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The Silent Invader : a Rare Case of Invasive Mole

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ABSTRACT

Invasive mole is a highly vascular subset of gestational trophoblastic disease. We report a case of Invasive Mole which presented as abnormal intermenstrual uterine bleeding in a middle-aged female. Based on clinical, radiological, and lab findings diagnosis of Invasive Mole was made. Despite adequate medical management symptoms persisted hence Total abdominal hysterectomy with Bilateral salpingectomy was done. In view of young age of patient both ovaries were preserved. Post operatively β-hCG levels were monitored till 6 months after 2 consecutive undetectable value.

KEYWORDS:gestational trophoblastic disease, Invasive mole, gestational trophoblastic neoplasm, β-hCG, molar pregnancy, hysterectomy

1. INTRODUCTION

Invasive mole is a form of neoplastic gestational trophoblastic disease characterized by trophoblastic proliferation and the presence of hydropic villi elements within the myometrium. Unlike choriocarcinoma, it is less likely to metastasize but may invade the serosa, vascular spaces, and occasionally spread to extra-uterine sites such as the vagina and parametrium. This highly vascular tumor typically develops following a molar pregnancy.

Approximately 50% of gestational trophoblastic neoplasia (GTN) cases arise from molar pregnancies, 25% from pregnancy losses or ectopic (tubal) pregnancies, and the remaining 25% from term or preterm pregnancies.. [1]

The incidence of gestational trophoblastic neoplasia (GTN) following a pregnancy loss is estimated to be 1 in 15,000 pregnancies, whereas after a term pregnancy, the incidence is about 1 in 150,000 pregnancies. Overall, the estimated incidence of GTN across all types of pregnancies is 1 in 40,000.[2]

Diagnosis of post molar gestational trophoblastic neoplasia is done by FIGO criteria .[3]

It states that when the plateau of hCG lasts for four measurements over a period of 3 weeks or longer; that is, days 1, 7, 14, 21 OR

When there is a rise in hCG for three consecutive weekly measurements over at least a period of 2 weeks or more; days 1, 7, 14 OR

If there is persistence of hCG levels beyond 6 months of molar pregnancy evacuation OR

If there is a histologic diagnosis

CASE PRESENTATION

A 38-year-old multiparous woman (P2L2) presented with persistent vaginal bleeding and occasional passage of clots, which began 43 days ago, following her last menstrual period. Despite receiving symptomatic treatment, she has not found relief. The patient also reported unexplained weight loss. Her medical and surgical history is unremarkable, and she is not currently using any contraceptive methods.

On examination, the patient appeared to have an average build, weighing 52 kg with a body mass index (BMI) of 21.5 kg/m². She was afebrile, and all vital signs were within normal limits: heart rate 78 beats per minute, respiratory rate 18 breaths per minute, blood pressure 120/90 mmHg, and peripheral capillary oxygen saturation (SpO2) 96%. Local genital examination revealed no abnormal findings such as discoloration, swelling, or discharge. The cervix appeared healthy with minimal bleeding observed during speculum examination, and on vaginal examination, the cervix was firm. The uterus was palpable at 8 weeks' size, anteverted, mobile, with free fornices.

