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CASE REPORT

Uterine Rupture due to Gestational Trophoblastic Neoplasia on Nulliparous Woman : A Case Report

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Abstract

Background : Invasive mole (IM) is a frequent complication of gestational trophoblastic neoplasia (GTN). These tissues invade the myometrium deeply, occasionally affecting the peritoneum or vaginal vault. The prevalence of an invasive mole causing uterine rupture is uncommon. **Case Report** : We discuss the case of a 46-year-old nulliparous woman who presented to the emergency room complained severe abdominal pain that had been present for 4 hours. Patient had a history of complete mole evacuation 2 months ago with persistently elevated beta-human chorionic gonadotropin (B-HCG). . The patient was diagnosed with suspected uterine rupture due to an invasive mole and advised to undergo hysterectomy. Total abdominal hysterectomy was performed with the preservation of both ovaries. Choriocarcinoma was diagnosed histopathologically, and the patient was prepared for chemotherapy using EMA-CO protocols. **Conclusion** : Perforation of the uterus by an invasive mole is a rare but lethal complication. Although hysterectomy followed by chemotherapy is the standard treatment for this condition, several studies demonstrate the benefit of conservative management in terms of fertility preservation in reproductive-aged women.

Keywords: invasive mole; uterine rupture; gestational trophoblastic neoplasia; choriocarcinoma; hysterectomy

BACKGROUND

Invasive mole (IM) is a frequent complication of gestational trophoblastic neoplasia (GTN). It is defined by the presence of chorionic villi in association with severe trophoblastic overgrowth and invasion. These tissues invade the myometrium deeply, occasionally affecting the peritoneum or vaginal vault. These moles are invasive locally but do not tend to generate broad metastases like choriocarcinoma. IM is derived exclusively from complete or partial molecular structures. Around 10%–15% of full hydatiform moles are invasive. The prevalence of an invasive mole causing uterine rupture is uncommon. Invasive moles have the potential to invade the uterine wall, resulting in uterine perforation and severe bleeding in the abdominal cavity. ^{1–3.}

CASE REPORT

A 46-year-old nulliparous woman presented to the emergency room with severe abdominal pain that had been present for 6 hours. Patient had a history of complete mole evacuation 2 months ago with persistently elevated beta-human chorionic gonadotropin (B-HCG). The patient was prepared for chemotherapy according EMA-CO protocols, but treatment was delayed due to the patient's consent. Patient had been experiencing severe sharp pains in her lower abdomen for the past 4 hours. On examination, the patient was conscious and had a blood pressure of 80/60 mmHg and a tachycardia of 120 beats per minute. Tenderness and rebound tenderness were found in the whole abdomen. Vaginal spotting was discovered during genital examination. A inspeculo examination of the vagina and portio found no malignancy or laceration. A digital examination was performed, and it was found that cervical motion pain was present.

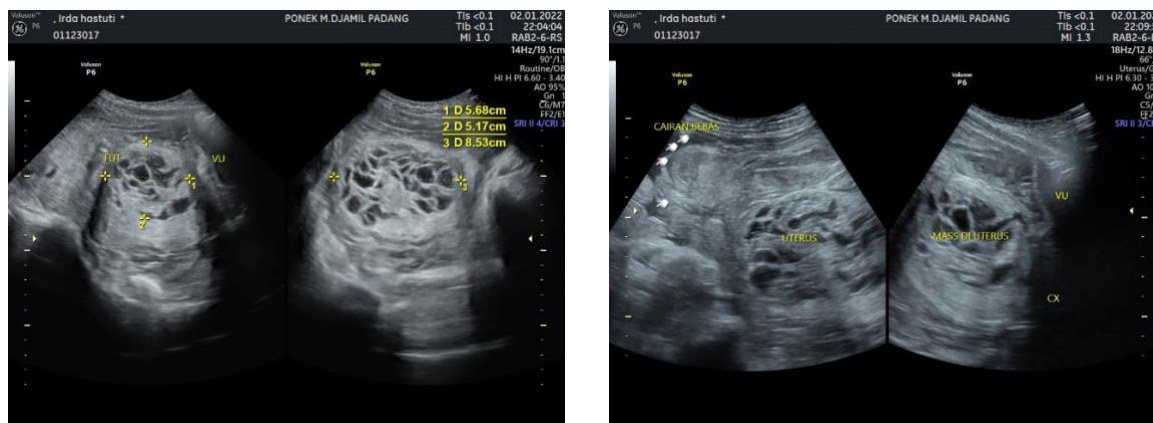


Figure 1. Hyperchoic mass with several anechoic lesion intra uterine (Left) Free fluid accumulated intraperitoneal (Right)

An emergency abdominal ultrasound was performed. A hyperechoic mass with several anechoic lesions was discovered intrauterine, and free fluid was observed intraperitoneally. Hemoglobin was 5.4 gram/dl and B-HCG was >10.000 mIU/ml based on laboratory result. The patient was diagnosed with acute abdomen as a result of a suspected uterine rupture caused by an invasive mole. To stabilize the patient, fluid resuscitation and massive blood transfusion protocols were used, and the patient was prepared for emergency laparotomy. During exploration on laparotomy, a perforation in the fundal part of the uterus was discovered. Total abdominal hysterectomy was done with the preservation of both ovaries. Choriocarcinoma was diagnosed histopathologically, and post-operative B-HCG concentration was 5.546 mIU/ml. After that, the patient was prepared for chemotherapy using EMA-CO protocols.



