

Primary ovarian choriocarcinoma masquerading as ruptured ectopic pregnancy in an HIV positive woman

Rachel M. Whynott, Julie Vitko, Shelly W. Holmstrom,
Meredith Gray

ABSTRACT

Introduction: Ovarian choriocarcinoma is a highly malignant and rare gynecologic tumor. This cancer should be considered in the differential diagnosis of women presenting with a suspected ectopic pregnancy. **Case Report:** A multiparous HIV positive woman presented with a suspected chronic ectopic pregnancy. Her final pathology demonstrated choriocarcinoma arising out of an ovarian ectopic pregnancy versus a primary choriocarcinoma of the ovary. Further evaluation showed metastases to her brain and lungs. Despite aggressive chemotherapy, the patient continued to have progressive physical and mental decline. She was discharged to hospice care during her last admission to our institution and subsequently died. **Conclusion:** Ovarian choriocarcinoma should be considered when evaluating women with a ectopic

pregnancy, especially in the setting of the human immunodeficiency virus.

Keywords: Choriocarcinoma, Ectopic, HIV, Pregnancy, Trophoblastic

How to cite this article

Whynott RM, Vitko J, Holmstrom SW, Gray M. Primary ovarian choriocarcinoma masquerading as ruptured ectopic pregnancy in an HIV positive woman. J Case Rep Images Gynecol Obstet 2017;3:5–9.

Article ID: 100022Z08RW2017

doi:10.5348/Z08-2017-22-CR-2

Rachel M Whynott¹, Julie Vitko², Shelly W Holmstrom³,
Meredith Gray⁴

Affiliations: ¹MD, Resident, Department of Obstetrics and Gynecology, University of South Florida, Tampa, FL, USA; ²MD, Ruffolo, Hooper & Associates MD PA, Consultants in Pathology & Laboratory Medicine, Tampa, FL, USA; ³MD, Associate Professor, The University of South Florida Morsani College of Medicine, Department of Obstetrics and Gynecology, Tampa, FL, USA; ⁴MD, Assistant Professor, Department of Obstetrics and Gynecology, University of Kansas, Kansas City, MO, USA.

Corresponding Author: Rachel M. Whynott, MD, The University of South Florida Morsani College of Medicine, Department of Obstetrics and Gynecology, Tampa General Circle, 6th Floor STC, Tampa, FL 33606; E-mail: rachel.m.whynott@gmail.com

Received: 02 December 2016

Accepted: 17 January 2017

Published: 03 February 2017

INTRODUCTION

Ovarian choriocarcinoma is a rare and aggressive gynecologic tumor that produces human chorionic gonadotropin (hCG) hormone and is comprised of malignant trophoblastic cells [1]. This type of choriocarcinoma is classified as either gestational or non-gestational germ cell tumor and is differentiated by genetic analysis of the tumor. Gestational ovarian choriocarcinoma can arise from an ectopic pregnancy in the ovary or as metastasis from a choriocarcinoma of uterine origin. Non-gestational ovarian choriocarcinoma is a type of germ cell tumor of ovarian origin [1, 2]. These subtypes of choriocarcinoma are uncommon and the incidence of primary ovarian choriocarcinoma is estimated to be 1 in 389,000,000 [2]. Gestational and non-gestational ovarian choriocarcinomas are aggressive, tend to be invasive, and metastasize hematogenously early in the disease process. Similar to other gestational

trophoblastic neoplasms, ovarian choriocarcinomas typically spread to the lungs, central nervous system, vagina and liver [2, 3].

This case discusses a woman with human immunodeficiency virus (HIV) and a suspected chronic ectopic pregnancy, which was later diagnosed as an ovarian choriocarcinoma. This case presentation illustrates why ovarian choriocarcinoma should be considered in the differential diagnosis of patients with ectopic pregnancy, especially in the setting of immunosuppression.

CASE REPORT

A 32-year-old gravida 6 para 4 with human immunodeficiency virus (HIV)/acquired immune deficiency syndrome (AIDS), who was non-compliant with highly active antiretroviral therapy (HAART), presented to the clinic for her first prenatal visit. She reported an uncertain last menstrual cycle that would have made her gestation 13 weeks 3 days at that time. Transvaginal ultrasound revealed lack of intrauterine pregnancy at this initial visit. A beta-hCG level was ordered, however, the patient, who was non-compliant throughout her care, left prior to the blood draw.

The patient did not follow-up until approximately 1 month later at 18 weeks 2 days for a colposcopy examination secondary to a high-grade squamous intraepithelial lesion (HGSIL) Pap test at her initial prenatal visit. Cervical biopsies revealed high-grade cervical intraepithelial dysplasia and an endocervical curettage specimen was not obtained secondary to pregnancy. A serum beta-hCG level was ordered at that time, but she again left prior to her blood being drawn.

