RESEARCH PAPER

A Case Report On Right Tubal Ectopic Molar Pregnancy A Rare Case

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ABSTRACT

Background:

Ectopic molar pregnancy represents an extremely rare manifestation of gestational trophoblastic disease, in which hydatidiform molar changes occur outside the uterine cavity. Tubal involvement is particularly uncommon and is rarely suspected clinically due to its close resemblance to conventional ectopic pregnancy. Because clinical symptoms, serum β-human chorionic gonadotropin (β-HCG) levels, and ultrasonographic findings are often nonspecific, most cases are diagnosed only after surgical management. Histopathological examination of the resected specimen remains essential for definitive diagnosis and differentiation between complete and partial molar pathology.

Case Presentation:

A 26-year-old woman, gravida 3 para 1 live 1 abortion 1 (G3P1L1A1), presented with complaints of long-standing severe anaemia associated with recent spotting per vaginum. Urine pregnancy test was positive. Laboratory investigations revealed severe microcytic hypochromic anaemia with thrombocytopenia and markedly reduced serum ferritin levels. Serial serum β-HCG measurements demonstrated elevated values with a rising trend. Transvaginal ultrasonography showed an ill-defined heteroechoic lesion in the right adnexa with increased peripheral vascularity demonstrating a "ring-of-fire" pattern and minimal free fluid in the pouch of Douglas, suggestive of an unruptured right tubal ectopic pregnancy. After stabilization with packed red blood cell transfusions, the patient underwent emergency laparoscopic right salpingectomy. Intraoperatively, an unruptured right tubal ectopic gestation measuring approximately 5 × 3 cm with minimal hemoperitoneum was identified. Histopathological examination of the excised specimen revealed diffuse hydropic chorionic villi with circumferential trophoblastic proliferation, confirming a complete hydatidiform mole arising within the fallopian tube. Postoperatively, the patient was monitored with serial serum β-HCG measurements until complete normalization.

Conclusion:

Tubal ectopic pregnancy with complete molar changes is a rare clinicopathological entity that is difficult to diagnose preoperatively. Routine histopathological evaluation of all ectopic pregnancy specimens and strict postoperative β-HCG surveillance are crucial for early detection of persistent gestational trophoblastic disease.

Keywords:

Ectopic molar pregnancy; Tubal hydatidiform mole; Complete mole; Gestational trophoblastic disease; β-HCG.

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INTRODUCTION

Ectopic pregnancy remains one of the most important causes of first-trimester maternal morbidity and mortality, accounting for approximately 1–2% of all reported pregnancies worldwide. Most ectopic implantations occur within the fallopian tube,

particularly in the ampullary segment. In contrast, gestational trophoblastic disease (GTD) represents a distinct spectrum of disorders arising from abnormal proliferation of trophoblastic tissue, including hydatidiform mole, invasive mole, choriocarcinoma, and placental site trophoblastic tumor. The coexistence of molar pathology within an ectopic pregnancy is an exceedingly rare phenomenon and is referred to as ectopic molar pregnancy. Because of its rarity and overlapping clinical features with conventional ectopic gestations, the condition is rarely suspected prior to surgical management. According to **Berek & Novak's Gynecology**, gestational trophoblastic disease most commonly occurs within the uterine cavity, and extrauterine molar implantation is considered a very unusual clinical occurrence with only sporadic cases described in the literature [1].

Guideline-based clinical evidence also highlights the rarity and diagnostic difficulty of this condition. The **Royal College of Obstetricians and Gynaecologists (RCOG) Green-top Guideline on Gestational Trophoblastic Disease** reports that hydatidiform moles arise due to abnormal fertilization events resulting in atypical trophoblastic proliferation and hydropic swelling of chorionic villi. Complete moles are typically androgenetic in origin and are associated with diffuse trophoblastic hyperplasia, whereas partial moles contain both fetal and molar elements due to dispermic fertilization of an ovum. The guideline further emphasizes that molar pregnancies are usually intrauterine; therefore, when molar changes occur in an ectopic location, particularly the fallopian tube, diagnosis becomes challenging and is almost always confirmed only after histopathological examination of the excised specimen [2].