Figure 2 Multiple perforation in uterine by deeply invasive mole (yellow arrow)

DISCUSSION

GTN develops when the normal regulatory mechanisms that control trophoblastic tissue growth and invasiveness are impaired. These are uncommon and represent for fewer than 1% of all gynecologic cancers. They are identified by the presence of b-hCG and demonstrate varied tendencies for local invasion and distant metastasis. An invasive hydatiform mole is a type of GTN that develops as a result of aberrant placental trophoblast proliferation. Invasive moles rarely develop vascular invasion or metastases. The presence of a myometrial vascular mass in the absence of fetal tissue on USG in association with an increased b-hCG level is highly suggestive of IM.^{1,4}

An invasive mole often presents clinically with vaginal bleeding, an enlarged uterus, and a high urine or serum bHCG level, typically following the evacuation of a molar pregnancy. Typically, the interval between molar pregnancies is less than six months. Choriocarcinoma can develop following a hydatiform mole or even a normal pregnancy, with an interval of more than six months, and occasionally nearly 10 years. The level of BHCG is significantly higher in choriocarcinoma than in invasive moles. Pathological diagnosis of an invasive mole is uncommon, as the majority of cases are managed conservatively, without the need for hysterectomy. Metastasis from an invasive mole is uncommon; when it does occur, it is mainly to the lungs. Metastases are substantially more prevalent in choriocarcinoma, with the lower genital tract, brain, liver, lung, kidney, and gastrointestinal system being typical sites. The absence of metastases helps in the diagnosis of choriocarcinoma.^{1,2}

Uterine rupture in the setting of an invasive mole is an uncommon but potentially lethal event. Usually, emergency laparotomy followed by hysterectomy is chosen for this case. But several studies show the possibility of conservative management. G. David-West, et al. (2020) present a case report of a successful conservative management for uterine rupture caused by GTN. UAE



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and a conservative surgical approach to control the hemorrhage. It is uncommon for using uterine artery embolization (UAE) in the management of complicated GTN. UAE was used for fertility preservation but the recurrence rate was about 3.85% compared with definitive management. Low-dose induction chemotherapy was administered to prevent potential complications, including a higher risk of death that can occur from rapid tumor destruction associated with high-dose therapy. L. Grin et al. (2017) also present a case of laparoscopic fertility sparing treatment of invasive moles. The mass was dissected and hemostasis was achieved using sutures and electrocoagulation. Chemotherapy was administered to the patient following surgery.⁵⁻⁷

M, Hasanzadeh et al (2016) also suggest a conservative surgery for reproductive-aged women with uterine perforation caused by GTN. hospital-based case-report study was carried out to investigate the role of conservative surgery in 4 patients with GTN. Localized uterine resection of a residual disease was performed, followed by uterine reconstruction. N. Behtash et al (2006) reported two case of successful pregnancy after localized resection of perforated uterus in choriocarcinoma.^{8,9}

However, uterine lesion resection may increase the chance of tumor spread and recurrence, oncological safety must be considered. The risk of uterine rupture is also debatable. According to a study conducted by Wang X, et al (2017), larger tumors more than 4.2 cm in diameter and a patient's age greater than 35 years may be associated with a poor prognosis for fertility-sparing surgery but larger sample was needed to confirm the finding. Additionally, uterus surgery has an effect on fertility outcomes, as it carries the risk of scar pregnancy, abortion, and uterine rupture.^{5,9}

CONCLUSION

Uterine perforation by an invasive mole is a rare but lethal complication. Hysterectomy following by chemotherapy is recommended for this condition, but loss of fertility is the major concern for young women. Several studies demonstrate the benefit of conservative management in terms of fertility preservation in reproductive-aged women. But uterine resection may increase the risk of tumor spread intraabdominal and uterine surgery also effect of fertility outcomes.

REFERENCES

1. El-Agwany AS, Abdeldayem TM. Invasive mole of the uterus: A description of two cases managed by hysterectomy. *Egypt J Radiol Nucl Med* [Internet]. 2015;46(4):1267–70. Available from: <http://dx.doi.org/10.1016/j.ejrn.2015.06.017>
2. Ahmed S, Shaha DR. A Case of Invasive Mole. *Faridpur Med Coll J*. 2017;12(2):86–7.
3. Tan C, Chen L. Invasive Mole Lead to Uterine Rupture , a Case Report. :1–6.



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4. El-Agwany AS. Uterine intramural persistent mole: A case report following molar pregnancy evacuation with arteriovenous malformation. *Egypt J Radiol Nucl Med* [Internet]. 2014;45(4):1291–4. Available from: <http://dx.doi.org/10.1016/j.ejrn.2014.08.005>
5. Wang X, Yang J, Li J, Zhao J, Ren T, Feng F, et al. Fertility-sparing uterine lesion resection for young women with gestational trophoblastic neoplasias: Single institution experience. *Oncotarget*. 2017;8(26):43368–75.
6. David-West G, Jeganathan S, Cohen N, Maddineni S, Friedman B, Cohen S. Conservative management of uterine rupture in gestational trophoblastic neoplasia. *Gynecol Oncol Reports* [Internet]. 2020;32(January):100539. Available from: <https://doi.org/10.1016/j.gore.2020.100539>
7. Grin L, Namazov A, Volodarsky M, Anteby E, Lavie O, Gemer O. Laparoscopic Management of an Invasive Mole Perforating the Uterus. *J Minim Invasive Gynecol* [Internet]. 2017;24(2):199–200. Available from: <http://dx.doi.org/10.1016/j.jmig.2016.08.814>
8. Hasanzadeh M, Roodsari FV, Ahmadi S, Mehr MG, Azadeh T. Fertility sparing surgery in gestational trophoblastic neoplasia: A report of 4 cases. *Int J Reprod Biomed*. 2016;14(9):603–6.
9. Behtash N, Ansari S, Sarvi F. Successful pregnancy after localized resection of perforated uterus in choriocarcinoma and a literature review. *Int J Gynecol Cancer*. 2006;16(SUPPL. 1):445–8.