examination. This case underscores the importance of prompt and accurate diagnosis in atypical presentations of partial molar pregnancy. Early intervention and meticulous planning ensured an optimal outcome for the patient, highlighting the critical role of vigilance in managing high-risk pregnancies with unusual features.

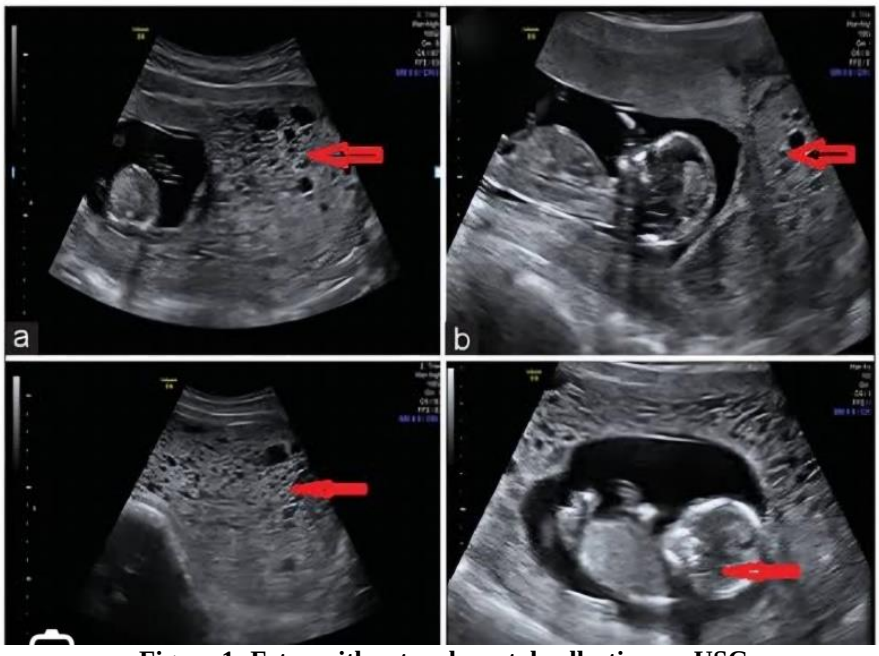

Figure 1: Fetus with retroplacental collection on USG

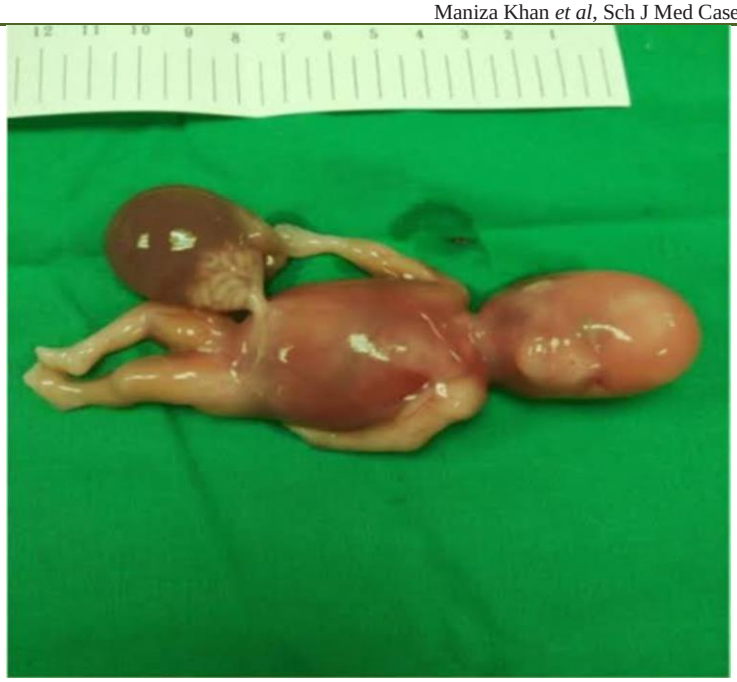

Figure 2: Evacuated fetus

DISCUSSION

Partial molar pregnancy is a form of gestational trophoblastic disease (GTD) characterized by abnormal placental development and a triploid chromosomal pattern in the conceptus. It is a rare condition with an incidence of approximately 1 in 1,000 pregnancies, but it poses significant risks to maternal health if not promptly diagnosed and managed [3]. The presented case of a 29-year-old woman highlights the clinical challenges and management strategies associated with this condition. The initial presentation of this patient with early pregnancy spotting and a retroplacental collection underscores the nonspecific and variable nature of partial molar pregnancy symptoms. Retroplacental hematomas are not exclusive to molar pregnancies, as they are also commonly observed in threatened abortions and placental abruptions [14]. However, the combination of this finding with an elevated fetal heart rate and persistent symptoms necessitated vigilance, emphasizing the importance of repeat imaging in high-risk pregnancies. The clinical team's decision to monitor the pregnancy through serial ultrasounds is consistent with best practices in managing high-risk pregnancies [15]. Ultrasonography remains the cornerstone for the diagnosis of partial molar pregnancies. In this case, early identification of placental abnormalities prompted timely intervention, minimizing the risk of complications such as hemorrhage or progression to persistent GTD. This highlights the critical role of advanced imaging and frequent follow-ups in detecting atypical presentations, particularly when fetal cardiac activity is present. Moreover, high-resolution ultrasound can detect subtle features, such as the absence of fetal parts or the presence of a markedly enlarged placenta, that aid in early diagnosis [16]. Histopathological examination confirmed the diagnosis, demonstrating the indispensable role of tissue analysis in establishing a definitive diagnosis. Partial molar pregnancies are differentiated from complete moles by the presence of fetal tissue and triploidy, often arising from dispermic fertilization [3]. In this case, histopathology confirmed cystic villous changes with trophoblastic proliferation, consistent with partial molar pregnancy. Furthermore, genetic analysis of molar pregnancies has provided insight into their chromosomal abnormalities, typically showing a triploid karyotype with two paternal sets of chromosomes [17].

