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Case Report

Cornual Invasive Mole: A Diagnostic and Therapeutic Challenge

Armando Menocal[1], Rocio Santin[2], Ramiro Cabrera3, César Aguilar[2]*, Steicy Flores[4], Dayana Piedra[4], Lucia Chaul[3], Jhanneth Chura[3] and Alvaro J Ovando[3]

[1]Head of Gynecologic Minimally Invasive Surgery, Hospital de la Mujer de Morelia, México

[2]Attending Physcian, Gynecology Departament, Hospital de la Mujer de Morelia, México

[3]Minimally Invasive Gynecology Surgery, Instituto Doyenne, México

[4]Gynecologic Fellow, Hospital de la Mujer de Morelia, México

***Corresponding Author:** César Aguilar, Attending Physcian, Gynecology Departament, Hospital de la Mujer de Morelia, México.

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Abstract

Introduction: Gestational trophoblastic disease in the cornual invasive mole variant is a rare condition, representing a diagnostic challenge, typically evolving from a complete hydatiform mole.

Material and Methods: The following clinical case presents 25 years old primigravida referred with history of uterine aspiration two months prior due to a complete hydatiform mole and persistent HCG levels despite undergoing one dose of methotrexate.

In our institution at the evaluation whit a suspicious of cornual invasive mole. A Surgical treatment is planned. A hysteroscopy and laparoscopy are performed, which confirm persistent molar tissue in the right uterine horn. Surgical management included temporary vascular control through uterine artery ligation an vasopressin use, followed by excision of the molar tissue. The final histological report confirmed the diagnosis of invasive mole.

Discussion: The development of cornual invasive mole is poorly understood, however surgical management combined with chemotherapeutic treatment significantly reduces the risk of metastasis. In this case the use of minimally invasive techniques allowed precise resection of the molar tissue while preserving fertility in a woman of reproductive age.

Keywords: Invasive Mole; Cornual Pregnancy; Hysteroscopy; Fertility Preservation; Minimally Invasive Surgery

Abbreviations

HCG: Human Chorionic Gonadotropin

Introduction

Gestational trophoblastic disease is a heterogeneous group of abnormal trophoblastic tissue growths, with both malignant and benign presentations. The main benign forms are complete and partial hydatidiform moles, while the malignant form is choriocarcinoma [1].

Cornual invasive gestational trophoblastic disease represents a rare variant, representing a complex diagnostic challenge. The incidence of complete hydatidiform mole is 1-3 per 1,000 pregnancies, with malignant transformation occurring in 15-20% of cases [2].

An invasive mole is defined as a hydatidiform mole that invades the myometrium. It is considered a true neoplasm as it causes metastasis. Diagnostic is established through histology and persistent elevation of human chorionic gonadotropin (HCG) levels [3].

Materials and Methods

This is a 25-year-old primigravida patient with no history of chronic degenerative diseases who presented to the Gynecology Department of the Hospital de la Mujer in Morelia. She was referred from a private facility due to persistent elevation of HCG levels, with history of uterine aspiration two months prior to the referral with a histopathological report confirming a complete hydatidiform mole.

Prior to the uterine aspiration her initial HCG level was 99,890 mIU/mL, with subsequent controls showing 1,407 mIU/mL, 1,811 mIU/mL, and 6,865 mIU/mL. Over the past three weeks, HCG levels have risen to 36,120 mIU/mL. Consequently, an out-of-institution oncologist prescribed a methotrexate cycle without specifying the dosage.

During the evaluation at the gynecology emergency department, a transvaginal ultrasound was performed, reporting a uterus measuring 8x3x3 cm, likely a bicornuate uterus, and images compatible with gestational trophoblastic disease. Extension studies were negative (Figures 1, 2, 3, 4).

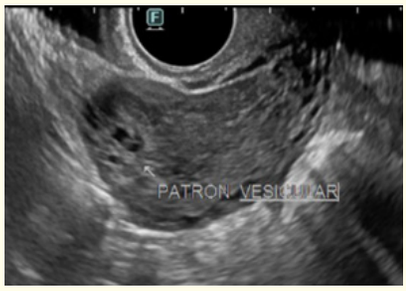

Figure 1: Endo vaginal ultrasound showing myometrium in the uterine fundus with a vesicular pattern.

