OPEN ACCESS

Scholars International Journal of Obstetrics and Gynecology

Abbreviated Key Title: Sch Int J Obstet Gynec
ISSN 2616-8235 (Print) |ISSN 2617-3492 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Case Report

Hysterectomy with Ovarian Conservation in a Perimenopausal Patient Presenting with Complete Hydatidiform Mole and Exaggerated Placental Site Mimicking Trophoblastic Tumor: A Case Report and Diagnostic Challenge

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DOI: https://doi.org/10.36348/sijog.2026.v09i02.003 | **Received:** 11.12.2025 | **Accepted:** 08.02.2026 | **Published:** 12.02.2026

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Abstract

***Introduction**:* The synchronous association of a Complete Hydatidiform Mole (CHM) and an Exaggerated Placental Site (EPS) is a rare clinical entity. Although benign, EPS can histologically mimic malignant lesions such as Placental Site Trophoblastic Tumor (PSTT), posing a major diagnostic challenge. We report a case illustrating the value of primary surgery in a 50-year-old multiparous patient (G4P4) who presented with persistent metrorrhagia. ***Presentation of case**:* Clinical examination revealed an enlarged uterus (corresponding to 12 weeks of gestation), and ultrasonography demonstrated a typical "snowstorm" pattern associated with serum beta-hCG levels > 400,000 mIU/mL. Given the advanced maternal age and hemorrhagic risk, a total abdominal hysterectomy with ovarian conservation was performed as the primary intervention. ***Clinical discussion**:* Histopathological examination of the surgical specimen confirmed a CHM associated with a florid proliferation of intermediate trophoblasts infiltrating the superficial myometrium (EPS). The global architectural analysis provided by the hysterectomy specimen allowed for the exclusion of deep invasion and neoplasia (PSTT) without the systematic need for complex immunohistochemistry. The postoperative course was favorable, with beta-hCG negativization within 8 weeks and no need for adjuvant chemotherapy. ***Conclusion**:* In perimenopausal patients, primary hysterectomy constitutes a safe and effective therapeutic option for high-risk hydatidiform moles. It enables a precise histological diagnosis of EPS by offering a complete architectural view, thereby avoiding diagnostic errors and unnecessary adjuvant treatments.

Keywords: Complete hydatidiform mole; Exaggerated placental site; Hysterectomy; Perimenopause; Case report.

INTRODUCTION

Gestational Trophoblastic Disease (GTD) encompasses a heterogeneous spectrum of placental pathologies, ranging from premalignant lesions such as Complete Hydatidiform Mole (CHM) to malignant invasive neoplasias like Choriocarcinoma and Placental Site Trophoblastic Tumor (PSTT) [1]. Among non-neoplastic trophoblastic lesions, the Exaggerated Placental Site (EPS) represents a rare and often under-recognized entity.

EPS is defined by an increased infiltration of the myometrium and endometrium by intermediate trophoblasts, exceeding physiological limits but lacking the cytological features of malignancy and tissue destruction observed in neoplasias [2]. Although benign, EPS poses a significant diagnostic dilemma as it shares histological similarities with PSTT, potentially leading to staging errors and inappropriate treatments [3].

The synchronous association of a CHM and an EPS is exceptionally rare. This coexistence complicates management, particularly in perimenopausal patients where the risk of malignant transformation is already elevated. Current guidelines position hysterectomy as a valid therapeutic option to reduce the risk of sequelae

neoplasia in patients who have completed childbearing [4].

We report here a rare case of CHM associated with EPS in a 50-year-old patient. This report highlights the value of primary hysterectomy in this age group, allowing for precise histopathological diagnosis and the formal exclusion of malignancy. This work has been reported in line with the SCARE 2023 criteria [5].

PRESENTATION OF CASE

A 50-year-old multiparous patient (G4P4), blood type O Rh-positive, was admitted to our gynecology department for the management of abnormal uterine bleeding. The patient had no significant medical or surgical history, was taking no regular medication, and had no family history of gynecological cancer. She reported minimal, continuous vaginal bleeding evolving over two months, without pelvic pain or exacerbated sympathetic signs of pregnancy.