From a clinical standpoint, molar pregnancies may present with symptoms related to abnormal trophoblastic proliferation and elevated levels of β-human chorionic gonadotropin (β-HCG). Educational resources from the **Exxcellence Foundation** highlight that patients with molar pregnancy often demonstrate markedly elevated β-HCG concentrations compared with normal gestations of the same gestational age. Such elevations may produce associated clinical manifestations including excessive uterine enlargement, hyperemesis gravidarum, and occasionally early-onset preeclampsia in intrauterine molar pregnancies. However, when the molar gestation is ectopic, these classical features are frequently absent, and the presentation resembles that of a typical tubal ectopic pregnancy characterized by amenorrhea, abdominal pain, and vaginal bleeding [3].

Radiological assessment also provides limited diagnostic specificity. Clinical information provided by the **Mayo Clinic** indicates that molar pregnancy typically demonstrates characteristic ultrasonographic findings such as diffuse echogenic tissue with cystic spaces within the uterus, often described as a "snowstorm" pattern. In contrast, ectopic molar pregnancy does not consistently demonstrate these classical imaging features because the gestational tissue is confined within the fallopian tube. As a result, ultrasonography commonly reveals only an adnexal mass with peripheral vascularity, often described as the "ring-of-fire" sign, which is indistinguishable from a conventional tubal ectopic gestation [4].

Because of these overlapping clinical, biochemical, and imaging features, definitive diagnosis relies on histopathological evaluation. Pathological examination characteristically reveals hydropic villi with varying degrees of trophoblastic proliferation, allowing differentiation between complete and partial molar pathology. This distinction is clinically significant because complete moles carry a higher risk of progression to persistent gestational trophoblastic disease or gestational trophoblastic neoplasia. Consequently, postoperative monitoring with serial serum β-HCG measurements is recommended to ensure complete resolution and early detection of persistent disease.

In view of the rarity of tubal molar pregnancy and the diagnostic challenges it poses, reporting such cases contributes to improved clinical awareness and emphasizes the importance of routine histopathological evaluation of all ectopic pregnancy specimens. The present case describes a rare instance of a complete hydatidiform mole arising within the right fallopian tube, confirmed on postoperative histopathological examination.

CASE PRESENTATION

A 26-year-old woman, **gravida 3 para 1 live 1 abortion 1 (G3P1L1A1)**, presented to the outpatient department with complaints of **easy fatigability, exertional dyspnea, and palpitations** of long duration, along with **spotting per vaginum for two days**. She also reported a history of **chronic anemia for approximately seven years**, for which she had received **multiple packed red blood cell transfusions and parenteral iron therapy** in the past. Her menstrual history revealed **menorrhagia for the preceding one year**.

On general examination, the patient appeared **markedly pale with tachycardia**, consistent with severe anemia. Blood pressure was stable. Systemic

examination did not reveal any significant abnormalities. Abdominal examination was unremarkable, with no evidence of guarding, rigidity, or palpable masses.

Pelvic examination revealed a **normal-sized uterus with no cervical motion tenderness**. The fornices were non-tender, and no obvious adnexal mass was palpated on bimanual examination.

A **urine pregnancy test was positive**. Laboratory investigations demonstrated **severe microcytic hypochromic anemia with hemoglobin of 6.3 g/dL**, associated with **thrombocytopenia** and markedly reduced **serum ferritin levels (4 ng/mL)**, suggestive of chronic iron deficiency anemia. Serial **serum β-human chorionic gonadotropin (β-HCG)** estimation showed elevated levels, measuring **8260 IU/mL on 09/01/2026**, which increased to **28,400 IU/mL after 48 hours**.

Transvaginal ultrasonography revealed an **ill-defined heteroechoic lesion in the right adnexa measuring approximately 5 × 3 cm**, demonstrating **increased peripheral vascularity with a characteristic "ring-of-fire" appearance on Doppler imaging**. Minimal **free fluid was noted in the pouch of Douglas**, while the **uterine cavity appeared empty**. These findings were suggestive of an **unruptured right tubal ectopic pregnancy**.

Given the presence of severe anemia, the patient was initially **stabilized with transfusion of packed red blood cells**. After optimization of hemoglobin levels and obtaining informed consent, the patient was taken up for **emergency diagnostic laparoscopy with therapeutic intervention**.