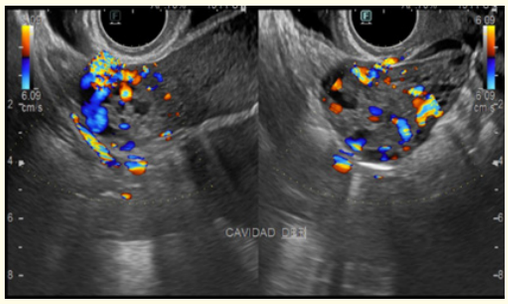

Figure 2: Lesion identified in the cornual region (right), presence of multiple small images with a vesicular pattern. A significant increase in blood flow in the lesion area. Findings consistent with cornual invasive mole.

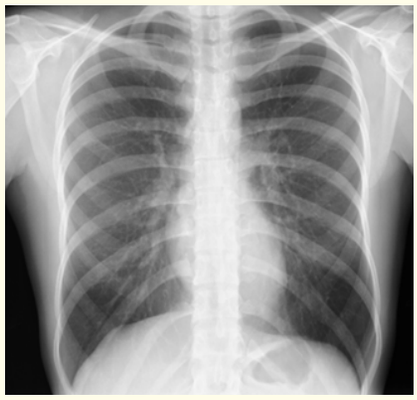

Figure 3: Plain chest X-ray with no pathological findings.

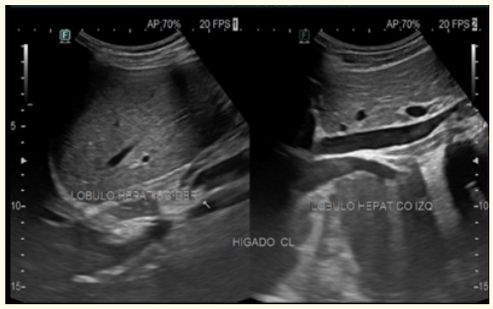

Figure 4: Normal liver and biliary tract ultrasound.

A laparoscopic surgical procedure was performed, including hysteroscopy, which revealed an empty uterine cavity with no evidence of persistent molar tissue, with a suspicious image located behind the right ostium. Subsequently, laparoscopy was performed, and upon visualization of a lesion in the right uterine horn, vascular control was achieved (peripheral control with temporary bilateral ligation of the uterine arteries and local control with intramural administration of vasopressin). A transverse incision was made in the uterine horn using monopolar energy, and vesicular-appearing tissue was extracted (Figure 5,6,7,8,9).

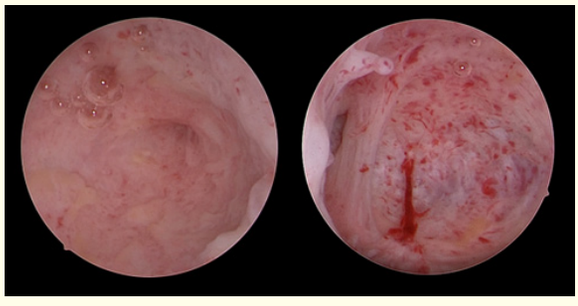

Figure 5: Hysteroscopy left ostium (A), right ostium (B).

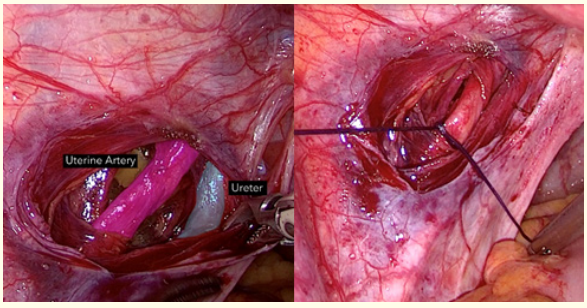

Figure 6: Bilaterally identification and temporary ligation of the uterine artery.

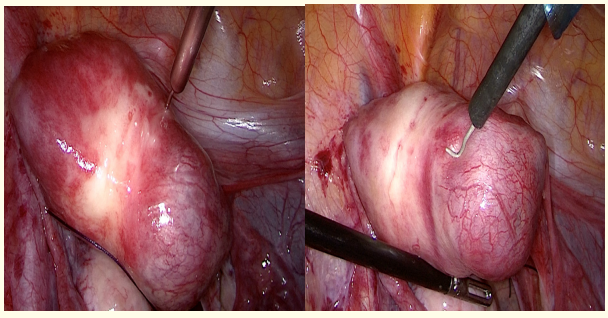

Figure 7: (A) Intramural injection with vasopressin. (B) Preparation to incise the uterine horn using monopolar energy.

