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An Unusual Presentation of Choriocarcinoma in A postmenopausal woman

A case report

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Abstract

Choriocarcinoma (CC) is a malignant neoplasm of the trophoblastic tissue, with a potential to metastasize to distant organs. A limited case of gestational CC develops after a long latent period. We describe the case of a 52-year-old postmenopausal woman who developed metastatic choriocarcinoma presumably of gestational origin, 8 years after the last pregnancy, and 2 years after the last menstrual period. The patient was diagnosed with CC metastatic to the brain, spleen, lung and the kidney. The β-human chorionic gonadotrophin level was found to be raised (1,292,867 mIU/mL). The International Federation of Gynecologic Oncology (FIGO) risk score was calculated to be 14 (very high risk). The patient was initially treated with whole-brain radiotherapy (WBRT) and splenic artery embolization because of a hemoperitoneum. Afterwards the patient received systemic treatment using the standard EMA/CO regimen till complete serological remission.

Keywords: Choriocarcinoma; Postmenopausal; Latent period; Brain; Oman.

Introduction

Choriocarcinoma (CC) is a malignant neoplasm of the trophoblastic tissue, with a potential to metastasize to distant organs.[1] There are two sorts, gestational and non-gestational CC. Majority of cases of gestational CC are intra-uterine, and only 0.8-4 % develop in ectopic locations.[2,3] The non-gestational CC arise in the gonads, usually in the reproductive age. A limited cases of gestational CC develop after a long dormant period.[4,5] Gestational CC has been reported to develop between 5 weeks and up to 38 years after gestation, and even after menopause.[4] Approximately 30 % of cases of gestational CC are metastatic at the time of diagnosis.[4] The tumor metastasizes most commonly to the lungs (60-75%), vagina (40-50%), brain (15-20%), liver (15-20%), spleen (10%), intestines (5-10%), and the heart (4%).[6-9] Here, we illustrate the case of metastatic CC in a 52-year-old postmenopausal lady, growing 8 years after the last pregnancy, and 2 years after the last menstrual period.

Case Report

A 52-year-old female, menopausal for two years, was brought to the emergency room with a history of headache and an episode of seizure. There was no history of loss of consciousness. Past medical history revealed an episode of vaginal bleeding 8 years back, for which the patient underwent dilatation and curettage, and was diagnosed to have a molar pregnancy. She had no other past medical history of significance. On physical examination, the patient was conscious, oriented to time, place and person, vitally stable, and had normal power and tone in both upper and lower limbs. There was no facial asymmetry, and all cranial nerves were intact. Gynecological exam revealed a normal vulva; cervix was irregular and the uterus was bulky. There was no vaginal bleeding.

Magnetic resonance imaging (MRI) showed a large space occupying lesion involving the right frontal lobe, measuring 36 x 33 mm, with surrounding vasogenic edema and midline shift to the left, and subfalcine herniation in the frontal area. Several lesions involving the right parietal and the occipital lobes, largest measuring 20 x 20 mm, were also identified (Figure 1). The CT scan of the body cavity showed heterogeneous appearance of the endometrial cavity, and multiple hypodense lesions in the spleen, largest measuring up to 24 mm, and a small lesion in the right

kidney. A soft tissue nodule in the right middle lobe of the lung and in the left lung apex were also seen. MRI of the pelvis showed normal endometrial thickness and signal intensity, no adnexal masses, and no enlarged pelvic lymph nodes or ascites (figure 2).

Other than the splenic lesion, no other lesion was large enough to biopsy. The β-human chorionic gonadotrophin (β-HCG) level was found to be raised (1,292,867 mIU/mL; normal <5 mIU/mL). In absence of tissue diagnosis, no mass in the adnexal region, and a very high level of β-HCG, a diagnosis of gestational CC was made. The International Federation of Gynecologic Oncology (FIGO) risk score was calculated to be 14 (very high risk).