The patient presented for a follow-up visit and did allow for her blood to be drawn. Her beta-hCG level at that appointment was 10638 mIU/ml, and her initial CD4 count was 183. She was scheduled for ultrasound.

The patient presented seven days later to our institution with tachycardia, peritoneal signs, and absence of an intrauterine pregnancy on bedside transvaginal ultrasound. Her beta-hCG was 7611 mIU/ml at that time. She was rushed emergently to the operating room for a suspected ruptured ectopic pregnancy. A hydropic-appearing right ovarian mass and ovary with adhesions to the pelvic sidewall, uterus, and rectum was discovered on diagnostic laparoscopy (Figure 1). A laparoscopic right salpingo-oophorectomy (RSO) was performed and required a mini-laparotomy for specimen removal. A chronic ectopic pregnancy was suspected at the time of surgery. The surgeons were concerned for decidual invasion into her bladder and rectum. Cystoscopy and proctoscopy were performed and confirmed a lack of involvement of these organs.

The specimen was read as an 18-cm choriocarcinoma arising out of an ovarian ectopic pregnancy versus a primary choriocarcinoma of the ovary (Figure 2). No

clinical evidence of intrauterine disease was identified in this case, further supporting a non-gestational related choriocarcinoma. FISH testing on this specimen was abnormal, consistent with tetraploidy and an XXXX sex chromosome. She was admitted as an inpatient three days after her surgery secondary to a fever of 38.61°C, for further evaluation of her disease burden and possible complication from her laparoscopic RSO. Imaging at the time of admission revealed further abdominal disease (Figure 3) and a 12.4x15.4x16.5 cm mass of the right upper lung, which nearly replaced the entire right upper lobe, consistent with metastatic disease (Figure 4). Additionally, metastases in the frontal lobe of her cerebrum and cerebellum were seen on a CT scan of brain (Figure 5). Despite her extensive metastases, she was asymptomatic. The patient was started on emergent EMA-CO chemotherapy (etoposide, methotrexate, dactinomycin followed-by cyclophosphamide and vincristine). The patient experienced continued physical decline and altered mental status despite receiving four



Figure 1: Right ovarian mass during laparoscopy.

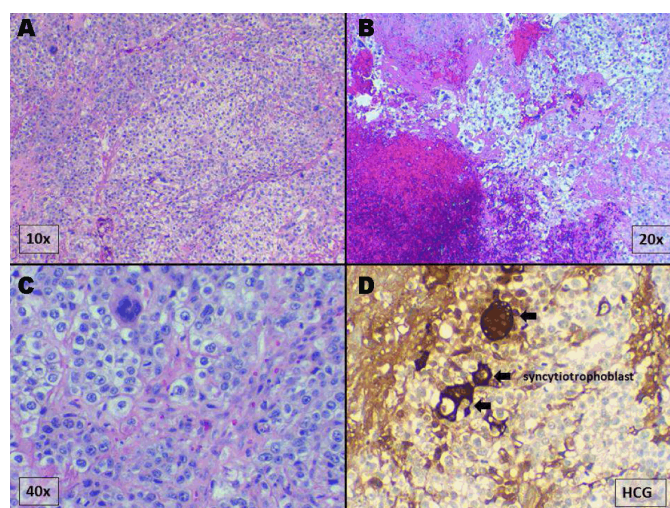


Figure 2(A–C): Histologic sections revealed ruptured portions of ovarian parenchyma with diffuse sheets of mononucleated large round atypical cells with clear cytoplasm (cytotrophoblastic cells), intermediate cells, admixed multinucleated syncytiotrophoblastic cells, atypical mitotic figures, and abundant areas of hemorrhage and necrosis. (D) The syncytiotrophoblastic cells are highlighted by hCG immunohistochemical stain.