Intraoperatively, approximately **20 mL of hemoperitoneum** was identified within the peritoneal cavity. Examination of the pelvic organs revealed an **unruptured ectopic gestation located in the ampullary segment of the right fallopian tube**, measuring approximately **5 × 3 cm**. The **uterus, contralateral fallopian tube, and both ovaries appeared grossly normal**.

A **laparoscopic right salpingectomy** was performed, and the specimen was sent for **histopathological examination**.

Gross pathological examination of the resected fallopian tube demonstrated **distended tubal segments containing friable, vesicular tissue**. Microscopic evaluation revealed **diffusely hydropic chorionic villi with circumferential trophoblastic proliferation and absence of embryonic or fetal tissue**, findings consistent with a **complete hydatidiform mole arising within the fallopian tube**.

The postoperative period was uneventful. The patient was subsequently enrolled in a **postoperative surveillance program with serial serum β-HCG monitoring** to ensure complete resolution of trophoblastic activity and to exclude the development of **persistent gestational trophoblastic disease**. Serial β-HCG levels showed a progressive decline until normalization during follow-up.

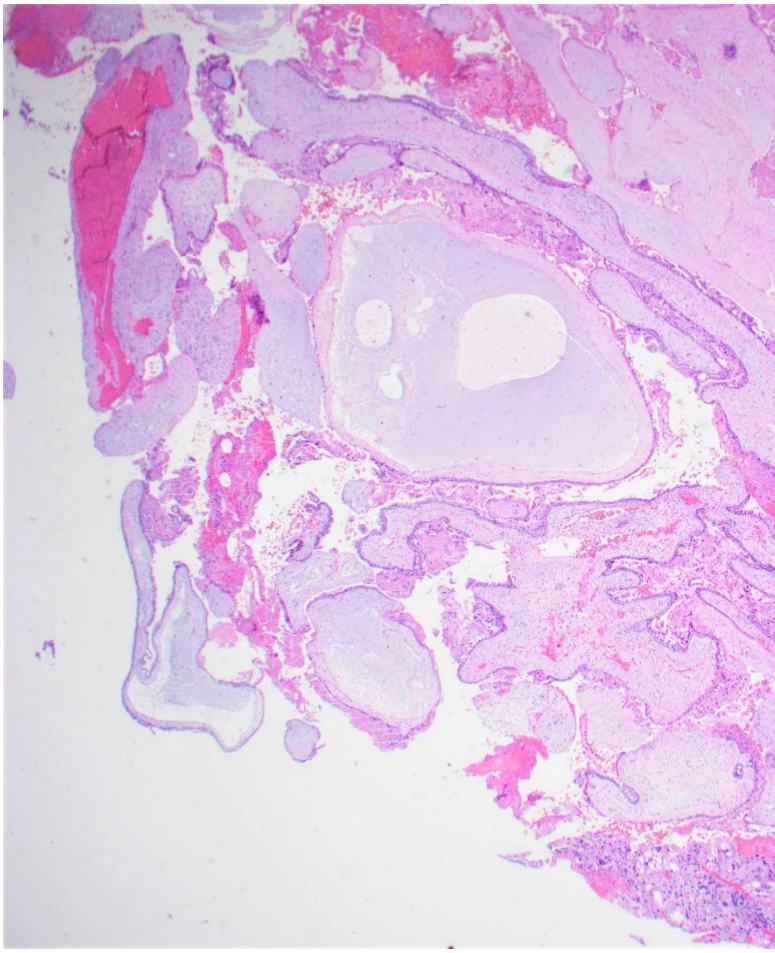

Figure 1: Histopathological section of tubal ectopic molar pregnancy showing diffuse hydropic chorionic villi with circumferential trophoblastic proliferation consistent with complete hydatidiform mole (H&E stain, ×100).

Microscopic examination of the resected fallopian tube specimen demonstrates **markedly hydropic chorionic villi with central cistern formation and diffuse circumferential proliferation of cytotrophoblast and syncytiotrophoblast**, without evidence of embryonic or fetal tissue. These findings are characteristic of **complete hydatidiform mole**, confirming the diagnosis of **ectopic molar pregnancy arising in the fallopian tube**.

