



Case Report

Successful treatment of gestational trophoblastic neoplasia in the uterine cornus with laparoscopic cornuostomy and postoperative methotrexate injection

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ABSTRACT

Objective: Management of cornual gestational trophoblastic neoplasia (GTN) has never been reported. Here, we describe the first case of cornual GTN.**Case Report:** A 32-year-old woman was diagnosed with left cornual GTN after evacuation of a complete mole. Laparoscopic cornuostomy was performed with intramural vasopressin injection and barbed sutures. Histopathology revealed hydropic chorionic villi. Complete hydatidiform mole was diagnosed, and treated with adjuvant methotrexate, to address the poor decline of β -human chorionic gonadotropin levels during follow-up. The β -human chorionic gonadotropin levels declined to < 1 mIU/mL 9 months after cornuostomy. She successfully conceived 16 months after cornuostomy, and underwent cesarean section at 37 gestational weeks due to concomitant severe preeclampsia.**Conclusion:** Cornual GTN can be successfully managed with laparoscopic cornuostomy and adjuvant methotrexate.© 2017 Taiwan Association of Obstetrics & Gynecology. Publishing services by Elsevier B.V. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

Introduction

Persistently elevated human chorionic gonadotropin (hCG) levels after molar evacuation can be used to diagnose gestational trophoblastic neoplasia (GTN). Three women with molar cornual pregnancies have previously been reported in the literature [1–3]. However, the management and clinical outcome of GTN in the uterine cornus has never been reported. Here, we describe the first case of GTN in the uterine cornus, detailed the technique for laparoscopic management, and described the clinical prognosis.

Case Report

A 32-year-old, gravida 2, para 0, abortion 1 woman underwent outpatient suction curettage for a complete hydatidiform mole at a local clinic 3 months prior to admission to our hospital. Two

months after suction curettage, she experienced gradually increasing left lower abdominal pain. Ultrasonography and magnetic resonance imaging revealed a solitary heterogeneous mass in the left cornus (Figure 1A). The β -hCG level was 58,769 mIU/mL prior to laparoscopy (Figure 2), which subsequently revealed a swollen left cornus. Laparoscopic cornuostomy was performed using the following steps: 20 mL diluted vasopressin (1 mL in 100 mL saline) was injected around the swollen left cornus, and a linear incision was made to open the cornus (Figure 1B). The gestational products were removed using a forceps and suction tubing, and the myometrial wound was closed with a V-Loc 180 suture (Covidien, Mansfield, MA, USA).

Histopathological examination revealed diffuse, circumferential trophoblastic proliferation (cytotrophoblast, syncytiotrophoblast, and intermediate trophoblast), with avascular and edematous villi that had central cisterns and cavitation. Evident cytological atypia and increased mitotic figures were also observed, and therefore a complete hydatidiform mole was diagnosed (Figure 1C). After a series of examinations, an International Federation of Gynecology and Obstetrics Stage I gestational trophoblastic neoplasm (prognostic score of 4) was diagnosed.

