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Original Research

Nulligravida with Giant Complete Hydatidiform Mole

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ABSTRACT

Background: Hydatidiform mole (HM) is a premalignant disorder characterized by abnormal trophoblastic proliferation. It is predominantly seen in women of reproductive age and often presents with symptoms such as vaginal bleeding. Early diagnosis and management are crucial to prevent complications, including hemorrhage and potential malignancy. The occurrence of massive concealed intrauterine hemorrhage in adolescents with HM is a rare and potentially life-threatening complication.

Case: A 19-year-old nulliparous female presented with progressive lower abdominal pain, nausea, and vomiting lasting for one week. The patient's gestational age was determined to be 13 weeks and 5 days based on her last menstrual period. Clinical examination revealed a closed cervical os without uterine bleeding. The imaging studies (ultrasound and MRI) revealed a large intrauterine mass with T2 hyperintensity and multiple cystic spaces, indicative of a hydatidiform mole. Upon performing suction curettage, there was an immediate expulsion of a substantial amount of trophoblastic tissue, accompanied by significant hemorrhage. Histopathological findings, along with positive p57 immunohistochemistry, confirmed the diagnosis of complete hydatidiform mole. The patient experienced a rare complication of massive concealed intrauterine hemorrhage during the course of management.

Conclusion: This case highlights the rare yet serious complication of massive concealed intrauterine hemorrhage in adolescents with complete hydatidiform mole. Early diagnosis through imaging, followed by appropriate intervention, is crucial in managing the risks associated with this condition. Timely histopathological evaluation and immunohistochemistry are key in confirming the diagnosis and preventing further complications.

Key Words: Hydatidiform Mole; Female, Hemorrhage, Lower Abdominal Pain

INTRODUCTION

Hydatidiform mole (HM) is a pathological condition that involves the abnormal proliferation of trophoblastic cells in the placenta, leading to an abnormal pregnancy. It can occur due to a disturbed fertilization process, often associated with the presence of excessive trophoblastic tissue. This condition is most commonly observed in specific populations, such as women who are younger than 20 years or older than 40 years, as well as those with a history of previous molar pregnancies. Adolescents, in particular, account for approximately one-quarter of all individuals diagnosed with HM [1].

The clinical presentation of HM is diverse, with the most common signs and symptoms including vaginal bleeding, which is typically the first indication of the condition, anemia resulting from blood loss, and hyperemesis (excessive vomiting) that may arise due to elevated hormone levels. Additionally, patients may experience the expulsion of grape-like vesicles from the vagina, an event that occurs when cystic trophoblastic tissue is expelled from the uterus. A marked increase in uterine size, disproportionate to

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the gestational age, is another common feature of HM. Other clinical manifestations may include hyperthyroidism, as the elevated levels of human chorionic gonadotropin (HCG) can have thyroid-stimulating effects, as well as preeclampsia, a condition marked by high blood pressure and organ dysfunction in pregnancy [2].

Hydatidiform moles are classified into two main types—complete and partial—based on histopathological and genetic characteristics. A complete mole typically presents with an absence of fetal tissue and is characterized by the proliferation of trophoblastic tissue in the absence of normal placental development. In contrast, a partial mole involves some fetal tissue along with abnormal placental tissue. The risk of progression to gestational trophoblastic neoplasia (GTN), a malignant transformation, varies depending on the type of mole. It is estimated that 5-15% of cases of complete hydatidiform mole may progress to GTN, while only 1-3% of partial moles lead to this malignant condition [3].

In this report, we describe a rare and atypical presentation of complete hydatidiform mole in an adolescent patient. The clinical features in this case were remarkable, with extremely high levels of human chorionic gonadotropin (HCG), which is typically elevated in molar pregnancies, along with significant uterine enlargement. Notably, the patient experienced hyperthyroidism, likely triggered by the elevated HCG levels, but there was no evident vaginal bleeding, a hallmark symptom of HM. Additionally, the patient had massive concealed intrauterine hemorrhage, a complication that can occur in severe cases of HM, which further complicated the clinical picture. This case highlights the potential for unusual presentations of hydatidiform mole and underscores the importance of considering a broad differential diagnosis when managing patients with atypical clinical features.

CASE PRESENTATION

A 19-year-old nulliparous adolescent female presented with a one-week history of progressively worsening lower abdominal pain, accompanied by severe nausea and vomiting. She had no significant past medical, surgical, or obstetric history. On examination, she was alert, afebrile, and hemodynamically stable (BP 116/78 mmHg, HR 80 bpm). Chest X-ray and electrocardiogram findings were normal. A positive pregnancy test was noted, with her last menstrual period occurring 13 weeks and 5 days before presentation. Abdominal examination revealed distension, and a large mass was palpated above the umbilicus.

Pelvic examination using a speculum showed no vaginal bleeding, and the cervical os was closed. An ultrasound scan revealed a distended endometrial cavity with a large, heterogeneous solid mass containing multiple hypoechoic cysts, indicative of molar pregnancy.

Upon admission, the patient's hemoglobin was 8.0 g/dL, hematocrit was 25.9%, and serum hCG levels were markedly elevated. MRI was performed to assess for any coexisting or extrauterine conditions. T2-weighted imaging showed a hyperintense intrauterine mass that distended the endometrial cavity and exhibited multiple cystic spaces. Contrast-enhanced T1-weighted images revealed enhancement with a "bunch of grapes" appearance, consistent with hydropic swelling of trophoblastic villi. Massive peri-lesional hemorrhage and theca lutein ovarian cysts were also identified.

