Case Report ISSN 2639-9342

Gynecology & Reproductive Health

Choriocarcinoma in Tubal Ectopic Pregnancy: A Case Report

SCHMITZ Amanda*, BRITO Emanuella, CARVALHO Marina, MUSIELLO Rubens and CHAMBO Antonio

Hospital Santa Casa de Misericórdia de Vitória, Vitória (Espírito Santo), Brasil.

***Correspondence:**
Amanda Almeida Schmitz, Rua Doutor João dos Santos Neves, 143, Vila Rubim, Vitória - ES, CEP: 29025-023, Tel: 27 996071273

Received: 19 Jan 2023; **Accepted:** 25 Feb 2023; **Published:** 02 Mar 2023

Citation: Amanda S, Emanuella B, Marina C, et al. Choriocarcinoma in Tubal Ectopic Pregnancy: A Case Report). Gynecol Reprod Health. 2023; 7(2): 1-4.

ABSTRACT

Gestational Trophoblastic Disease (GTD) is characterized by an abnormal proliferation of trophoblastic cells that encompasses a group of distinct pathologies. Choriocarcinoma (CC) is a malignant neoplasm whose pathogenesis is based on abnormalities in the regulation of trophoblast cell invasion in the decidua. It has varied manifestations and its recognition becomes even more difficult when a hydatidiform mole, as in the patient in question, does not precede it. Among the risk factors for the development of CHD, an episode of miscarriage, multiple pregnancy, nulliparity or patients over 35 years of age stand out. The vast majority of primary CC lesions affect the uterus, with primarily extrauterine lesions being a rarity. Thus, its association with ectopic pregnancy is extremely rare and aggressive. For this reason, the present study aims to report the case of a choriocarcinoma in an ectopic pregnancy in the fallopian tube.

Keywords

Ectopic pregnancy, Choriocarcinoma, Gestational Trophoblastic Disease.

Introduction

Gestational Trophoblastic Disease (GTD) is characterized by an abnormal proliferation of trophoblastic cells that encompasses a group of distinct pathologies: complete and partial Hydatidiform Mole, Invasive Hydatidiform Mole, Choriocarcinoma, Trophoblastic Tumor of the Placental Site and Epithelioid Tumor [1,2].

Choriocarcinoma (CC) is a malignant neoplasm whose pathogenesis is based on abnormalities in the regulation of trophoblast cell invasion in the decidua. It is preceded by a pregnancy, be it term, ectopic, molar or miscarriage. It has a great capacity for metastasis, mainly to the lung (80%), vagina (30%), brain and liver (10%) [2].

Among the risk factors for the development of CHD, an episode of miscarriage, multiple pregnancy or age over 35 years are highlighted. The most significant clinical manifestations are vaginal bleeding and uterine size greater than expected, the high production of human chorionic gonadotropin can trigger manifestations in other organs, such as the ovaries (thecalutein cysts), endometrium (hyperplasia and Arias Stella phenomenon) and the breast (lobular hyperplasia) [3].

In a histopathological study, we observed a biphasic pattern anaplastic cytotrophoblastic cells and syncytiotrophoblast without chorionic villi. Despite being pathognomonic, this pattern is not mandatory for diagnosis, given the extensive necrosis, hemorrhage and vascular invasion caused by the rapid growth of the tumor [1].

The vast majority of primary lesions affect the uterus, with primarily extrauterine lesions being a rarity. Thus, its association with ectopic pregnancy is extremely rare and aggressive [4]. For this reason, the present study aims to report the case of a choriocarcinoma in an ectopic pregnancy in the fallopian tube.

Clinical Case

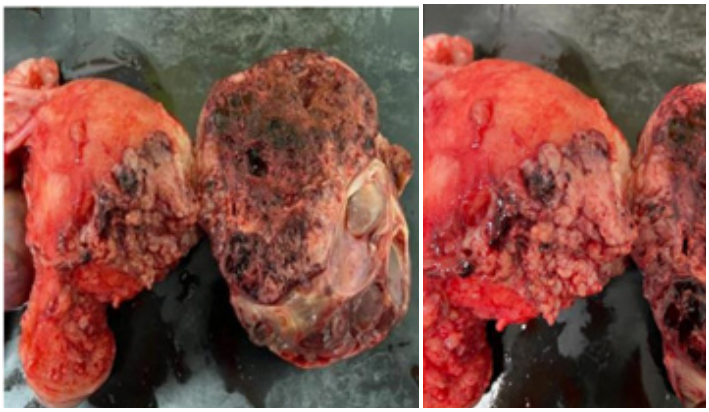
A 33-year-old patient with two previous pregnancies, being a normal delivery 12 years ago and an abortion, which occurred 03 months before the pathology mentioned in this report. She went to the gynecological emergency room complaining of hyporexia, nausea, vomiting and pelvic pain.