Management of partial molar pregnancies requires a multidisciplinary approach to ensure maternal safety and comprehensive care. The clinical team in this case meticulously planned the termination procedure, considering the risk of hemorrhage and other complications. The availability of blood products and adherence to a structured evacuation protocol underscores the importance of preparedness in such cases. Suction evacuation, followed by meticulous uterine curettage, is the standard approach to managing molar pregnancies [5]. This approach is associated with minimal risk of complications when performed promptly, as the incidence of life-threatening hemorrhage remains low in well-managed cases. The patient's hemodynamic stability and cervical length of 3.42 cm suggested no immediate risk of cervical insufficiency or acute complications during evacuation. However, close monitoring is essential in these patients, as partial molar pregnancies carry a risk of persistent trophoblastic disease in approximately 5–10% of cases [3]. Post-evacuation surveillance with serial β-hCG measurements is critical to ensure complete resolution and to detect early signs of persistent disease. According to a study, β-hCG monitoring should be done weekly until it reaches undetectable levels, followed by monthly

measurements for six months to ensure there is no persistent trophoblastic disease [18]. The psychosocial impact of a molar pregnancy cannot be overlooked. Patients often experience significant emotional distress due to the loss of a desired pregnancy and the potential implications for future fertility. In this case, patient counseling was integral to care, providing emotional support and addressing concerns about recurrence. Studies suggest that the recurrence risk for molar pregnancies is approximately 1–2%, necessitating early prenatal care, and first-trimester ultrasounds in subsequent pregnancies [19,1]. A study by Lurain emphasizes that emotional and psychological support should be an essential component of the care provided to women following the termination of a molar pregnancy [10]. This case also highlights the broader implications for public health, particularly in resource-limited settings where access to advanced diagnostic modalities may be limited. Early detection and management of molar pregnancies require robust antenatal care systems and access to specialized facilities. In this context, raising awareness among healthcare providers and pregnant individuals about the signs and risks of GTD is essential to improve outcomes. Furthermore, public health campaigns should focus on the importance of early ultrasound screening, especially for women with risk factors such as advanced maternal age or a history of molar pregnancies [20].

CONCLUSION

In conclusion, this case underscores the importance of prompt recognition and management of partial molar pregnancies. The presence of fetal cardiac activity and atypical ultrasound findings in this patient presented a diagnostic challenge, requiring careful interpretation and a multidisciplinary approach. Early intervention, coupled with meticulous planning, ensured an optimal outcome for the patient. Future efforts should focus on enhancing early diagnostic capabilities, providing comprehensive post-treatment surveillance, and supporting patients emotionally and medically to address the multifaceted challenges posed by this condition.

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