INVASIVE MOLE OF THE UTERUS - CASE REPORT

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Abstract

Invasive mole is a tumorous growth associated with pregnancy and falls under the realm of gestational trophoblastic disease. Due to their aggressive growth characteristics, invasive moles are considered locally invasive non-metastasizing neoplasms. Invasive mole, if not diagnosed and treated early and appropriately, can result in serious complications like uterine perforation and haemoperitoneum. We present a rare case of an invasive mole of the uterus, which was earlier diagnosed as a molar pregnancy. Even after the evacuation of the molar pregnancy, the bleeding continued. It was then diagnosed by transvaginal ultrasound and color Doppler, and successfully treated by hysterectomy.

Keywords: Gestational Trophoblastic Disease, Complete Hydatiform Mole, Invasive Mole, Chemotherapy, Color Doppler Ultrasound.

Introduction

Gestational Trophoblastic Disease (GTD) is a group of pregnancy related disorders arising from abnormal placental trophoblastic growth. It is divided into 2 premalignant conditions: partial and complete hydatiform moles and the malignant Gestational Trophoblastic Neoplasia (GTN). GTNs are classified histologically into three distinct subgroups: choriocarcinoma destruens (invasive mole), choriocarcinoma (CC) and the very rare placental site trophoblastic tumour (PSTT). Invasive mole is a condition where a molar pregnancy invades the wall of the uterus, deep into the myometrium sometimes involving the peritoneum or vaginal vault. It may invade parametrial tissue and blood vessels. But mostly, such moles are locally invasive and generally lack the pronounced tendency to develop widespread metastases typical of choriocarcinoma. Invasive Mole originates exclusively from complete (15%) or partial mole (0.5%). The imaging modality of choice is the B-mode ultrasonography and color Doppler. The earlier the diagnosis is made, the higher is the cure rate.

Case Report

A 45-years-old married female, gravida 4, para 3, presented to the hospital with irregular menstrual bleeding since three months. She had no other complaints especially of pain during periods. She had undergone evacuation for medical termination of 8 weeks pregnancy three months back. Following this, she had bleeding for about 15 days which then stopped, only to re-occur at irregular intervals. She subsequently underwent a second dilatation and curettage for suspected retained products of conception two weeks back. However, she continued to have irregular bleeding and then came to our hospital. Upon admission, a transvaginal scan was done which revealed an anteverted, bulky uterus (Figure 1). A 39.3 x 30.0 x 43.1mm sized heteroechoic lesion was seen in the endometrial cavity in the right fundal region. The lesion showed tiny irregular cystic spaces. The lesion invaded the right fundo-lateral myometrial wall. No gestation sac was seen in the uterus. Both the ovaries were of normal size and echo pattern. No pelvic collection was seen. Her beta-hCG was 4524.60mIU/ml. Chest X-ray was done which did not reveal any abnormality. MRI was carried out which showed a bulky inverted uterus with invasive mole (Figure 2). The adnexa were normal. The patient was not prescribed any chemotherapy. The patient was advised for a hysterectomy because of old age, completed family size and non-compliance on the patient’s behalf. After her consent, the patient was taken for an abdominal hysterectomy with preservation of both ovaries. Gross cut specimen of the uterus revealed multiple grapes like vesicles (Figure 3). Histopathological examination report of uterus showed dilated chorionic villi with areas of haemorrhage which invaded the whole of the endometrium and one-third of the myometrium. Patient was discharged after three days and advised to come for follow-up of her beta hCG levels. However, the patient did not come back for follow-up.

Figure 1. Transvaginal scan of the uterus
Discussion

GTD is a heterogeneous group of interrelated but distinct neoplasms derived from the placenta. GTNs are unique among human neoplastic disorders because they are genetically related to foetal tissues. They are characterized by a distinct tumour marker β-hCG and have varying tendencies toward local invasion and distant metastasis. GTDs can be classified into premalignant, complete and partial hydatidiform moles, and malignant invasive mole, choriocarcinoma, placental site trophoblastic tumour, and epithelioid trophoblastic tumour. Invasive mole, also called chorioadenoma destruens, penetrating mole, malignant mole, or molar destruens, is an important complication of hydatidiform mole, representing 50% of cases of persistent GTD. It is characterized by the presence of oedematous chorionic villi with trophoblastic proliferation that invades into the myometrium of the uterus or to adjacent structures like the vagina, vulva, broad ligament, and can also invade into the uterine vessels. Invasive mole is unlike choriocarcinoma, the latter is without the presence of chorionic villi.

