Case Report

DOI: 10.7860/JCDR/2025/79112.21024

Vesicular Mole with Myometrial Invasion: A Case Report

Obstetrics and Gynaecology Section

HEMANT DESHPANDE[1], SABA CHAUDHARY[2]

ABSTRACT

Invasive vesicular mole (chorioadenoma destruens) is a rare form of Gestational Trophoblastic Disease (GTD) characterised by abnormal trophoblastic proliferation and myometrial invasion. The authors report the case of a 42-year-old multiparous woman who presented with prolonged vaginal spotting, amenorrhoea and elevated Beta-Chorionic Gonadotropin (HCG) levels (1,260,350 mIU/mL). Ultrasound and Magnetic Resonance Imaging (MRI) findings revealed a heterogeneous endometrial mass with myometrial thinning, raising suspicion of gestational trophoblastic neoplasia. The patient was started on multi-agent chemotherapy {Etoposide, Methotrexate, Actinomycin D, Cyclophosphamide and Oncovin (EMACO)} due to high beta-hCG levels. However, persistent bleeding and imaging findings of residual disease necessitated surgical intervention. Histopathology confirmed an invasive vesicular mole with myometrial invasion. Postoperatively, beta-hCG levels declined to undetectable levels (<5 mIU/mL) and the patient was discharged in stable condition with close follow-up. Invasive vesicular mole is a rare but aggressive form of GTD that requires prompt diagnosis and treatment. Early initiation of chemotherapy and tailored intervention can lead to successful outcomes with normalisation of beta-hCG levels.

Keywords: Chemotherapy, Choriadenoma destruens, Gestational trophoblastic disease, Molar pregnancy, Neoplasia

CASE REPORT

A 42-year-old multiparous woman, gravida 5, para 5 (P5L5), with a history of one Lower Segment Caesarean Section (LSCS) and four Full-Term Normal Vaginal Deliveries (FTNVD), presented with complaints of brownish Per Vaginal (PV) spotting with passage of clots for the past three months, amenorrhoea for four months and nausea and vomiting for the past two months. The patient was married for 22 years, with no history of tubal ligation or hysterectomy. The patient reported a history of disturbed sleep and reduced appetite. She followed a mixed diet and her bowel and bladder functions were normal. There was no history of smoking or alcohol intake and she did not experience any weight loss.

On clinical examination, the patient appeared average in build and was well-nourished but had pallor. There was no oedema, lymphadenopathy, or cyanosis and she was vitally stable. Abdominal examination revealed a soft, non tender abdomen with no organomegaly. On per-speculum examination, the cervix and vagina were found to be healthy. Brownish vaginal bleeding was present, but there was no white discharge or erosions noted. On per-vaginal examination, the cervix appeared healthy and the uterus was enlarged, measuring 14-16 weeks in size. Both bilateral fornices were free and non tender. There was no palpable mass or abnormal findings.

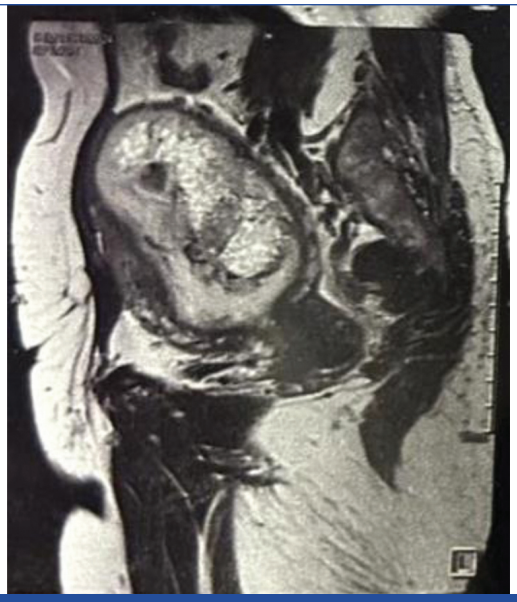
The patient was admitted and a set of investigations, including routine blood tests [Table/Fig-1] and an ultrasound of the abdomen and pelvis, were done. A Urine Pregnancy Test (UPT) was conducted upon admission, which returned positive. The beta-hCG level was found to be 1,260,350 mIU/mL at the time of admission.