DISCUSSION

Ectopic molar pregnancy represents one of the rarest forms of gestational trophoblastic disease (GTD), characterized by hydatidiform molar changes occurring outside the uterine cavity. The condition is exceptionally uncommon because molar gestations typically arise within the endometrial cavity where trophoblastic proliferation occurs under favorable implantation conditions. In contrast, the fallopian tube provides a relatively unfavorable environment for extensive trophoblastic growth, which partly explains the rarity of molar transformation in ectopic implantation sites. In the present case, a **complete hydatidiform mole arising in the right fallopian tube** was confirmed following histopathological examination after laparoscopic salpingectomy.

Hajisafari Tafti **et al.** described a case of tubal ectopic molar pregnancy in a reproductive-aged woman who presented with abdominal pain and vaginal bleeding. In that report, **serum β-HCG levels were approximately 12,000 IU/mL**, and ultrasonography demonstrated an adnexal mass consistent with ectopic pregnancy. Surgical management confirmed molar changes on histopathological examination [5]. In comparison, the present patient showed **β-HCG values of 8260 IU/mL initially, rising to 28,400 IU/mL within 48 hours**, indicating a rapid trophoblastic proliferation. This increase is clinically significant because a **greater than twofold rise within a short interval suggests active trophoblastic tissue**, which may be seen in molar pathology. However, similar elevations can also occur in normal or non-molar ectopic pregnancies, which contributes to diagnostic uncertainty.

Vuong **et al.** reported an **isthmic tubal ectopic pregnancy resulting from a partial hydatidiform mole**, emphasizing the rarity of molar pathology in extrauterine gestations [6]. In their case, the patient underwent surgical removal of an ectopic mass measuring approximately **3–4 cm in the fallopian tube**, and histopathology demonstrated partial molar villous changes. In the present case, the **ectopic gestational mass measured approximately 5 × 3 cm**, slightly larger than that described by Vuong **et al.** Importantly, while their study documented **partial molar degeneration**, our case revealed **complete hydatidiform mole**, characterized by diffuse villous edema and circumferential trophoblastic proliferation. This distinction is clinically relevant because **complete moles carry a higher risk of progression to persistent gestational trophoblastic disease**, reported in approximately **15–20% of cases**, compared with a much lower risk in partial moles.

Aravapalli **et al.** described a case of **ruptured ectopic hydatidiform mole**, where the patient presented with acute abdomen due to tubal rupture and significant intraperitoneal hemorrhage [7]. Their report documented **large-volume hemoperitoneum requiring emergency surgical management**. In contrast, our patient had an **unruptured ectopic pregnancy with only minimal hemoperitoneum of approximately 20 mL**, suggesting earlier detection and timely surgical intervention. The difference in presentation highlights the wide clinical spectrum of ectopic molar pregnancies, ranging from stable adnexal masses to life-threatening hemorrhagic emergencies.

Bousfiha **et al.** reported that ectopic molar pregnancy is extremely rare, with only a limited number of cases documented worldwide [8]. In their study, the clinical presentation was similar to that of routine ectopic pregnancy, including **amenorrhea, vaginal bleeding, and pelvic pain**, and ultrasonography revealed an adnexal mass without specific molar features. Likewise, in the present case, **transvaginal ultrasonography demonstrated a heteroechoic adnexal lesion with peripheral Doppler vascularity ("ring-of-fire" sign)**, findings commonly associated with typical tubal ectopic pregnancy rather than molar gestation. These similarities further emphasize that **preoperative differentiation between molar and non-molar ectopic pregnancies is extremely difficult**.

Hasan **et al.** also described a case of **partial hydatidiform mole occurring in ectopic tubal pregnancy**, in which β-HCG levels and ultrasound findings were indistinguishable from those of conventional ectopic pregnancy [9]. Their study emphasized that **serum β-HCG values alone cannot reliably distinguish molar from non-molar ectopic pregnancies**, as both conditions may demonstrate overlapping hormonal ranges. In the present case, although the β-HCG level increased from **8260 IU/mL to 28,400 IU/mL**, the values were still within ranges reported in many tubal ectopic pregnancies, which explains why a preoperative diagnosis of molar pathology was not suspected.