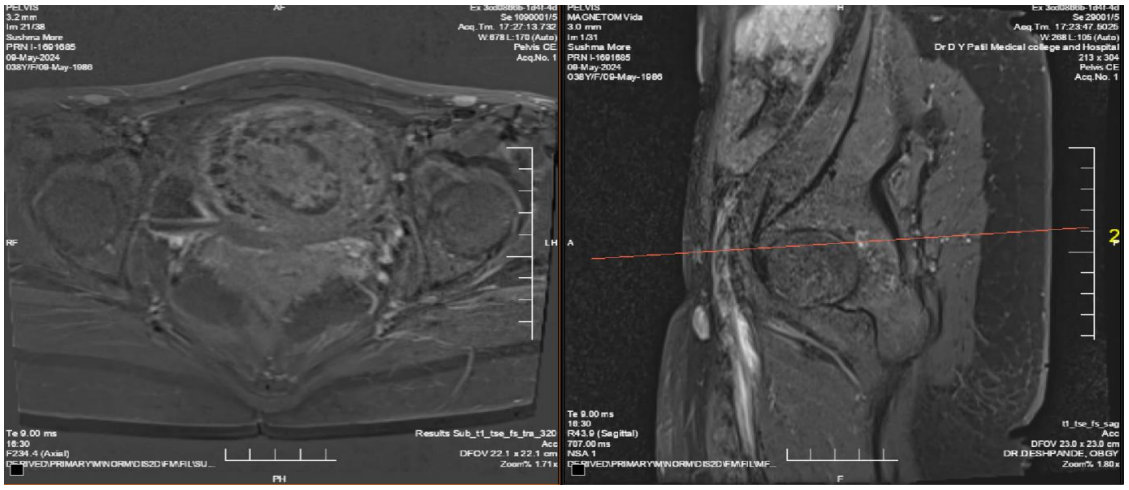
Investigations, including a complete blood count and biochemical analysis, showed a total leukocyte count of 10,300 cells/cmm, a platelet count of 199,000/cmm, and a hemoglobin (Hb) level of 8.7 g/dl. A urine pregnancy test (UPT) was positive. Based on these findings, the patient was admitted with a provisional diagnosis of P2L2, with a history of two previous lower segment cesarean sections (LSCS), presenting with abnormal uterine bleeding (AUB) for further evaluation.

The diagnostic assessment, including ultrasonography (USG), showed a mildly enlarged uterus measuring 91 x 65 x 54 mm, with a markedly thickened and heterogeneous endometrium containing multiple echogenic foci. Color Doppler imaging revealed vascularity, with vascular channels originating from the myometrium, suggesting a potential infective or neoplastic etiology. Additionally, a simple ovarian cyst measuring 40 x 30 mm was noted.

Following the ultrasound findings and a positive urine pregnancy test (UPT), a beta hCG test was conducted, revealing a level of 150.65 mIU/ml, which is above the normal range. This raised suspicion of gestational trophoblastic neoplasia (GTN). To assess the extent of the disease, a chest X-ray, liver function tests (LFTs), and a contrast-enhanced MRI of the abdomen and pelvis were performed. The chest X-ray showed no abnormalities, and LFTs were within normal limits. The contrast-enhanced MRI revealed the uterus to be anteverted, enlarged, and bulky, measuring 90 x 63 x 78 mm. A well-defined solid lesion, approximately 29 x 18 x 30 mm in size, was observed arising from the anterior and right lateral wall in the fundic region, projecting into the upper portion of the endometrial cavity with an irregular surface. The lesion was heterogeneously hypointense on T1-weighted images, heterogeneously hyperintense on T2-weighted images, and showed moderate heterogeneous enhancement on contrast. The interface between the lesion and the surrounding myometrium along the anterior and right lateral wall in the fundic and proximal body region was obscured. The remainder of the myometrium appeared normal, as did the cervix and vagina. The periuterine fat planes appeared normal, with prominent flow voids observed in the bilateral lateral uterine walls and parauterine regions, indicating increased vascularity.