Test	Result	Normal range
Haemoglobin (Hb)	11.3 gm/dL	12.0-16.0 gm/dL
Total Leukocyte Count (TLC)	16,000/µL	4,000-11,000/µL
Platelet count	3.21 lakh/µL	150,000-450,000/µL
Blood Sugar Level (BSL)	85 mg/dL	70-100 mg/dL (fasting)
Thyroid Stimulating Hormone (TSH)	<0.01 µIU/mL	0.5-5.5 µIU/mL
Free Triiodothyronine (FT3)	7.32 pg/mL	2.3-4.2 pg/mL
Free Thyroxine (FT4)	2.95 ng/dL	0.8-1.8 ng/dL
Liver Function Test (LFT)	Within normal limits	-
Renal Function Test (RFT)	Within normal limits	-
Urine routine microscopy	No abnormality detected	-

[Table/Fig-1]: Laboratory parameters.

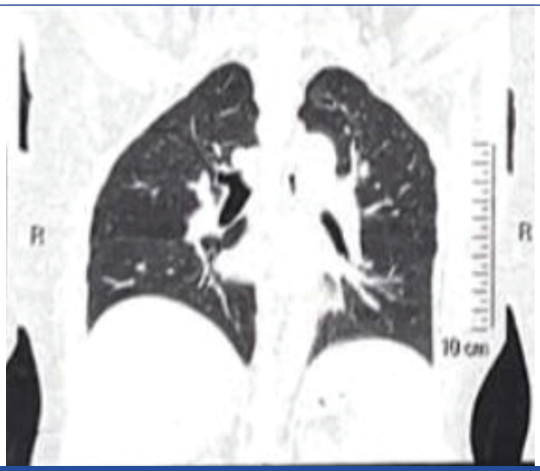
The elevated beta-hCG level indicated a possible gestational trophoblastic neoplasia. Additionally, a low TSH level with elevated FT3/FT4 suggested an impending thyroid storm and the patient presented with mild tremors. Based on this clinical presentation, carbimazole (10 mg thrice daily) and propranolol (40 mg once daily) were started for stabilisation. Ultrasound revealed a bulky uterus with a heterogeneous mass in the endometrial cavity, measuring 100×70×92 mm, containing multiple cystic areas and minimal internal vascularity. MRI findings confirmed the presence of a large, globular mass in the uterine cavity, demonstrating low signal intensity on T1-weighted images, multiple cystic areas that were hyperintense on T2/Short Tau Inversion Recovery (STIR) images and significant vascularity around the mass [Table/Fig-2]. There was also thinning of the myometrium, which raised suspicion for choriocarcinoma or a vesicular mole.

After the initial assessment and optimisation of the patient and with informed written consent obtained, a decision was made to initiate chemotherapy. This decision was based on the correlation between the imaging results and elevated beta-hCG levels. Chemotherapy was initiated following the EMACO regimen and leucovorin injections were administered. Over the course of treatment, beta-hCG levels began to decrease but plateaued after the first cycle. In view of high beta-hCG and a reported potential of malignancy transformation in these cases, further investigation, including High-Resolution Computed Tomography (HRCT), was done, which did not reveal any

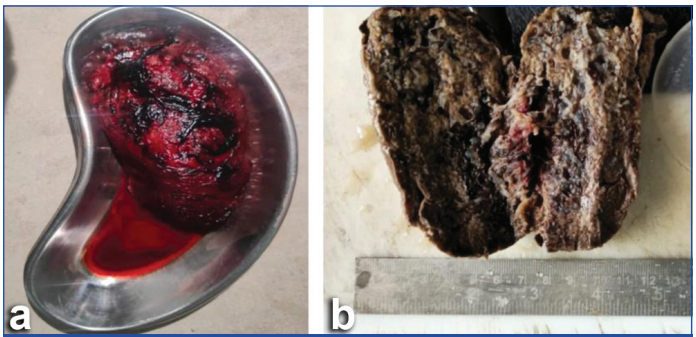


[Table/Fig-2]: MRI showing presence of a large mass in the uterine cavity.

metastasis [Table/Fig-3]. During the second cycle of chemotherapy, the patient complained of severe abdominal pain and subsequently passed a large mass, measuring approximately 15×8 cm. The mass was soft in consistency with a boggy texture and was sent for histopathological examination [Table/Fig-4a,b]. The report showed trophoblastic proliferation with enlarged edematous chorionic villi and the absence of foetal tissue [Table/Fig-5].