During laminaria insertion for suction curettage, no bleeding occurred, but following the introduction of forceps into the uterine cavity, a substantial volume of trophoblastic tissue and blood clots were expelled. Bleeding decreased spontaneously without active hemorrhage. Following uterine decompression, the uterus was completely evacuated without further significant bleeding. Gross examination of the molar specimens revealed bloody fluid and clots interspersed with grape-like vesicles, weighing 878.8 g. Microscopic examination showed a mixture of edematous and relatively normal villi. The edematous villi were irregularly shaped, with central cavitation. Immunohistochemical staining for p57 was negative in villous stromal cells and cytotrophoblasts. The histological findings confirmed a diagnosis of complete hydatidiform mole (HM). Serum hCG levels decreased on days 1 and 7 post-evacuation, respectively. Metastatic workup showed no evidence of lesions elsewhere.

DISCUSSION

Chorionic villi disruption of maternal vessels leads to uterine bleeding, which typically results in vaginal bleeding due to retained blood in most HM cases [3]. While vaginal bleeding remains the most frequent presentation in women with complete HM, its occurrence is decreasing as diagnoses are made earlier. Studies indicate that vaginal bleeding is seen in 46% of cases in the UK and 98% in the Philippines, highlighting geographic variability in its incidence [5, 6]. As a vascular tumor, gestational trophoblastic disease is associated with hemorrhagic complications, which are a leading cause of mortality. Although vaginal bleeding may worsen or become life-threatening during medical or surgical interventions, massive intrauterine hemorrhage presenting prior to a suction evacuation is rare. A

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case involving partial HM with significant intraplacental hemorrhage resulting in hemoglobin depletion at 28 weeks gestation has been documented [7]. In the current case, no vaginal bleeding was noted at the initial examination. The cervix was closed, and no bleeding was observed during laminaria insertion. However, after the introduction of forceps into the uterine cavity, sudden blood flow occurred, likely originating from concealed intrauterine hemorrhage. After a significant amount of blood was expelled, the bleeding ceased spontaneously, and the uterus was evacuated without further substantial hemorrhage.

In HM, elevated serum HCG levels may activate thyroid cells due to structural similarity between HCG and TSH, resulting in increased free T4, free T3, total T3, and total T4 levels, while TSH decreases [8]. Hyperthyroidism is observed in 7-35% of HM cases [8, 9]. In this case, hyperthyroidism was absent.

Ultrasound remains the preferred modality for diagnosing localized gestational trophoblastic disease. Molar pregnancies typically present as an enlarged uterus with a hyperechoic, solid, heterogeneous mass, along with multiple anechoic spaces indicating dilated, hydropic villi. Bilateral theca lutein cysts are observed in 30-50% of cases. Although MRI findings in HM are often nonspecific, pelvic MRI may be useful for assessing myometrial invasion or extrauterine spread in complicated cases and can aid in patients with ambiguous clinical features. In this case, the patient, who presented with severe iron-deficiency anemia, had a large, heterogeneous endometrial mass with no visible vaginal bleeding. MRI confirmed the diagnosis of HM without myometrial invasion, massive intrauterine hemorrhage, and the absence of necrotic or inflammatory lesions and coexisting trophoblastic tumors.

Diagnosis is primarily based on histopathological examination. However, morphological analysis alone is insufficient in approximately 10% of cases, and interobserver variability can complicate the diagnosis. Therefore, additional investigations such as p57 immunohistochemistry or molecular genotyping may be necessary. These tests help accurately classify HM as complete or partial. p57immunostaining is particularly useful in identifying complete moles, and genotyping is essential for distinguishing between complete and partial HM in difficult cases [10], which is crucial for clinical management and evaluating the risk of persistent gestational trophoblastic disease. In this case, although the morphology suggested a partial mole, negative p57 immunostaining confirmed a diagnosis of complete mole.

Suction curettage is the standard treatment for HM, with an approximately 84% cure rate for partial moles. After suction evacuation, serial quantitative serum HCG measurements are required to detect persistent trophoblastic neoplasia, which occurs in 5-15% of complete mole cases and 1-3% of partial mole cases, necessitating further treatment [3].

Over the past two decades, the gestational age at diagnosis of HM has decreased [6]. It has been reported that early diagnosis of complete HM is not linked to a lower risk of postmolar GTN or reduced need for chemotherapy [11]. In some countries, adolescents tend to develop HM later in gestation [12]. In these cases, HM is associated with higher rates of vaginal bleeding, anemia, and larger uterine sizes than expected based on gestational age [13]. Early diagnosis is critical to prevent serious complications, as delayed recognition in adolescents can lead to greater risks. This case illustrates that complete mole can present unusually with massive concealed intrauterine hemorrhage and no obvious vaginal bleeding in adolescents.

CONCLUSION

The timely recognition and management of complete hydatidiform mole in adolescents is essential to avoid potentially severe outcomes, including hemorrhage and malignancy. Advanced imaging, prompt histopathological confirmation, and appropriate therapeutic interventions are key to reducing the morbidity and mortality associated with this rare but serious condition.

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