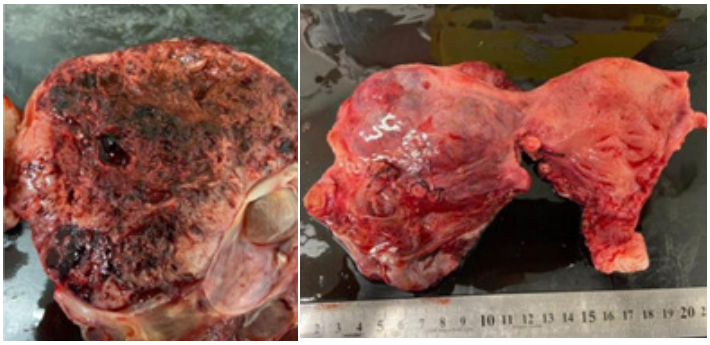
On physical examination, the patient had a pained face, was lucid, with normal colored and hydrated mucous membranes, blood pressure was 120/70 mmHg, heart rate was 80 bpm, and respiratory rate was 20 bpm. Painful superficial and deep abdominal palpation, delimiting a tumor of approximately 6cm, occupying the hypogastrium and left iliac fossa. Specular examination showed no bleeding, epithelialized cervix and vaginal wall without alterations. On bimanual vaginal examination, a painful and fixed tumor in the pelvis was evidenced in the right and left iliac fossa. She underwent qualitative β-hCG in the emergency room, with a positive result, and hospital admission was chosen for better diagnostic clarification.

During hospitalization, a tomography of the total abdomen was performed, which showed voluminous multiseptated cystic images in the bilateral adnexal regions, forming masses in the bilateral hypogastric regions, on the right measuring about 13.1 x 10.4 cm and on the left measuring about 11.5 cm. x 7.5 cm.

The investigation continued with quantitative β-hCG and transvaginal Doppler ultrasound. The first presented values above 225,000 mUI/ml and the imaging exam showed an enlarged uterus (508cm³), regular endometrium measuring 14mm and two cystic images in the hypogastrium, with anechoic areas interspersed with areas of thick, multiloculated liquid-like content, presenting solid intermingled areas, well-defined limits, intensely vascularized on color Doppler. On the right measuring 147 x 110 x 115mm, with a volume of 979 cm^3 and on the left 179 x 120 x 145mm, with a volume of 1644 cm^3. A chest tomography was also performed, which highlighted a nodule with soft tissue density measuring 1.1 cm in the anterior region of the right lower lung lobe, juxtacissural, with a nonspecific appearance.

The patient was referred to the operating room for exploratory laparotomy. In the cavity inventory, a tumor in the right tube was observed invading the uterine wall and right ovary, as shown in figures 1, 2, 3 and 4. In addition, cysts with thecalutein aspect were observed in both ovaries. Total hysterectomy with right salpingoophorectomy and left salpingectomy with aspiration of the cysts in the left ovary, keeping it in loco, was performed.





Figures 1, 2, 3 and 4: Surgical specimen showing uterus and choriocarcinoma invading the tube and right ovary

The macroscopic examination of the surgical specimen showed a lesion in the right appendage, filling the fallopian tube lumen and compromising the right ovary and adjacent uterine serosa. The microscopic examination also showed proliferation of trophoblastic tissue with cyto and syncytiotrophoblast showing marked atypia and areas of necrosis and hemorrhage in the fallopian tube, right ovary and uterine serosa, as can be seen in Figure 5. Angiolymphatic invasion was not detected. Ascitic fluid analysis was positive for neoplastic cells and immunohistochemistry was positive for Choriocarcinoma, with positivity for the following proteins/antigens as shown in table 1.