Upon admission, the patient was in good general condition and hemodynamically stable. Abdominal examination revealed a soft abdomen with no palpable mass. Speculum examination showed a healthy-appearing cervix and minimal bleeding of endo-uterine origin. Vaginal examination revealed a globular, enlarged uterus (equivalent to 12 weeks of gestation), mobile and painless. No adnexal masses were palpable.

Endovaginal ultrasonography demonstrated an enlarged uterus containing a heterogeneous intracavitary mass measuring 10 x 9 cm with a "honeycomb" or "snowstorm" appearance characteristic of a molar pregnancy. The ovaries appeared normal. Laboratory tests revealed massively elevated serum beta-hCG (human chorionic gonadotropin) levels, exceeding 400,000 mIU/mL. Complete blood count and coagulation profiles were normal. Staging workup (abdominal ultrasound and chest X-ray) was negative for metastasis.

The case was discussed in a Multidisciplinary Team (MDT) meeting. Given the risk factors for Gestational Trophoblastic Neoplasia (age > 40 years, hCG > 100,000 mIU/mL), multiparity, and the risks of hemorrhage or uterine perforation associated with suction evacuation of a large uterus, radical surgery was decided. The patient underwent a total abdominal hysterectomy via a Pfannenstiel incision with bilateral salpingectomy and ovarian conservation. The procedure was uneventful, with minimal blood loss.

Histological examination confirmed the diagnosis of Complete Hydatidiform Mole associated with an Exaggerated Placental Site reaction (Figures 1, 2, 3). The sections showed:

Voluminous, hydropic, and avascular chorionic villi, lined by diffuse trophoblastic hyperplasia without atypia, in the absence of embryonic or fetal tissue.

A florid proliferation of intermediate trophoblasts at the implantation site, infiltrating the smooth muscle fibers of the superficial myometrium.

This infiltration remained strictly confined to the superficial layer, without vascular invasion, necrosis, or the destructive appearance typical of malignant lesions.

The absence of villi in the deep myometrium allowed for the exclusion of an invasive mole, and the absence of confluent nodules or marked atypia allowed for the exclusion of choriocarcinoma and Placental Site Trophoblastic Tumor (PSTT), rendering immunohistochemistry unnecessary.

The postoperative course was uncomplicated, and the patient was discharged on day 3. Follow-up showed a rapid logarithmic decrease in serum beta-hCG levels, reaching negativization at 8 weeks postoperatively. Monthly surveillance continued for 12 months, with levels remaining undetectable. No adjuvant chemotherapy was required.