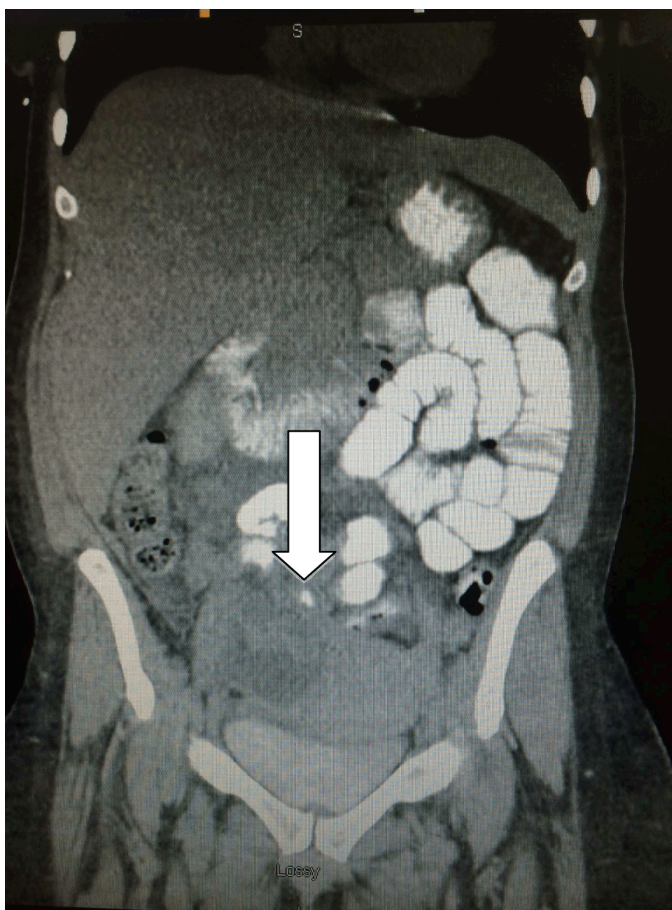


Figure 3: Computed tomography scan of abdomen with and without contrast revealing 6.5x1.5x8.5 cm residual necrotic tumor in the right pelvis as well as mesenteric and retroperitoneal lymphadenopathy consistent with metastatic disease.

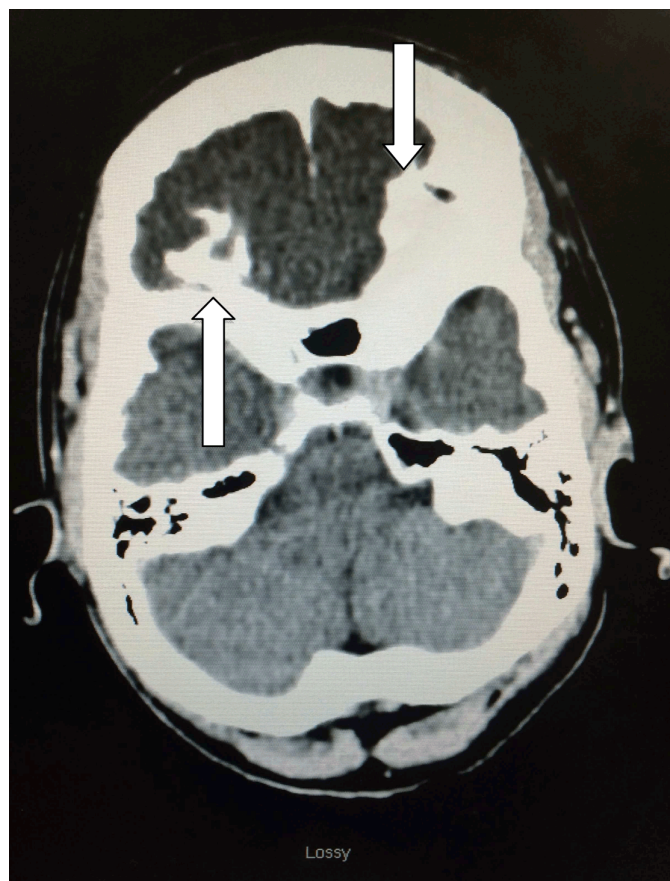


Figure 5: Computed tomography scan of head with contrast showing small enhancing lesions within the left frontal lobe and left cerebellar hemisphere consistent with metastatic disease.

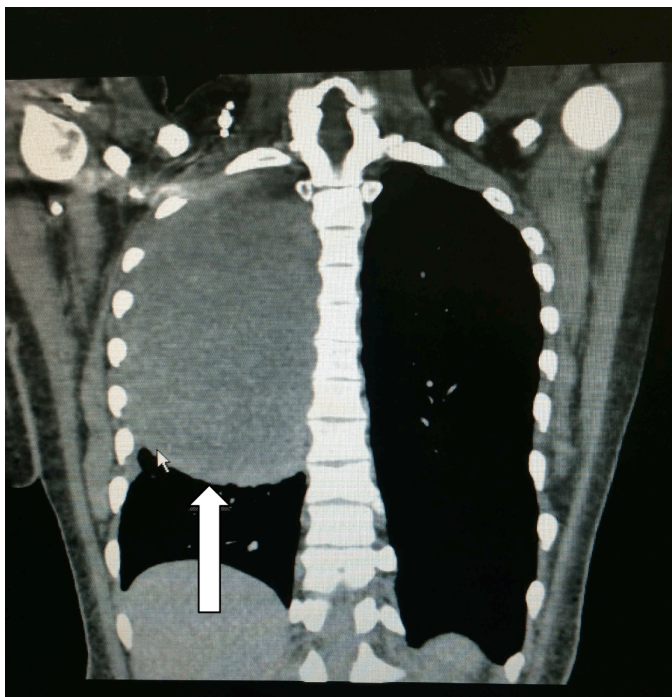


Figure 4: Computed tomography scan of chest with contrast revealing 12.4x15.4x16.5 cm necrotic right upper lung mass which nearly entirely replaces the right upper lobe.