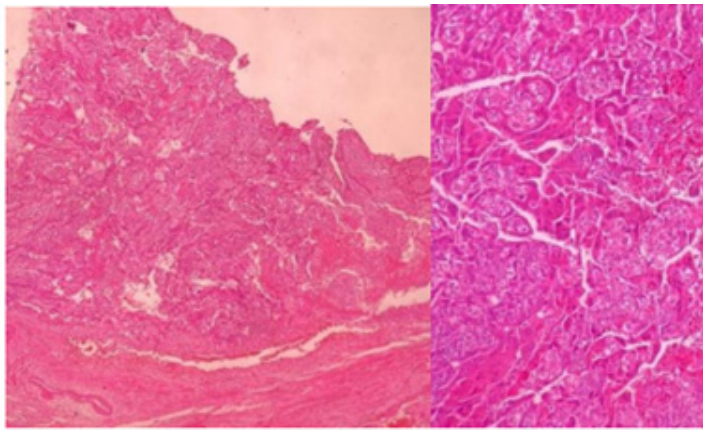


Figure 5: Histopathological slide of the surgical specimen. HE, 200X

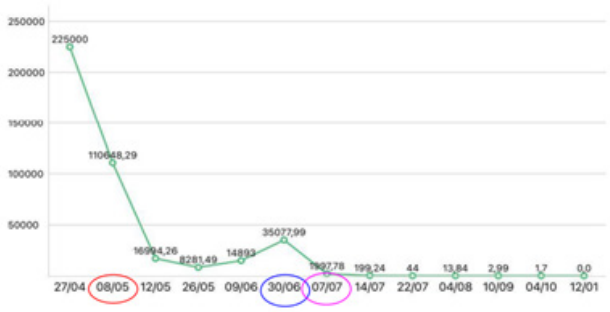
Table 1: Immunohistochemistry.

Cytokeratin Pan (clone AE1AE3)	POSITIVE
Chorionic gonadotropin beta-hcg fraction (polyclonal clone)	POSITIVE
Epithelial Membrane Antigen EMA (clone E29)	NEGATIVE
CD10 (CALLA) clone 56c6	POSITIVE

The patient was discharged from the hospital with follow-up scheduled at the oncology outpatient clinic and the gestational trophoblastic disease outpatient clinic of the service, performing weekly quantitative β-hCG. After surgery, the values showed a significant drop, reaching a minimum of 6,794.85. After this result, there was a progressive increase in quantitative β-hCG, reaching a maximum peak of 35,077.93 in 28 days, which is why

the patient was referred for a new hospitalization and screening for metastases. The β-hCG values were represented in graph 1.

Computed tomography of the skull, pelvis and abdomen was performed, which were without alterations. Computed tomography of the chest again showed a pulmonary nodule with a soft tissue density measuring 1.1 cm, stable in relation to the previous study.



LEGEND	
08/05	POST SURGERY
30/06	REINTERNATION
07/07	POST QT

Graph 1: Quantitative Beta-Hcg Curve.

After a complete investigation, a stage III diagnosis was defined, due to the presence of pulmonary metastasis identified in the complementary exam. The calculated prognostic index was greater than 7, so the EM-CO chemotherapy regimen (Etoposide, Methotrexate, Leucovorin, Cyclophosphamide and Vincristine) was indicated. β-hCG was collected after each chemotherapy cycle.

After the first cycle of chemotherapy, there was a decrease in quantitative β-hCG, reaching the value of 1997.78, followed by an exponential decrease until the value of zero. There were 6 cycles, 3 of which were consolidation cycles after normalization of β-hCG, being defined that there was no new indication for chemotherapy for the patient.

In addition to the normalization of β-hCG values, there was a decrease in the pulmonary nodule from 1.1 cm to 5 mm, which corroborates the conduct of not indicating a new cycle of chemotherapy, maintaining, however, follow-up with oncology and gynecology.

Discussion

The present case report deals with an uncommon condition: a choriocarcinoma, a malignant condition among gestational trophoblastic diseases, associated with an ectopic pregnancy in the fallopian tube. There are few reports in the literature and the theoretical incidence of this association is 01 in 5,333 cases [5].

Choriocarcinoma can be of gestational origin, and not very common, of non-gestational origin. In 50% of cases, it arises after a hydatidiform mole, in 25% after spontaneous abortions, 22.5% derives from normal pregnancies and only 2.5% arise from ectopic pregnancies, evidencing the rarity of the condition presented by the patient in this study [6,7].

Choriocarcinoma has varied manifestations and its recognition becomes even more difficult when it is not preceded by a hydatidiform mole. Classically, the uterus is enlarged, there is persistent vaginal bleeding, and hCG levels remain high.8 In addition, thecalutein cysts may develop due to ovarian hyperstimulation resulting from high circulating levels of β-hCG over the theca of the ovaries, as was observed bilaterally in the patient in question [3].

Choriocarcinoma affecting the fallopian tube is rare and more aggressive. This condition is more prone to early metastases, mainly pulmonary and parauterine, respectively. For this reason, it is essential to exclude such pathology when diagnosing ectopic pregnancy, especially when patients are accompanied by respiratory distress, bleeding, sputum, and other respiratory symptoms [9].

It is imperative to distinguish between tubal choriocarcinoma and tubal ectopic pregnancy by monitoring serum β-hCG levels, diagnostic laparoscopy, and histopathological examination. Usually, the serum β-hCG of patients with tubal choriocarcinoma tends to rise singularly shortly after amenorrhea, while that of patients with tubal ectopic pregnancy rarely exceeds 10,000 mIU/ml [10].