After admission to the hospital, the patient developed fever, and was found to have staphylococcus aureus bacteremia, the bacteria being sensitive to cefazolin. In addition, the patient was treated with levetiracetam and dexamethasone. The case was discussed in tumor board. Because of the midline shift and impending herniation, the patient was initially treated with whole-brain radiotherapy (WBRT) to a dose of 25Gy in 10 fractions. After radiotherapy, systemic treatment was commenced using induction chemotherapy, consisting of etoposide and cisplatin. Four days after receiving the 1st dose, the patient developed tachycardia (HR 140/min, regular, low volume). Electrocardiogram revealed sinus rhythm. The hemoglobin was found to be very low at 3 g/dl. An urgent CT scan of the abdomen showed hemoperitoneum and a significant progression in the size of the metastases to the spleen, which had breached the capsule (Figure 3). Splenic artery embolization was carried out leading to a complete occlusion of the artery and a rapid arrest of further bleeding (Figure 4). Systemic chemotherapy was continued, as the standard EMA/CO regimen, till complete serological remission. At the time of serological remission, CT scan of the body cavity revealed near complete resolution of the splenic and lung lesions. End-of-treatment CT scan and MRI of the brain confirmed the radiologic remission. Oral and written consent were taken from the patient for publication purposes.

Discussion

We report the successful treatment of a post-menopausal women, diagnosed to have stage IV, high risk CC, most likely of gestational origin, 8 years after the evacuation of a hydatidiform

mole, and managed with WBRT and splenic artery embolization, before being treated with systemic chemotherapy.

The vast majority of cases occur in women less than 35 years of age, usually within one year following the diagnosis of hydatidiform mole (60% of cases), or abortion (30%) and after a normal or ectopic pregnancy (10%).[10.11] A higher incidence is reported from Africa, Asia and South America, with an estimated incidence of 1 in 500-3000 pregnancies in south-east Asia. The occurrence in postmenopausal period is uncommon.[12] Furthermore, only a countable cases have been described after a long latent time from the last pregnancy.

The risk of hydatidiform mole raise significantly with increasing mother age.[13] CC can develop anytime between 5 weeks to several decades after antecedent pregnancy or even after menopause.[14.15] Desai published a case of CC in a 73-year-old patient, developing 38 years after pregnancy and 23 years after her last menstrual menses.[5] O'Neill reported the case of CC in a 57-year old lady, 22 years after the last known pregnancy.[1] Similarly, Okamoto reported the case of CC in a 53-year old lady, 23 years after an elective abortion.[16] Sonobe reported the case of a 50-year old lady with CC 23 years after the last pregnancy.[17] Ito reviewed the literature of late presentation of CC. The authors noted that the latent period was more than 2 years in 7.5% of patient with CC.[18] A long latent period from last pregnancy can be explained by an asymptomatic pregnancy. Alternatively, the trophoblastic tissue retained in the uterus following the antecedent pregnancy could lie dormant for several years before transformation to malignancy.

A limitation of this case report is the lack of tissue evidence of recurrence. A biopsy from the metastatic CC is usually not carried out due to a risk of hemorrhage, However, the very high β-HCG level, serially increasing in presence of metastases is known to occur frequently in CC. In the setting of an antecedent molar pregnancy, albeit, 8 years earlier, the patient was diagnosed to have recurrence of CC.

Conclusion

CC is one of the most curable gynecological cancer, and should be included in the differential diagnosis of cancer occurring in postmenopausal woman. A few cases of a long latent period

after the last pregnancy have been reported, however, the mechanism of late onset of CC is not known. Retained trophoblastic tissue or an asymptomatic pregnancy between the last known pregnancy and the diagnosis of CC may explain, however, the actual cause remains speculative. Non-gestational CC should be considered an alternative diagnosis in such cases.

Conflicts of Interest

The authors declare no conflict of interests.

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Authors' Contribution

AZ and IAB managed the case. RAM provided the images. RS managed the splenic artery embolization. AZ, RAM and RS drafted the manuscript. IAB reviewed the manuscript. All authors approved the final version of the manuscript.