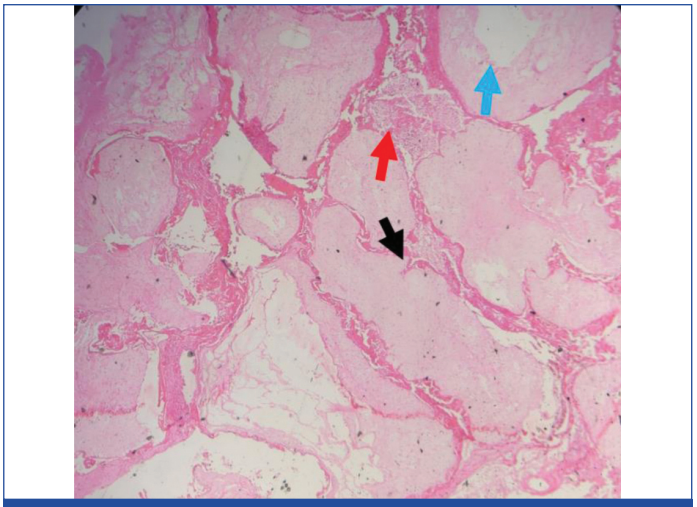


[Table/Fig-3]: HRCT image revealing the absence of any metastasis.

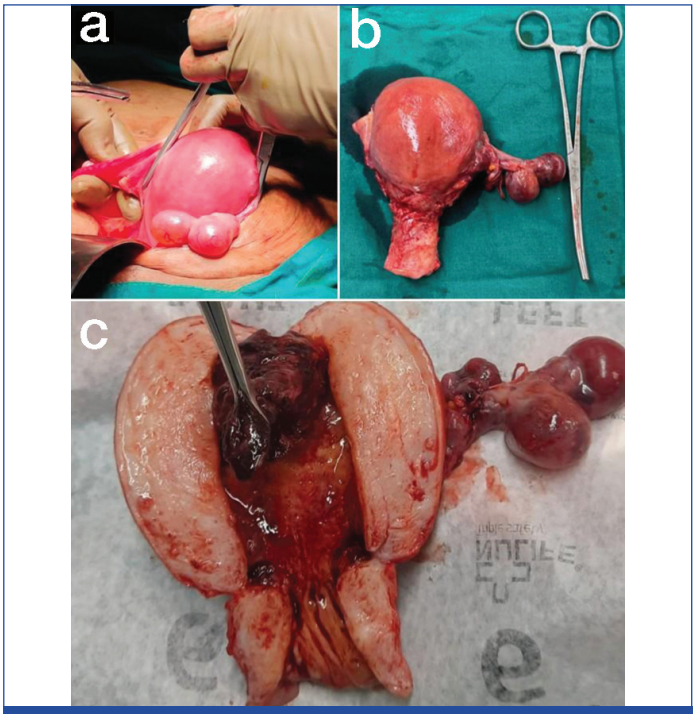


[Table/Fig-4]: a,b) Abdominal mass was passed by the patient.

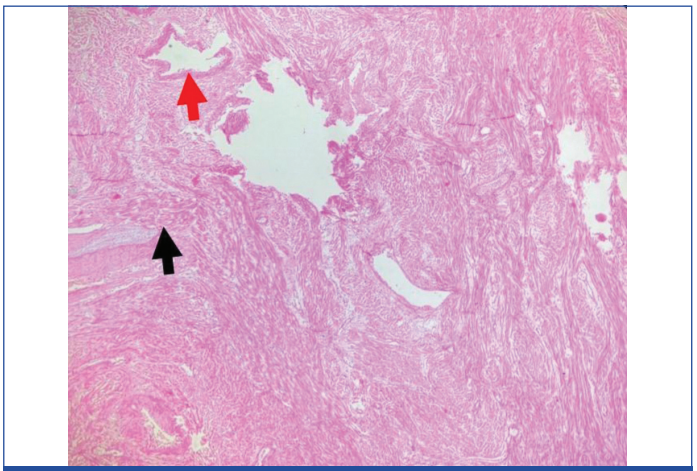
Despite the passing of the mass, the patient continued to experience vaginal bleeding. Ultrasound revealed a heterogeneous mass in the uterus with increased vascularity, prompting a decision for hysterectomy. The entire uterus, along with the bilateral fallopian tubes and ovaries [Table/Fig-6a-c], were removed and sent for histopathological examination. The postoperative histopathological examination confirmed the diagnosis of invasive vesicular mole (choriadenoma destruens), showing trophoblastic invasion into the myometrium [Table/Fig-7].