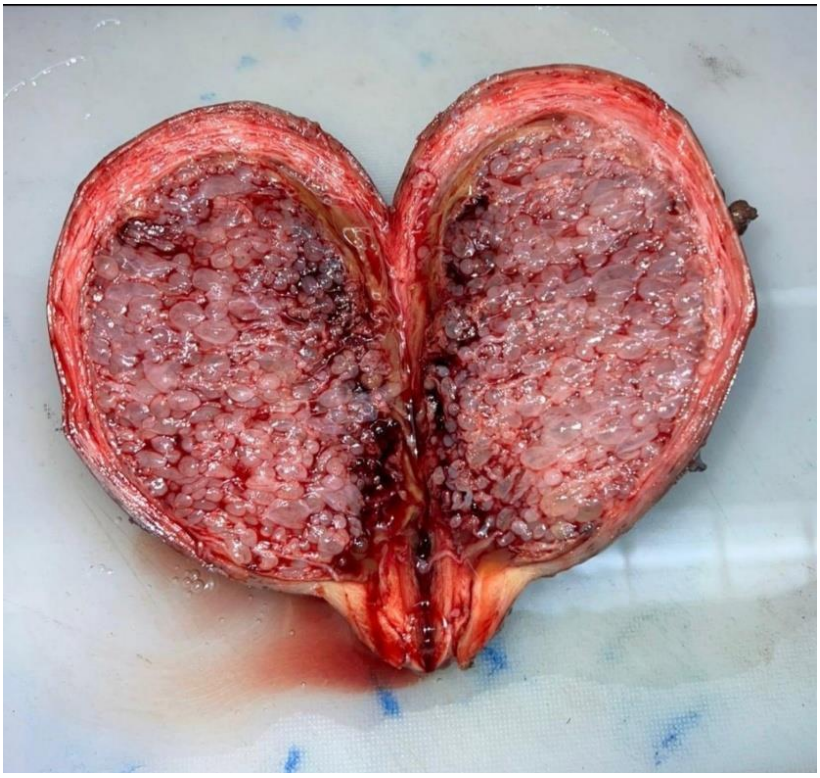

Figure 1: Macroscopic view (gross specimen)

"Transverse section of uterine wall showing the endometrial cavity almost completely filled by numerous translucent to tan, thin-walled vesicles of variable size. No distinct fetal tissue or discrete placental disc is identified grossly.

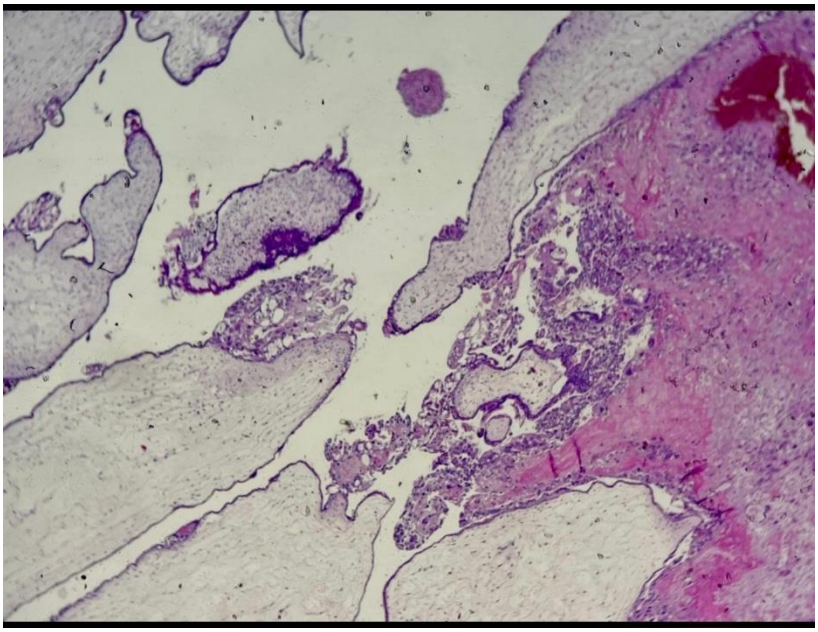

Figure 2: Low-power H&E (implantation surface)

"Low-magnification H&E of the uterine lining and implantation site showing multiple markedly hydropic, bulbous chorionic villi projecting to the endometrial surface, with conspicuous circumferential trophoblastic proliferation around many villi and an associated prominence of the implantation bed. The interface between villous tissue and maternal stroma is evident, with fibrous stroma between villous aggregates. (H&E, ×10)

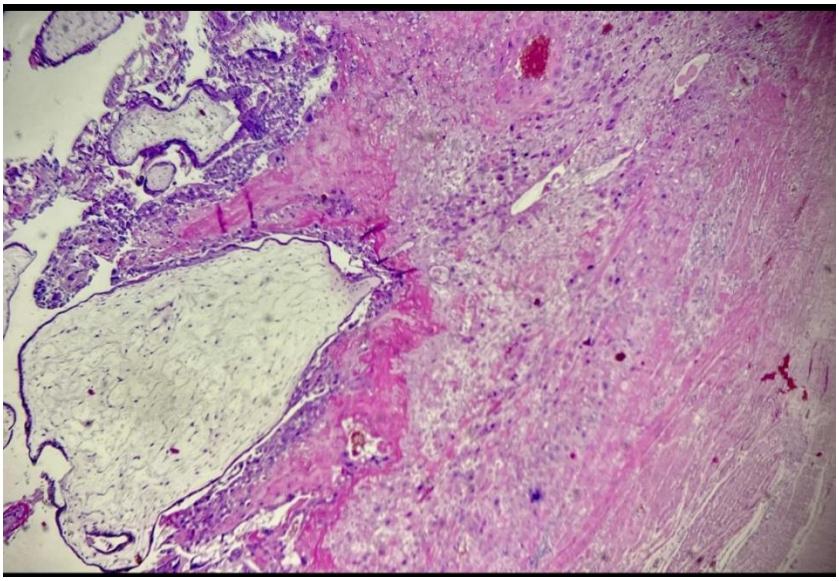

Figure 3: High-power H&E (implantation site).