In cases where the patients' serum β-hCG levels after surgery were not significantly reduced or even remained continuously increased, tubal choriocarcinoma should be kept in mind. For diagnostic confirmation, the gold standard is the histopathological study of a surgically resected sample [9,11].

In addition to complete surgical resection, management also includes postoperative adjuvant chemotherapy, follow-up imaging and lifelong β-hCG monitoring in order to avoid any risk of metastases and recurrences, as there are still no clear guidelines indicating when to stop monitoring [11]. After salpingectomy, adjuvant chemotherapy is essential and effective for the treatment of tubal choriocarcinoma. Currently, chemotherapy regimens have been selected with reference to regimens used in the treatment of trophoblastic tumor [9].

For therapeutic purposes, high-risk patients are considered to be those with very high β-hCG levels, with disease presentation four months or more after a previous pregnancy, with the presence of brain or liver metastases, or unresponsiveness to treatment with Methotrexate alone. Therefore, they are treated with combined chemotherapy, including the MAC regimen (Methotrexate, Actinomycin D and Cyclophosphamide) and the EMA-CO regimen (Etoposide, Methotrexate and Actinomycin D, alternating with Cyclophosphamide and Vincristine). Low-risk patients, in turn, are treated with methotrexate-based monotherapy regimens [8].

At present, the serum β-hCG level is widely used as the main criterion for judging the therapeutic effect, but even when the serum hCG reaches the normal level, consolidation chemotherapy is still recommended in preventing clinical recurrences. Generally, 1 to 2 courses of chemotherapy are recommended for low-risk patients and 2 to 4 courses for high-risk patients [9].

Few reports have described treatment outcomes for choriocarcinoma associated with ectopic pregnancy. Four of six tubal choriocarcinomas treated at the New England Trophoblastic Disease Center had metastases. All six women achieved complete remission with chemotherapy. Six of eight patients with choriocarcinoma associated with ectopic pregnancy at the John I. Brewer Trophoblastic Disease Center had metastatic disease. Two patients died, both received chemotherapy elsewhere before referral [4].

Conclusion

With the present study, it can be concluded that the recognition of choriocarcinoma becomes more difficult when a hydatidiform mole, as in the patient in question, does not precede it. The study of this condition is necessary to enable a diagnostic, curative approach and adequate follow-up for patients, with the aim of reducing maternal morbidity and mortality.

References

1. Aguirre K, Guzmán MM, Noriega MF, et al. Coriocarcinoma: reporte de 3 casos. Revista peruana de Ginecologia y Obstetrícia. 2016; 62: 303-306.
2. Bakri YN, Amri A, Mulla J. Gestational choriocarcinoma in a tubal ectopic pregnancy. Acta Obstetricia et Gynecologica Scandinavica. 2009; 71: 67-68.
3. Guerrero-Hernández A, Jennings-Aguilar Y, López-Zúñiga DF, et al. Coriocarcinoma gestacional. Caso clínico de medicina crítica en ginecología y obstetrícia. Case Report Critical of Medicine in Gynecology and Obstetrics. 2012; 11: 55-59.
4. Rotas M, Khulpateea N, Binder D. Gestational choriocarcinoma arising from a cornual ectopic pregnancy: a case report and review of the literature. Arch Gynecol Obstet. 2007; 276: 645-647.
5. Rubio AC, Lorente EH, Pérez CE. Coriocarcinoma: a propósito de un caso. Farmacia Hospitalaria. 2017; 41.
6. Turpin, Vinuesa, Sánchez, et al. Coriocarcinoma asociado a embarazo ectópico. Departamento de Obstetricia y Ginecología. Hospital Universitario San Cecilio. 2005; 50: 502-507.
7. Shengjie Xu, Xiaohong Song, Chengjuan Jin, et al. Tubal choriocarcinoma presented as ruptured ectopic pregnancy: a case report and review of the literature. World Journal of Surgical Oncology. 2020; 18: 245.
8. Silva PA, SIlva SR. Coriocarcinoma: um estudo de caso. Relato de Experiência. 2010; 63.
9. Shengjie Xu, Xiaohong Song, Chengjuan Jin, et al. Tubal choriocarcinoma presented as ruptured ectopic pregnancy: a case report and review of the literature. World Journal of Surgical Oncology. 2020.
10. Nayama M, Lucot JP, Boukerrou M, et al. Coriocarcinoma tubaire: à propos d un cas et revue de la littérature. Journal de Gynécologie Obstétrique et Biologie de la Reproduction. 2007; 36: 83-86.
11. Mehrotra S, Singh U, Goel M, et al. Coriocarcinoma tubário ectópico: uma raridade. Representante de Caso. BMJ. 2012.