

CASE REPORT

Rare presentation of cervical choriocarcinoma with metastasis: a case report

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Abstract

Background: Choriocarcinoma of the cervix is an extremely rare sporadic disease with an incidence of 0.76 to 4%. This malignant form of gestational trophoblastic disease typically originates in the uterus but can occasionally arise in the vagina, fallopian tubes, vulva, cervix or pelvic region. **Case:** Our patient presented with heavy menstrual bleeding and elevated B-Human Chorionic Gonadotropin (B-HCG) levels. She underwent total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH + BSO). Histopathological diagnosis confirmed choriocarcinoma and a post-surgery Computed Tomography (CT) scan revealed lung metastasis. Treatment usually involves combination chemotherapy, which is highly effective, with cure rates reaching 100% in low-risk patients and 80–90% in high-risk patients. **Conclusions:** This report highlights the importance of a meticulous, multidisciplinary approach in managing patients who present with choriocarcinoma at unusual sites like cervix that can easily be missed and misdiagnosed.

Keywords

Choriocarcinoma; Systemic chemotherapy; Gestational trophoblastic disease

1. Background

Gestational trophoblastic diseases were first described in 400 Before Christ (BC) by Hippocrates [1]. Choriocarcinoma, a rare and aggressive subtype of these diseases, has two main forms: gestational and non-gestational, each with distinct biological activity and prognosis. Predominantly occurring in women, choriocarcinoma can also manifest in men as part of a mixed germ cell tumor. It develops from an abnormal trophoblastic population undergoing hyperplasia and anaplasia, often following a molar pregnancy [2]. Gestational choriocarcinoma typically arises after a hydatidiform mole, normal pregnancy or spontaneous abortion. In contrast, non-gestational choriocarcinoma originates from pluripotent germ cells and can develop in both males and females, usually in the gonads or midline structures containing these germ cells [3]. Our case is about choriocarcinoma of cervix with lung metastases which is a rare site of clinical presentation. The site of disease was confirmed by histopathology.

2. Case presentation

A 30-year-old woman, gravida 7 para 4 (G7P4) presented with complaints of heavy vaginal bleeding. She had a history of multiple miscarriages, for which she underwent repeated dilation and curettage. Her last childbirth was three years ago. Despite practicing safe sex, she experienced heavy and continuous vaginal bleeding from past 6 months. Ultrasound revealed

a mass in the uterine isthmus and elevated B-HCG levels the exact value of which is not available. Initially she was also treated on the lines of pelvic inflammatory disease to which she did not respond. And due to persistent heavy vaginal bleeding, she underwent an emergency laparotomy and a total abdominal hysterectomy with bilateral salpingo-oophorectomy (TAH + BSO). Histopathology confirmed choriocarcinoma involving the endocervix, measuring 2.5×1.8 cm, with no tumor presence in the endometrium, myometrium, lower uterine segment, bilateral parametrium or adnexa (Fig. 1). Histologically it was staged as International Federation of Gynaecology and Obstetrics (FIGO) I. However, post-operative CT scan Chest and Abdomen showed evidence of lung metastases, upstaging the disease to FIGO stage III (Supplementary Fig. 1). There was no evidence of disease involving the liver and kidneys. Despite being categorized as low risk based on her prognostic score, the unusual site of presentation and lack of pre-operative B-HCG levels warranted aggressive treatment. She was started on combination chemotherapy EMA-Co (etoposide, methotrexate and actinomycin-D with cyclophosphamide and vincristine). The dose of etoposide was calculated at 100 mg/m^2 given intravenously (IV) on Day 1 and 2, the dose of dactinomycin was 0.5 mg given as IV push. Given on D1 and D2, Methotrexate was given at a dose of 300 mg/m^2 IV over 12 hours, Leucovorin was started 24 hours after D1 of Methotrexate infusion (dose of 15 mg was given every 12 hours to a total of four doses). Vincristine was given 0.8 mg/m^2 IV on D8 along with cyclophosphamide 600 mg/m^2 IV. The cycle