Grossly, invasive moles present as erosive, haemorrhagic lesions extending from the uterine cavity into the myometrium. Metastasis can range from superficial penetration to extension through the uterine wall, with subsequent perforation and life threatening haemorrhage. Molar vesicles are often apparent.

Clinically, invasive mole is usually seen after evacuation for hydatidiform mole. The interval from an antecedent molar pregnancy is usually less than 6 months. This is in contrast to choriocarcinoma, which can arise following a normal or molar pregnancy and can occur anytime following it, even after 10 years. Invasive mole presents with vaginal bleeding, an enlarged uterus and high urinary or serum beta-hCG level, typically after the evacuation of a molar pregnancy.

The Cancer Committee of the International Federation of Gynaecologists and Obstetricians (FIGO) has established the following guidelines for the diagnosis of post molar gestational trophoblastic disease or gestational trophoblastic neoplasia:

- Plateau of serum beta-hCG levels for four measurements during a period of 3 weeks or longer-days 1, 7, 14 and 21.
- Rise of serum beta-hCG more than 10 percent during three weekly consecutive measurements or longer, during a period of 2 weeks or more-days 1, 7 and 14.
- The serum beta-hCG level remains detectable for 6 months or more.
- Histological criteria for choriocarcinoma.

Ultrasound has become the standard protocol in aiding in diagnosis of suspected GTN. B-mode ultrasound is useful in
detecting the presence of abnormal uterine masses. Sonographically, an invasive hydatidiform mole, a placental site trophoblastic tumour, and choriocarcinoma typically exhibit a heterogeneous, hyperechoic, solid mass with cystic vascular spaces, located within the myometrium.\textsuperscript{10,11} Color Doppler imaging aids in the assessment of angiogenesis and neovascularisation characteristic in these tumours, seen as prominent blood flow signals in various directions suggestive of arterial and venous flow.\textsuperscript{12} Doppler velocimetric findings in patients with invasive moles, placental site trophoblastic tumours and choriocarcinoma are similar in that they all may exhibit low-impedance arterial flow and high velocity.\textsuperscript{13} Bilateral enlarged ovaries due to theca lutein cysts may also be seen.\textsuperscript{14}

The FIGO committee on Gynaecological oncology has made recommendations for the metastatic work up of GTN, which includes a chest X-ray, liver CT when indicated or a whole body CT scan in patients with lung metastases, and a brain MRI (or CT) when there is a suspicion of cerebral metastases.

Demonstration of a vascular mass within the myometrium without evidence of foetal material, on ultrasonography, in the context of an elevated beta-hCG is highly suggestive of GTN.\textsuperscript{15}

Treatment of invasive mole is with single agent chemotherapy usually methotrexate with folic acid. With such treatment, the overall survival in these patients is essentially now 100\%, of which around 70\% are cured with methotrexate alone, the remainder being resistant and requiring additional second agent or multi-agent chemotherapy.\textsuperscript{9} During treatment, the serum hCG levels are monitored every week. Six weeks of maintenance chemotherapy is administered after a normal serum hCG level. Patients should be followed with weekly quantitative beta-hCG levels until normal for three consecutive weeks, then monthly for 12 months.\textsuperscript{14}

Sonographic examinations, including Doppler assessment of uterine blood flow are now used for both prediction and surveillance of response to chemotherapy.\textsuperscript{9} Hysterectomy is common in old age, resistance to chemotherapy, poor compliance and completed family size.

Conclusion

Invasive mole is a type of Gestational Trophoblastic Neoplasia (GTN) which usually presents as a complication of molar pregnancy. Even though it is locally invasive with fewer tendencies to metastasise, it is extremely important to thoroughly investigate a patient presenting with molar pregnancy in order to facilitate early diagnosis, better prognosis and management of the patient. It is also very important to monitor the patient rigorously in order to prevent its recurrence, but here the patient did not come for follow-up.

Editor’s Comments

GTD is a group of pregnancy related disorders representing rare human tumours. It causes a wide spectrum of different symptoms. Ultrasound has become the standard protocol in aiding in diagnosis.

References

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