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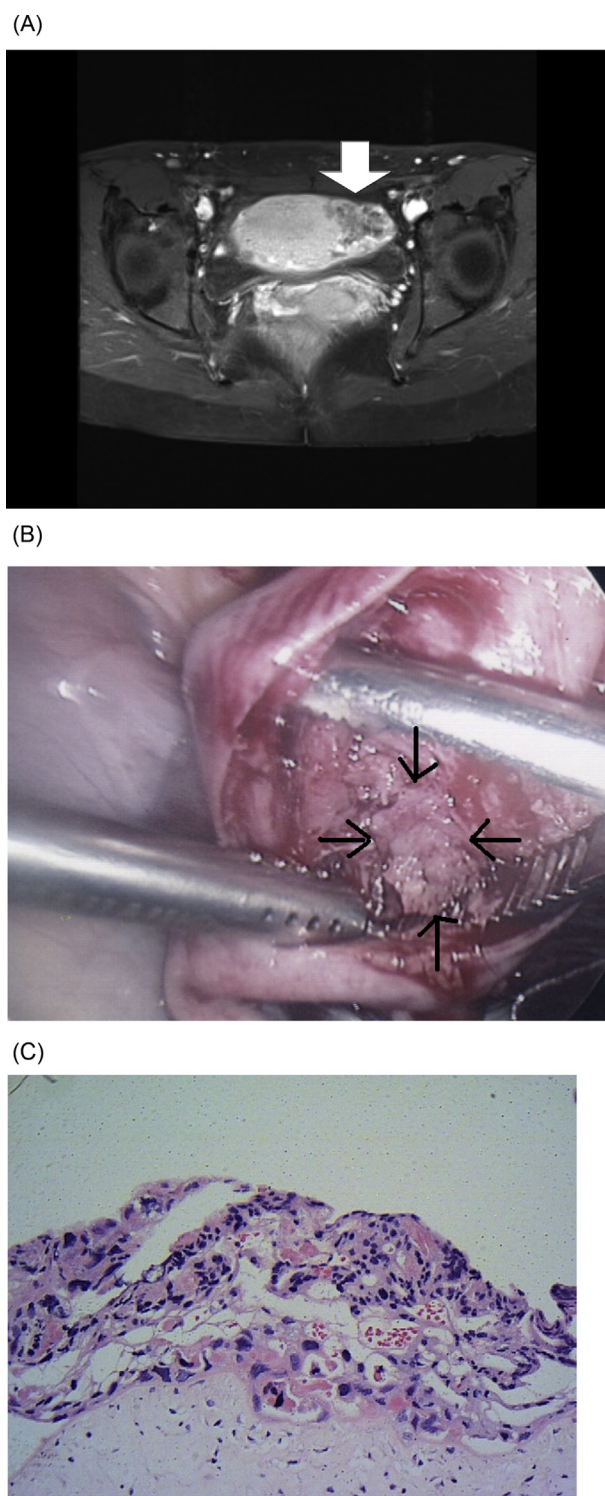


Figure 1. (A) Magnetic resonance imaging revealed a left cornual foamy cystic lesion (arrow). (B) Grape-like vesicles that fill the cornuostomy site (arrow). (C) Hydropic chorionic villi with trophoblastic proliferation and evident cytological atypia (hematoxylin–eosin stain, 200 \times).

Two doses of adjuvant intramuscular methotrexate (50 mg/m²) were administered to treat the gestational trophoblastic neoplasm, due to a decline in β -hCG levels (Figure 2). Nine months after cornuostomy, the β -hCG level had decreased to < 1 mIU/mL. An uneventful intrauterine pregnancy was subsequently detected 16

months after cornuostomy. The patient underwent cesarean section at 37 gestational weeks due to severe preeclampsia and prior cornuostomy, and good healing of the cornuostomy wound was found. She has provided her signed consent for this report to be published.

Discussion

Solitary GTN can be treated by hysterectomy, cornual resection, or simply methotrexate injection. However, there may be potential advantages associated with laparoscopic cornuostomy, as reported in our case. First, this method facilitates histopathologic confirmation of GTN [2,3]. Second, the total dose of methotrexate may be minimized after cornuostomy. Third, cornuostomy may preserve the patency of the affected tube [4], compared with cornual resection, and thus increase the chance of future child bearing. Nonetheless, it is worth mentioning that this patient may be curable with single dose chemotherapy (e.g., methotrexate or actinomycin) even if without laparoscopic cornuostomy.

Although laparoscopic cornuostomy was used for histological confirmation [2,3] and initial treatment of our cornual GTN case, laparoscopic cornuostomy can be reserved for patients unresponsive to systemic chemotherapy or cases with placental site trophoblastic tumor [5]. Although successful vaginal deliveries have been reported in women with prior laparoscopic cornuostomy [6,7], women with laparoscopic cornuostomy may need future cesarean delivery to prevent uterine rupture in labor [8]. While performing cornuostomy, we suggest the use of diluted vasopressin to reduce the abundant myometrial blood flow. A self-anchored barbed suture may be simpler for laparoscopic closure of the myometrial wound, despite small bowel obstruction due to the barbed suture had been reported [9].