"High-power H&E of the implantation site showing exaggerated intermediate trophoblastic infiltration of the superficial endometrium/implantation bed: sheets and nests of intermediate trophoblastic-type cells with abundant eosinophilic cytoplasm and mild nuclear pleomorphism extending into the superficial millimetre of the maternal tissue. No overtly malignant cytologic features are identified at this magnification. (H&E, ×25)

DISCUSSION

This case illustrates the complexity of the differential diagnosis between benign and malignant trophoblastic lesions, as well as the relevance of surgery in perimenopausal women.

Diagnostic Challenges :

EPS versus Neoplasia EPS is distinguished by the infiltration of the myometrium by intermediate trophoblasts. The histological distinction from Placental Site Trophoblastic Tumor (PSTT) is critical but difficult. Unlike PSTT, which forms nodular, destructive tumor masses with high mitotic activity, EPS respects the global uterine architecture [6]. In our case, hysterectomy provided a decisive diagnostic advantage over curettage. On fragmented curettage specimens, the evaluation of the myometrium-trophoblast interface is limited, often making immunohistochemistry (Ki-67, hPL) indispensable. Here, examination of the whole specimen allowed visualization that the infiltration halted at the superficial myometrium without tissue destruction, confirming the diagnosis of EPS based on morphology alone and formally ruling out malignancy.

Rationale for Hysterectomy The decision to perform a hysterectomy in this 50-year-old patient aligns with current evidence. In women over 40, the risk of developing post-molar Gestational Trophoblastic Neoplasia (GTN) after a complete mole is high (approximately 20-30%) [7]. Prophylactic hysterectomy reduces this risk to approximately 3.5%, significantly decreasing the potential need for toxic chemotherapy [8]. Furthermore, it prevents the immediate risks of hemorrhage and uterine perforation, which are more frequent during suction evacuation of large uteri in multiparous women.

Prognosis and Follow-up Although EPS is benign, its association with a CHM necessitates rigorous surveillance. EPS requires no adjuvant treatment and regresses spontaneously after pregnancy evacuation [3]. However, beta-hCG monitoring remains imperative to track the evolution of the molar component. The rapid normalization of serum levels in our patient and the absence of recurrence at 12 months confirm the curative efficacy of surgery alone for this complex entity.

CONCLUSION

The coexistence of a complete hydatidiform mole and an exaggerated placental site reaction is a rare condition that can easily be confused with malignant trophoblastic neoplasia. This case highlights the critical importance of rigorous histopathological analysis, where the evaluation of global architecture plays a key role in differentiating benign EPS from malignant PSTT. For perimenopausal patients or those who have completed childbearing, primary hysterectomy represents a strategy of choice. It offers a dual benefit: immediate reduction of tumor burden and risk of malignant sequelae, as well as the acquisition of a whole specimen allowing for a definitive diagnosis. This approach avoids the morbidity associated with unnecessary chemotherapy in cases of erroneous diagnosis of malignancy on simple curettage fragments.

Additional Information

Patient Consent Written informed consent was obtained from the patient for publication of this case report and accompanying clinical images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.Conflicts of Interest The authors declare that they have no conflicts of interest.

Funding This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Ethical Approval Ethical approval was waived by our institution for the publication of anonymized case reports, in accordance with local regulations.

Declaration of Generative AI in Scientific Writing During the preparation of this work, the author used an artificial intelligence tool for assistance with structuring, linguistic revision, and compliance with SCARE 2023 guidelines. After using this tool, the author reviewed and edited the content and takes full responsibility for the content of the publication.

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