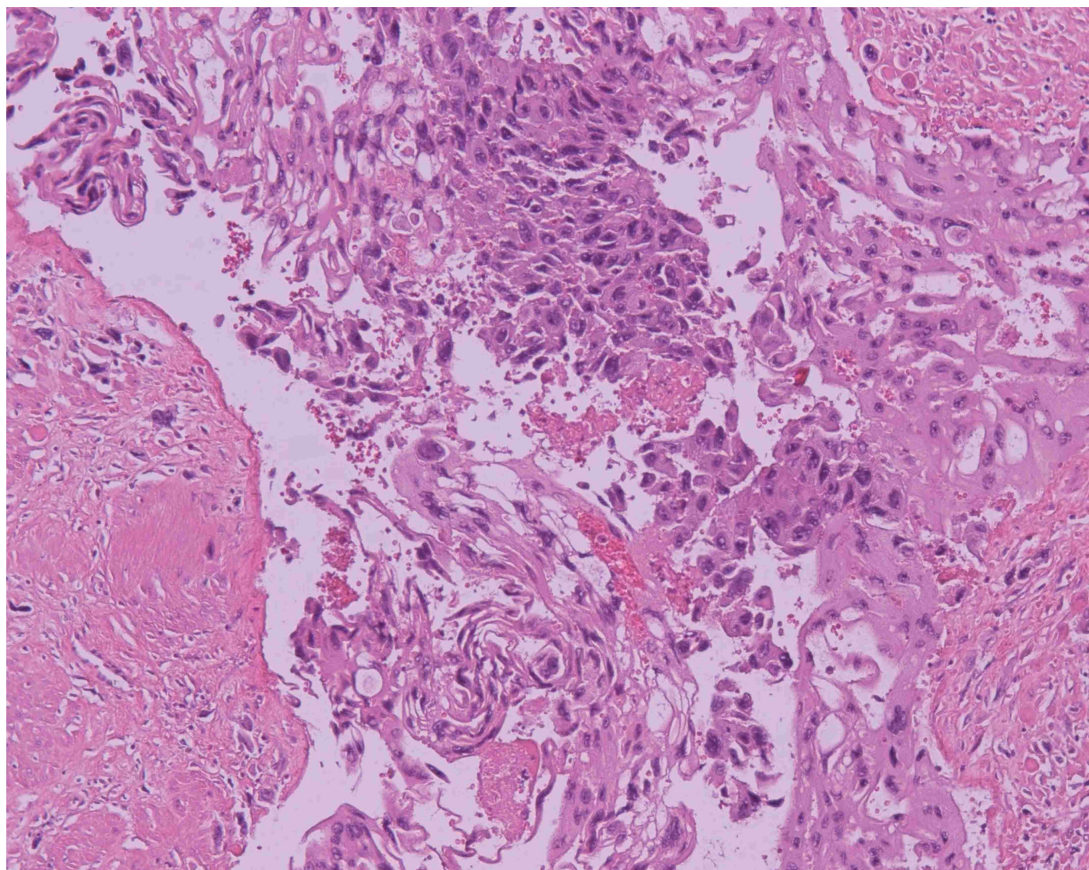


FIGURE 1. H&E stain of choriocarcinoma cervix. The tissue section shows fragments of malignant neoplasm, sheets of syncytiotrophoblast, cytotrophoblast and intermediate trophoblastic cells, and extensive areas of hemorrhage and necrosis. This image was viewed at 200 times magnification.

was to be repeated every 2 weeks. The Body Surface Area (BSA) of our patient was 1.5 and the doses were calculated for this BSA.

During chemotherapy, her B-HCG levels dropped from 790 to 0.08 MIU/mL, she became clinically asymptomatic, and the lung nodule disappeared. She was planned for two more cycles of the same chemotherapy regimen, followed by regular follow-up including history, physical examination and biochemical and radiological investigations (Fig. 2).

The patient had tolerated chemotherapy very well, she was informed about all the side-effects of chemotherapy and was aware of her follow-up schedule. She said that “I felt relieved that my case was being handled by an expert panel of oncologists, I did not face many issues in tolerating chemotherapy but had difficulty in coping with hair fall. I do feel that had I got myself check earlier I would not have gone through surgery in the first place as my cancer was chemo responsive”.

3. Discussion

Cervical pregnancy is the second most common site of ectopic pregnancy, with several risk factors including multiple cesarean sections, cervical surgery, *in vitro* fertilization (IVF), pelvic inflammatory disease (PID) and intrauterine contraceptive devices (IUCD). Our patient had a history of multiple miscarriages, which could have contributed to the unusual implantation site.