cycles of chemotherapy. Her CD4 count dropped as low as 79 cells/ μ L on highly active antiretroviral therapy (HAART) therapy while undergoing chemotherapy, and it never was greater than 200 cells/ μ L. Her family reported that she was non-compliant with her medications at home. The patient and her family decided to discharge her to a hospice care, and she died shortly thereafter.

DISCUSSION

Choriocarcinoma in its pure form and in the reproductive age is rare at less than 1% of ovarian germ cell tumors. As in this case, the gross appearance is a hemorrhagic friable unilateral ovarian mass, which commonly ruptures. Histopathology is imperative for proper diagnosis of choriocarcinoma [4]. An accurate diagnosis is especially important for evaluation and treatment of ovarian choriocarcinoma, such as in this case, where our patient did not exhibit any symptoms of metastatic disease, suspicion for this rare diagnosis was low [5]. In addition, DNA analysis may be useful in differentiating between gestational and non-gestational choriocarcinoma. Although DNA testing would be confirmatory of a pure form of choriocarcinoma, this

test is not readily available in the clinical practice. Gestational choriocarcinomas tend to have good response to the traditional chemotherapy regimens, while there is less data guiding the treatment of the non-gestational type [5]. Prognosis tends to be good for gestational choriocarcinoma but is poor for non-gestational [5]. This information regarding prognosis may help guide families in their expectations and decisions regarding care.

Interestingly, HIV positivity and CD4 counts below 200 cells/ μ L have been linked to poorer prognosis in patients with choriocarcinoma and gestational trophoblastic neoplastic disease in general [6, 7]. In a study by Moodley et al., mortality was significantly greater in HIV infected individuals with CD4 counts below 200 cells/ μ L, and the stage of the cancer was significantly greater (stage III/IV) as compared to HIV infected individuals with counts above 200 cells/ μ L. While further research in this area is needed, HIV status seems to have an impact on the course of disease.

CONCLUSION

Ovarian choriocarcinoma should be considered in the setting of inappropriately rising beta-hCG levels and a large ovarian mass. HIV may lead to a poorer prognosis in the setting of gestational trophoblastic disease.

Author Contributions

Rachel M. Whynott – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Julie Vitko – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Shelly W. Holmstrom – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Meredith Gray – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

Copyright

© 2017 Rachel M. Whynott et al. This article is distributed under the terms of Creative Commons Attribution License which permits unrestricted use, distribution and reproduction in any medium provided the original author(s) and original publisher are properly credited. Please see the copyright policy on the journal website for more information.

REFERENCES

1. Yamamoto E. Ovary: Choriocarcinoma. *Atlas Genet Cytogenet Oncol Haematol* 2009;13(9):683–5.
2. Heo EJ, Choi CH, Park JM, Lee JW, Bae DS, Kim BG. Primary ovarian choriocarcinoma mimicking ectopic pregnancy. *Obstet Gynecol Sci* 2014 Jul;57(4):330–3.
3. Baggish MS, Karram MM. *Atlas of Pelvic Anatomy and Gynecologic Surgery*. Philadelphia: Saunders, Elsevier; 2006.
4. Mehrotra S, Singh U, Goel M, Chauhan S. Ectopic tubal choriocarcinoma: A rarity. *BMJ Case Rep* 2012 Nov 11;2012. pii: bcr-2012-006318.
5. Berek JS, Hacker NF. *Berek & Hacker's Gynecologic Oncology*. Philadelphia: Lippincott Williams & Wilkins; 2010.
6. Moodley M, Budhram S, Connolly C. Profile of mortality among women with gestational trophoblastic disease infected with the human immunodeficiency virus (HIV): Argument for a new poor prognostic factor. *Int J Gynecol Cancer* 2009 Feb;19(2):289–93.
7. Tayib S, van Wijk L, Denny L. Gestational trophoblastic neoplasia and human immunodeficiency virus infection: A 10-year review. *Int J Gynecol Cancer* 2011 Dec;21(9):1684–91.

Access full text article on
other devices



Access PDF of article on
other devices