Earlier observations by Tanha **et al.** similarly reported that **molar pregnancy may clinically present as tubal ectopic pregnancy**, and diagnosis is frequently made only after histopathological examination [10]. In their report, the patient presented with **abdominal pain and vaginal bleeding**, and histopathological analysis confirmed molar villi after surgical removal of the fallopian tube. The present case demonstrates a similar diagnostic pathway, reinforcing the importance of

routine histopathological evaluation of all ectopic pregnancy specimens.

The rarity of ectopic molar pregnancy can be attributed to several biological and pathological factors. First, abnormal fertilization events that produce molar gestations usually occur within the uterine cavity, where implantation and trophoblastic proliferation are supported by the endometrial environment. Second, the fallopian tube lacks the structural and vascular conditions necessary for the extensive trophoblastic expansion typically seen in molar pregnancies. Third, many ectopic gestations rupture early due to limited tubal distensibility, preventing the development of characteristic molar morphology.

Conclusion:

Overall, the present case shares several similarities with previously reported studies, including **clinical presentation mimicking conventional ectopic pregnancy, moderate β-HCG elevation, and definitive diagnosis through histopathology**. However, the finding of **complete hydatidiform mole in an unruptured right tubal ectopic pregnancy measuring 5 × 3 cm with minimal hemoperitoneum** underscores the unusual nature of this pathology. These findings highlight the importance of **histopathological examination of all ectopic pregnancy specimens and strict postoperative β-HCG surveillance** to detect persistent gestational trophoblastic disease at an early stage.

REFERENCES

1. Berek JS. **Berek & Novak's Gynecology**. 16th ed. Philadelphia: Wolters Kluwer; 2020.
2. Gestational Trophoblastic Disease – RCOG Green-top Guideline No. 38. Royal College of Obstetricians and Gynaecologists; 2020.
3. Diagnosis and Management of Molar Gestation – Exxcellence Foundation. Society of Academic Specialists in General Obstetrics and Gynecology; 2025.
4. Molar Pregnancy – Symptoms and Causes (Mayo Clinic). Mayo Clinic; 2023.
5. Hajisafari Tafti M, Zare Garizi S, Mazidi F. Tubal ectopic molar pregnancy: A case report. Int J Reprod Biomed. 2024 Jul 8;22(5):405-410. doi: 10.18502/ijrm.v22i5.16441. PMID: 39091428; PMCID: PMC11290199.
6. Vuong RQ, Hurd M, Tek Z, Brzozowski N. Isthmic tubal ectopic pregnancy from a partial molar pregnancy: A case report and literature review. Case Rep Womens Health. 2025 Jul 22;47:e00736. doi: 10.1016/j.crwh.2025.e00736. PMID: 40746497; PMCID: PMC12312042.
7. Aravapalli Y, Mane A, Kathrani N, Chauhan RS. Ruptured large ectopic hydatidiform mole: an infrequent presentation of gestational trophoblastic disease. J Ultrasound. 2024 Dec;27(4):941-945. doi: 10.1007/s40477-024-00946-0. Epub 2024 Aug 5. PMID: 39102103; PMCID: PMC11496468.
8. Bousfiha N, Erarhay S, Louba A, Saadi H, Bouchikhi C, Banani A, El Fatemi H, Sekkal M, Laamarti A. Ectopic molar pregnancy: a case report. Pan Afr Med J. 2012;11:63. Epub 2012 Apr 4. PMID: 22655097; PMCID: PMC3361201.
9. Hasan A, Elhawary A, Abdelaleem MF, Hegazy T, Nafie KM. Partial Hydatidiform Mole in an Ectopic Tubal Pregnancy. Cureus. 2021 Jun 5;13(6):e15455. doi: 10.7759/cureus.15455. PMID: 34258118; PMCID: PMC8256449.
10. Tanha FD, ShirAli E, Rahmanpour H, Haghollahi F. Molar pregnancy presents as tubal ectopic pregnancy. Int J Fertil Steril. 2011 Jan;4(4):184-6. Epub 2011 Feb 20. PMID: 24851180; PMCID: PMC4023506.