Gestational choriocarcinoma typically follows a hydatidiform mole, normal pregnancy or most commonly, spontaneous abortion, while non-gestational choriocarcinoma arises from pluripotent germ cells [4]. It occurs in 1 in 5333 tubal pregnancies and 1 in 1.6 million normal intrauterine pregnancies. Although only 0.76–4% of choriocarcinoma cases develop in ectopic locations, they are usually more aggressive and often associated with distant metastasis [5]. Gestational choriocarcinoma commonly arises in the uterine cavity and is associated with coincident or antecedent pregnancy. Extrauterine choriocarcinomas are rare, mostly originating from the uterine cervix or ovaries, with fewer than 200 cases reported in the literature [6]. Choriocarcinoma can develop between 5 weeks to 15 years after the antecedent pregnancy, including post-menopause, though the latent period is usually less than 1 year following a molar or normal pregnancy [7]. The condition is graded according to the FIGO staging and prognostic risk score [8].

Approximately 30% of choriocarcinoma cases have metastatic disease at the time of diagnosis [9]. The lungs are the most common site of metastasis (80%), followed by the vagina (30%) and liver (10%). Brain metastasis occurs in 3–28% of patients [9]. Despite choriocarcinoma’s excellent prognosis, presence of disease at an unusual site can complicate or delay diagnosis. Patients often present with vaginal bleeding and elevated B-HCG levels, which may be misdiagnosed as ectopic pregnancy [10]. Delays in

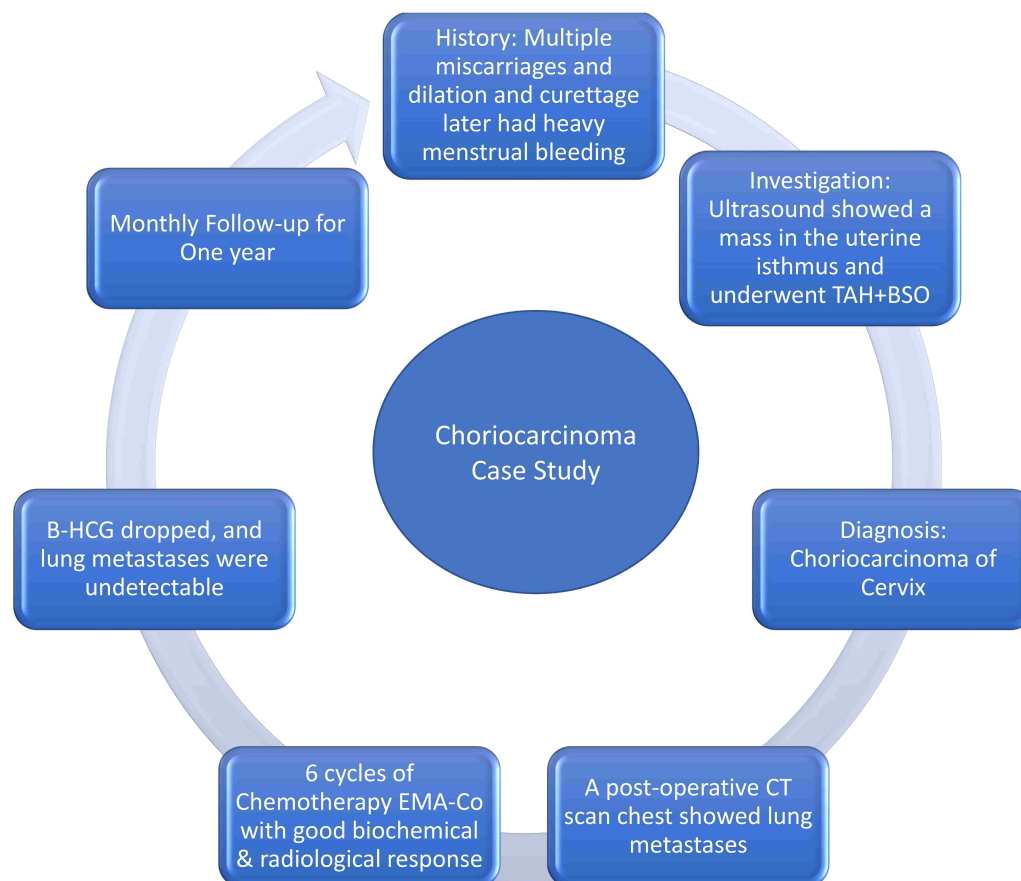


FIGURE 2. Case study summary of choriocarcinoma. TAH + BSO: total abdominal hysterectomy with bilateral salpingo-oophorectomy; EMA-Co: etoposide, methotrexate and actinomycin-D with cyclophosphamide and vincristine; CT: Computed Tomography; B-HCG: B-Human Chorionic Gonadotropin.