Only three women with molar cornual pregnancies have previously been reported in the literature (Table 1) [1–3]. Abdominal total hysterectomy [1], cornual resection [2], or laparoscopic cornuostomy [3] have all been used to treat their molar cornual pregnancy. The first two cases showed good prognosis [2,3]. In the third case, intramuscular methotrexate (50 mg/m²) had been administered to treat the possible remnants of a molar pregnancy; unfortunately, this woman was lost to follow-up [3]. The favorable outcome of our current case may provide adjuvant evidence for the feasibility of laparoscopic cornuostomy in the management of cornual molar pregnancy or GTN.

Hysteroscopy can be used to treat retained trophoblastic tissue [10], and is reported to be superior to ultrasound-guided curettage [11]. In addition, hysteroscopy can be used alone [12] or combined with laparoscopy for treating women with cornual pregnancy [13]. Nonetheless, the role of hysteroscopy in treating women with cornual GTN or molar pregnancy that is embedded within the muscular wall of the uterus remains undetermined.

In women with a desire for fertility, GTN can be treated with single-agent or multi-agent chemotherapy. Hysterectomy is generally not necessary, but is an option for patients who are no longer interested in future fertility and may be necessary for patients unresponsive to multi-agent chemotherapy [5]. However, some patients with future fertility desire and unresponsive to chemotherapy may benefit from partial hysterectomy or tumor resection from the uterus [14,15].

In conclusion, we have reported the first case of GTN in the uterine cornus. Laparoscopic cornuostomy with adjuvant methotrexate treatment may be used for the management of cornual GTN.

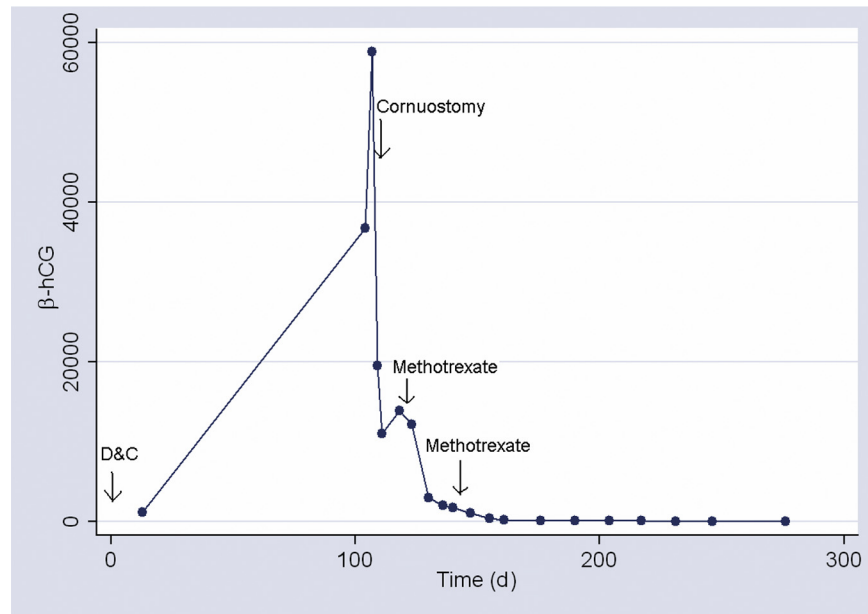


Figure 2. β -hCG levels after cervical dilatation and curettage, and cornuostomy. β -hCG = β -human chorionic gonadotropin.

Table 1
Literature review of clinical features of cases with cornual molar pregnancy

Case no.	Authors (y)	Parity	Presenting symptoms	β -hCG (mIU/mL) before surgery	Operation method	Pathology	MTX	Follow-up
1	Chauhan et al. (2006) [1]	3	Vaginal bleeding, abdominal pain	—	Laparotomic hysterectomy	Hydatidiform mole	No	Normal β -hCG within 3 wk
2	Zite et al. (2002) [2]	—	Abdominal pain	97,000	Minilaparotomic cornual resection	Partial mole	No	—
3	Hwang et al. (2010) [3]	0	Vaginal bleeding	57,738	Laparoscopic cornuostomy	Partial mole	Yes	Lost to follow-up
4	Present report	0	Abdominal pain	58,769	Laparoscopic cornuostomy	Complete mole	Yes	Normal β -hCG at 9 mo

hCG = human chorionic gonadotropin; MTX = methotrexate.

Conflicts of interest

The authors have no conflicts of interest relevant to this article.

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