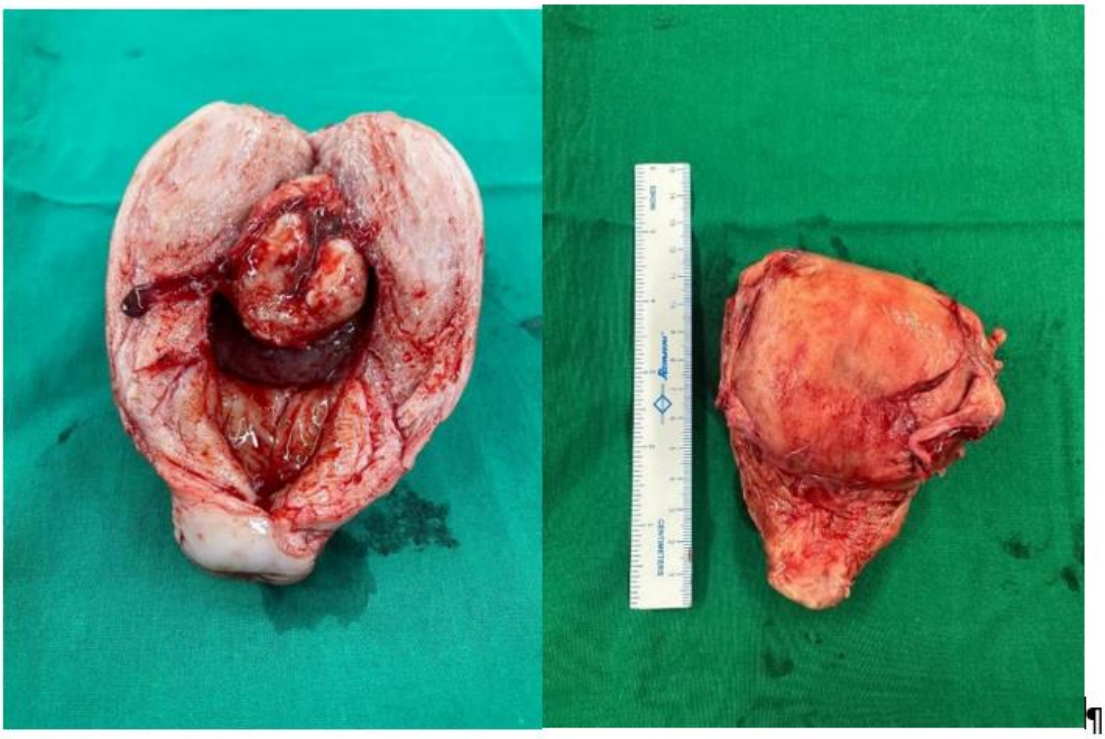
Following is the MRI image showing

FIGURE 1: MRI IMAGES



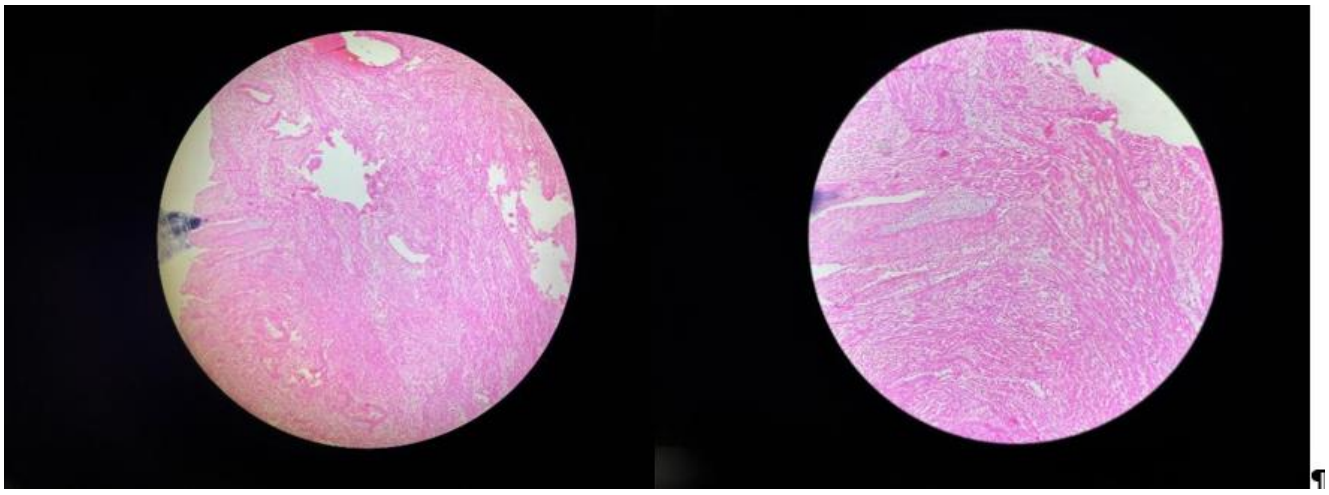
Hence, the probable diagnosis based on the above findings, along with increased beta-HCG and UPT positive status, was suggestive of GTN with hydatidiform mole showing early invasion leading to Invasive Mole. A total abdominal hysterectomy with bilateral salpingectomy was done. Intraoperatively, a bluish lesion of 4 × 4 × 2 cm was present on the right and fundal wall of the uterus, and the lesion from the endometrium was extending into the myometrium. There were areas of necrosis and haemorrhage present.