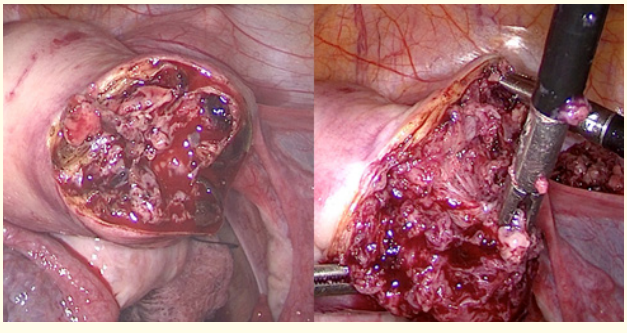

Figure 8: Trophoblastic tissue extraction.

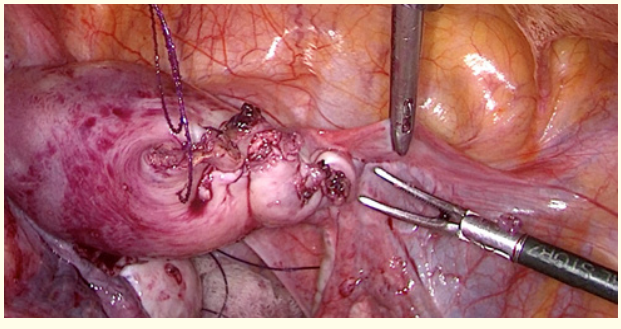

Figure 9: Layered closure of the uterus with continuous sutures.

Microscopic examination revealed a complete hydatidiform mole (Figure 10). Serial HCG monitoring was performed, showing levels of 7,132 mIU/mL and 2,090 mIU/mL on the 4th day. The patient was referred for follow-up in Oncology, where a second methotrexate regimen was prescribed (50 mg IM on days 1, 3, 5, and 7, along with folinic acid 15 mg on days 2, 4, 6, and 8).

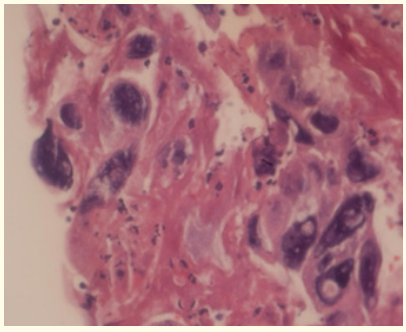

Figure 10: Abnormal trophoblastic proliferation with cells showing hyperchromatic nuclei, nuclear pleomorphism, and occasional mitosis.

Results and Discussion

The pathogenesis of cornual invasive mole remains unknown. Factors related to uterine evacuation, such as iatrogenic perforation and false passages, are suspected. There are reports of invasive molar pregnancies in rudimentary uterine horns; however, in our case, as in the one reported by Jing Qian, the uterus was normal [4,5].

Chemotherapy is the cornerstone of treatment and is essential for preventing metastasis. Methotrexate-based chemotherapy (methotrexate/folinic acid) is the first-line treatment, with remission rates reported as high as 80% [6].

In surgical treatment, two approaches have been reported: conservative treatment in cases where fertility preservation is desired versus total hysterectomy in patients with completed parity and those over 40 years of age. The objective is to reduce the incidence of post molar gestational trophoblastic neoplasia, with reported incidences of 58% following evacuation and 30% following hysterectomy [7]. Laparoscopic management of invasive mole is limited due to the rarity of the condition. In the absence of metastasis, laparoscopic surgery has been documented as a fertility-preserving option for women of reproductive age [8].

Conclusion

We report a clinical case of an extremely rare disease, that was managed with conservative minimally invasive surgery and chemotherapy, yielding a favorable response. The diagnosis of invasive mole is confirmed by pathology; however, it requires clinical, biochemical, imaging, and, in specific cases, molecular analysis. Currently, minimally invasive treatment benefits women wishing to preserve fertility [9].

According to Peng Zhao's meta-analysis, surgical treatment depends on fertility desires. Also stating that, total hysterectomy is a better therapeutic option compared to uterine evacuation [10].

Acknowledgements

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Conflict of Interest

There is no financial interest or any conflict of interest.

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