diagnosis can also arise from a failure to elicit a history of prior pregnancy or because the presentation occurs so long after the antecedent event that the patient may not recall it. Such delays can lead to advanced metastatic disease, which can be fatal [5]. In addition to elevated urinary and blood B-HCG levels, immunohistochemical localization of B-HCG is crucial for diagnosing and monitoring choriocarcinoma. However, histologic examination of uterine curettage is the only method that can establish a definitive diagnosis and significantly influences initial patient management [11]. Macroscopically, choriocarcinoma appears as a hemorrhagic mass with necrotic areas and irregular borders. Microscopically, it features a central area of cytotrophoblasts surrounded by syncytiotrophoblasts, nuclear atypia, numerous mitotic figures and clear areas of necrosis and hemorrhage. Numerous foci of lymphovascular invasion also facilitate metastatic spread [2]. The same histopathological findings were seen in our patient as well.

In conclusion, while cervical pregnancy is a relatively uncommon form of ectopic pregnancy, its association with choriocarcinoma, particularly in unusual or metastatic presentations, underscores the importance of thorough clinical and histological evaluation. Prompt diagnosis and appropriate management are essential to improve outcomes in these complex cases. Choriocarcinoma is completely curable, even with multiple metastases. Single and multi-agent chemotherapy is

the preferred treatment for choriocarcinoma. In cases of severe, life-threatening vaginal bleeding, a hysterectomy may be necessary. Patients presenting with irregular vaginal bleeding, elevated B-HCG levels and tumors at unusual sites should undergo thorough investigation and immediate treatment, as the prognosis is excellent, even with metastases.

4. Conclusions

Early diagnosis of gestational trophoblastic neoplasia (GTN) in the uterine cervix is challenging due to its rarity and non-specific symptoms. GTN should be considered in the differential diagnosis of cervical lesions in reproductive-age women, especially when a cervical tumor is associated with profuse bleeding. Diagnostic tools include medical history, B-HCG monitoring, pelvic ultrasound, Magnetic Resonance Imaging (MRI) and metastasis assessment, with histopathologic evidence being crucial for confirmation. Chemotherapy is the preferred treatment, but hysterectomy is lifesaving in cases of uncontrolled bleeding.

As this is a case report of one individual, its findings cannot be generalized to all patients with cervical choriocarcinoma or gestational trophoblastic neoplasia. The rarity of the condition adds to the challenge. The pre-operative serum β -HCG level—the key biomarker for diagnosis and monitoring—was not recorded. This limits the understanding of disease status prior

to surgery. Moreover, preoperative imaging in the form of a CT Scan or an MRI Pelvis must have been done, in addition to an Ultrasound, to obtain a more detailed picture of the disease site and its local extent before undergoing TAH + BSO. A positron emission tomography (PET)-CT Scan could have been done in addition to the diagnostic imaging scan, which could have further confirmed the nature of the pulmonary nodules as metastatic. While the patient responded well to chemotherapy, longer-term follow-up data on recurrence risk and survivorship outcomes would enhance the report's clinical value.

AVAILABILITY OF DATA AND MATERIALS

The data is available for the current case report.

AUTHOR CONTRIBUTIONS

JH—Data curation; Writing-Original draft preparation, patient selection. HM—Conceptualization; Methodology. MF—Supervision. SK—Reviewing and Editing. A—Editing and Visualization. All authors read and approved the final manuscript.

ETHICS APPROVAL AND CONSENT TO PARTICIPATE

It is certified that the case report of a 30-year-old female presented with choriocarcinoma of the cervix has been approved by the research and training cell of AECH-NORI (NORI-2(72)/88). Written consent for publication and participation in the was obtained from the patient. The consent form will be provided upon request from the editorial office. It is not provided here due to confidentiality patient information. If required, we can provide a deidentified patient file upon request from the editorial office.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

SUPPLEMENTARY MATERIAL

Supplementary material associated with this article can be found, in the online version, at <https://oss.ejgo.net/files/article/1945001151744098304/attachment/Supplementary%20material.docx>.

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