FIGURE 2: Intraoperatively visible invasive mole



The histopathology report of the uterus revealed cystically dilated round to oval endometrial glands, lined by tall columnar cells. The stromal tissue consisted of spindle-shaped cells. A distinct nodule was observed, containing a large hemorrhagic area with scattered chorionic villi. These villi appeared hydropic or fibrotic, were avascular, and were lined by trophoblastic cells. The outer region of the nodule exhibited a rim of decidual cells, with occasional villi invading the myometrium, indicating early invasion and suggesting a hydatidiform mole.

FIGURE 3: HISTOPATHOGICAL IMAGES



Postoperative.on day 7 ,The patient was discharged with close follow-up and monitoring of beta-HCG.

TABLE1:SERIAL BHCG MONITORING

POST-OP DAY	B-hCG

1	135.25
4	<2.5
7	<2
14	<2
45	1.86
75	1.81

2. DISCUSSION

Gestational trophoblastic neoplasia occurs when the regulatory mechanisms controlling trophoblastic tissue growth and invasiveness are lost. These rare tumours, making up less than 1% of gynaecologic malignancies, are characterized by elevated β-hCG levels and varying degrees of local invasion and metastasis.[4]

Vascular invasion and metastasis are uncommon in invasive moles. A myometrial vascular mass without foetal tissue on ultrasound and elevated β-hCG strongly suggests Invasive Mole (IM).[5]

Invasive mole typically follows the evacuation of GTD and is characterized by edematous chorionic villi and trophoblastic proliferation invading the myometrium or nearby structures, such as the vagina, vulva, broad ligament, or uterine vessels. Unlike choriocarcinoma, invasive mole retains chorionic villi. Distinguishing between the two is important, as invasive mole generally has a more favourable prognosis.

Invasive mole typically presents with vaginal bleeding, an enlarged uterus, and elevated β-hCG levels as seen in our case. It usually within six months after the evacuation of a molar pregnancy. In contrast, choriocarcinoma can develop after a molar or normal pregnancy, with a longer interval, often exceeding six months, and can persist for up to ten years. β-hCG levels are significantly higher in choriocarcinoma than in invasive mole.

In our case, moderate increase of β-hCG(150 mIU/ml) was also in favour of invasive mole.

The differential diagnosis for highly vascular, intramural myometrial lesions on ultrasound includes arteriovenous malformation, gestational trophoblastic neoplasia (GTN), and interstitial pregnancy. These conditions can be differentiated using biochemical markers and ultrasound features. A vascular myometrial mass without fetal tissue and elevated β-hCG levels strongly suggests GTN.

Pathological diagnosis of invasive mole is rare, as most cases are treated conservatively without requiring hysterectomy. But, in our case due to failed medical management hysterectomy was performed. Otherwise, Hysterectomy is common in old age, resistance to chemotherapy, poor compliance and completed family size.

3. CONCLUSION

Although the advent of effective chemotherapy has greatly improved survival rates for patients with gestational trophoblastic disease (GTD), hysterectomy continues to be an important treatment option for certain patients. The combination of surgical treatment (hysterectomy) and chemotherapy has been demonstrated to result in successful remission

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