[Table/Fig-5]: Histopathological image (Haematoxylin and eosin stain, 10X) of the abdominal mass showing enlarged and dilated edematous villi (black arrow), Cavitation (Blue arrow), increased cyto and synciotrophoblastic cells (Red arrow), suggestive of trophoblastic proliferation.



[Table/Fig-6]: Hysterectomy: a) Intraoperative image; b) Postoperative excised uterus along with fallopian tube; c) Uterus section.



[Table/Fig-7]: Histopathology image (Haematoxylin and eosin stain, 80X) of postoperative specimen showing trophoblastic hyperplasia (red arrow) and invasion into the myometrium (Black arrow).

Following surgery, beta-hCG levels showed a decreasing trend, reaching <5 mIU/mL by postoperative day 10. The patient was discharged in stable condition and was monitored closely for any

further complications. The patient was followed-up seven days after discharge, accompanied by a beta-hCG report. The beta-hCG level was undetectable and the patient reported no complaints.

DISCUSSION

Invasive vesicular mole, also known as chorioadenoma destruens, is a rare form of GTD characterised by the invasion of molar tissue into the myometrium [1]. This condition is marked by elevated beta-hCG levels and an enlarged uterus with persistent vaginal bleeding, as observed in the present case [2]. Ngan HYS et al., in an extensive review about the diagnosis and management of GTD, concluded that elevated beta-hCG levels, along with abnormal vaginal spotting, should be considered a marker in the diagnosis of GTD [3]. Several studies have reported that the invasive mole has potential to exacerbate the pathology by metastasising to lungs or vagina [4,5]. Monitoring beta-hCG levels at regular intervals remains a crucial aspect of disease management. The management often involves chemotherapy in low-risk patients, with methotrexate being a commonly used agent [6]. In the present case, the patient was treated with the EMACO regimen which is typically reserved for high-risk GTD cases [6,7]. This approach is supported by existing guidelines, which recommend multi-agent chemotherapy for high-risk patients [8-10].

The Cochrane review analysed 667 patients in seven randomised controlled trials. The authors conclude that actinomycin D is more effective in curing {Risk Ratio (RR) 0.65; 95% CI, 0.57-0.75)} than methotrexate, further supporting the use of a combination regiment [8]. Furthermore, Shrivastava S et al., retrospectively analysed 28 women diagnosed with GTD over six years. High-risk patients showed favourable outcomes with the EMACO regimen. From the study population, 10 achieved remission following three cycles, while six patients required six cycles. On average, low-risk patients attained remission in 6.25±2.4 weeks (range: 3-8 weeks), whereas high-risk cases took approximately 11.25±3.5 weeks (range: 6-20 weeks) [6].

The decision to proceed with chemotherapy in the present case was based on the elevated beta-hCG levels and imaging findings suggestive of invasive disease [11,12]. Despite initial chemotherapy, the patient continued to experience vaginal bleeding and imaging revealed a persistent uterine mass with increased vascularity. This scenario necessitated surgical intervention, leading to a hysterectomy. Hysterectomy reduces the need for multiple chemotherapy courses and is particularly beneficial in patients with heavy bleeding or sepsis, helping to control complications and stabilise their condition [4,13]. Histopathological examination confirmed the diagnosis of invasive vesicular mole with myometrial invasion. This outcome underscores the importance of close monitoring and the potential need for surgical management in cases where chemotherapy alone is insufficient.

The patient's beta-hCG levels showed a decreasing trend postoperatively, reaching undetectable levels by the tenth postoperative day. This rapid decline is indicative of successful treatment and is consistent with findings from other studies [11,14,15], which emphasise the importance of monitoring beta-hCG levels to assess treatment response and detect potential recurrence.

CONCLUSION(S)

The present case of invasive vesicular mole underscores the critical role of early diagnosis, vigilant beta-hCG monitoring and a multidisciplinary treatment approach in managing GTD. The present case also highlights the importance of individualised treatment strategies, where a combination of chemotherapy and hysterectomy may be required for optimal patient outcomes. Regular follow-up with serial beta-hCG measurements remains essential to ensure complete remission and prevent recurrence.

REFERENCES

[1] Singh A, Ratnani R. Heterogenous presentation of chorioadenoma destruens. J Obstet Gynaecol India. 2012;62(Suppl 1):71-74.
[2] Soper JT. Gestational trophoblastic disease. Obstet Gynecol. 2021;137(2):355-70.
[3] Ngan HYS, Seckl MJ, Berkowitz RS, Xiang Y, Golfier F, Sekharan PK, et al. Update on the diagnosis and management of gestational trophoblastic disease. Int J Gynecol Obstet. 2015;131(S2):S123-S126.
[4] Aminimoghaddam S, Maghsoudnia A. Unusual presentation of invasive mole: A case report. J Reprod Infertil. 2017;18(1):205-09.
[5] Lurain JR. Gestational trophoblastic disease I: Epidemiology, pathology, clinical presentation and diagnosis of gestational trophoblastic disease, and management of hydatidiform mole. Am J Obstet Gynecol. 2010;203(6):531-39.
[6] Shrivastava S, Kataki AC, Barmon D, Deka P, Bhuyan C, Bhargav SJ. Gestational trophoblastic neoplasia: A 6 year retrospective study. South Asian J Cancer. 2014;3(1):33-37.
[7] Jareemit N, Horowitz NS, Goldstein DP, Berkowitz RS, Elias KM. EMA vs EMACO in the treatment of gestational trophoblastic neoplasia. Gynecol Oncol. 2020;158(1):99-104.
[8] Deng L, Zhang J, Wu T, Lawrie TA. Combination chemotherapy for primary treatment of high-risk gestational trophoblastic tumour. Cochrane Database Syst Rev. 2013;2013(1):CD005196.
[9] Abu-Rustum NR, Yashar CM, Bean S, Bradley K, Campos SM, Chon HS, et al. Gestational trophoblastic neoplasia, Version 2.2019, NCCN clinical practice guidelines in oncology. J Natl Compr Canc Netw. 2019;17(11):1374-91. [cited 2025 Apr 17]. Available from: https://jnccn.org/view/journals/jnccn/17/11/article-p1374.xml.
[10] Eiriksson L, Dean E, Sebastianelli A, Salvador S, Comeau R, Jang JH, et al. Guideline No. 408: Management of gestational trophoblastic diseases. J Obstet Gynaecol Can JOGC J Obstet Gynecol Can JOGC. 2021;43(1):91-105.e1.
[11] Ngan HYS, Seckl MJ, Berkowitz RS, Xiang Y, Golfier F, Sekharan PK, et al. Diagnosis and management of gestational trophoblastic disease: 2021 update. Int J Gynecol Obstet. 2021;155(S1):86-93.
[12] Ji M, Jiang S, Zhao J, Wan X, Feng F, Ren T, et al. Efficacies of FAEV and EMA/CO regimens as primary treatment for gestational trophoblastic neoplasia. Br J Cancer. 2022;127(3):524-30.
[13] Doll KM, Soper JT. The role of surgery in the management of gestational trophoblastic neoplasia. Obstet Gynecol Surv. 2013;68(7):533-42.
[14] Lehto A, Hitscherich K, Argeros O. Advanced gestational trophoblastic disease: A case report of medical management prior to surgical intervention. Case Rep Womens Health. 2018;19:e00072.
[15] Anwar R, Tjandraprawira KD, Irawan B. Concurrent gestational trophoblastic neoplasia and large uterine fibroid in a nullipara- Case report. Ann Med Surg. 2022;77:103659.

PARTICULARS OF CONTRIBUTORS:
1. Professor, Department of Obstetrics and Gynaecology, Dr. D. Y. Patil Medical College, Hospital and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune, Maharashtra, India.
2. Junior Resident, Department of Obstetrics and Gynaecology, Dr. D. Y. Patil Medical College, Hospital and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune, Maharashtra, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:
Dr. Saba Chaudhary,
Junior Resident, Department of Obstetrics and Gynaecology, Dr. D. Y. Patil Medical College, Hospital and Research Centre, Dr. D. Y. Patil Vidyapeeth (Deemed to be University), Pimpri, Pune-411018, Maharashtra, India.
E-mail: sabachaudhary65@gmail.com

PLAGIARISM CHECKING METHODS: [Jain H et al.]
- Plagiarism X-checker: Mar 12, 2025
- Manual Googling: Apr 22, 2025
- iThenticate Software: Apr 24, 2025 (8%)

ETYMOLOGY: Author Origin

EMENDATIONS: 5

AUTHOR DECLARATION:
- Financial or Other Competing Interests: None
- Was informed consent obtained from the subjects involved in the study? Yes
- For any images presented appropriate consent has been obtained from the subjects. Yes

Date of Submission: **Mar 06, 2025**
Date of Peer Review: **Mar 23, 2025**
Date of Acceptance: **Apr 26, 2025**
Date of Publishing: **May 01, 2025**