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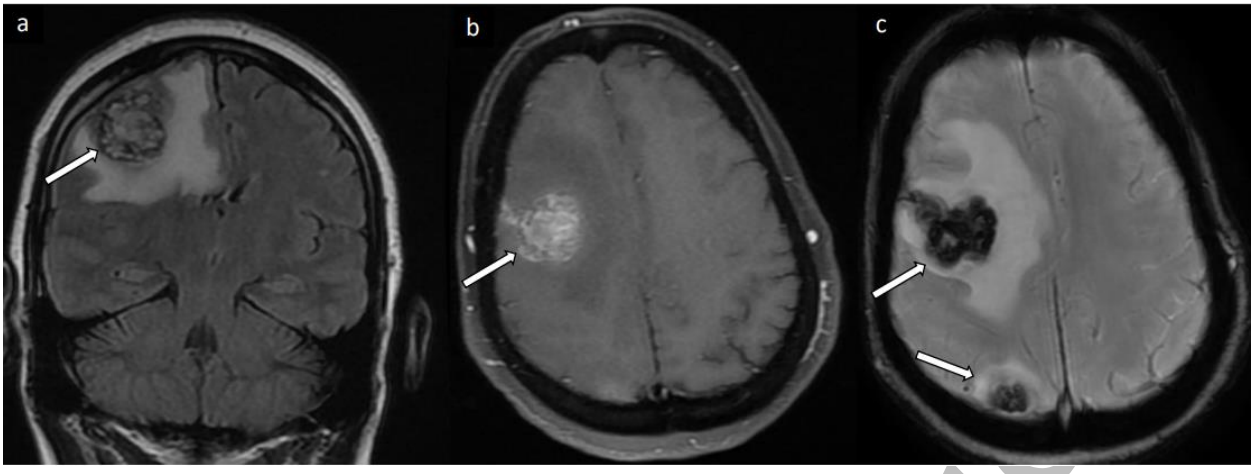

Figure1: A) Coronal T2-weighted magnetic resonance imaging (MRI) reveals hemorrhagic lesion within the subcortical region of right parietal lobe measuring 2.7 x 2.2 cm with adjacent vasogenic edema; B) Axial contrast-enhanced T1-weighted MRI reveals multiple, enhanced, nodular lesions; C) Susceptibility weighted imaging demonstrates multiple hypointense, hemorrhagic lesions in the cortical and subcortical areas.

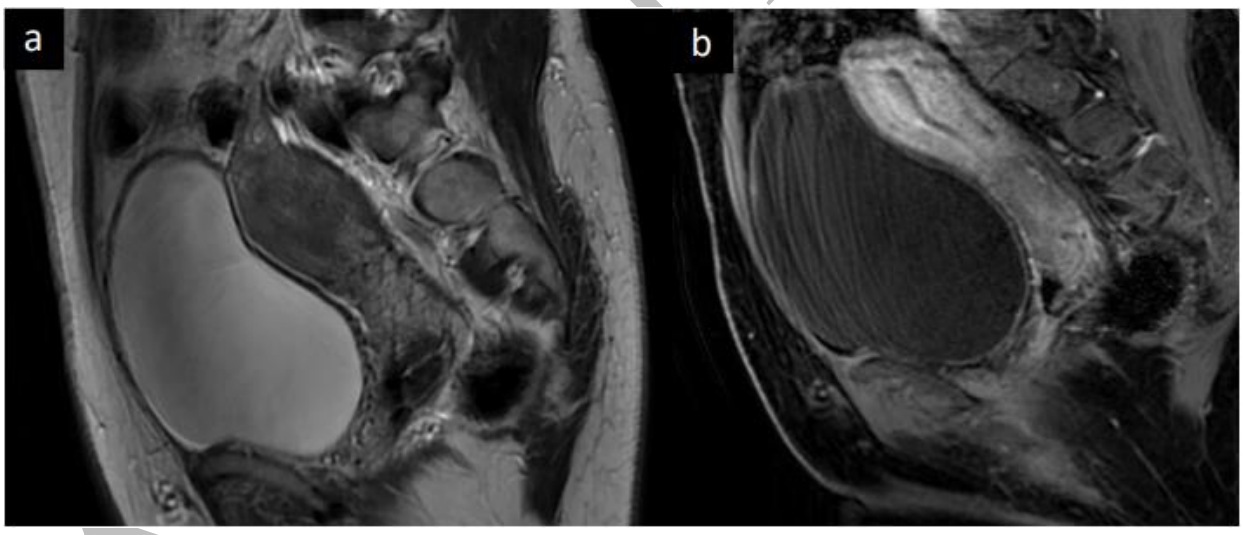

Figure2: A) Sagittal T2-weighted MR reveals normal uterus with normal endometrial stripe thickness and signal. Sagittal contrast-enhanced fat-suppressed T1-weighted MR image; B) demonstrates normal enhancement with no tumor seen.

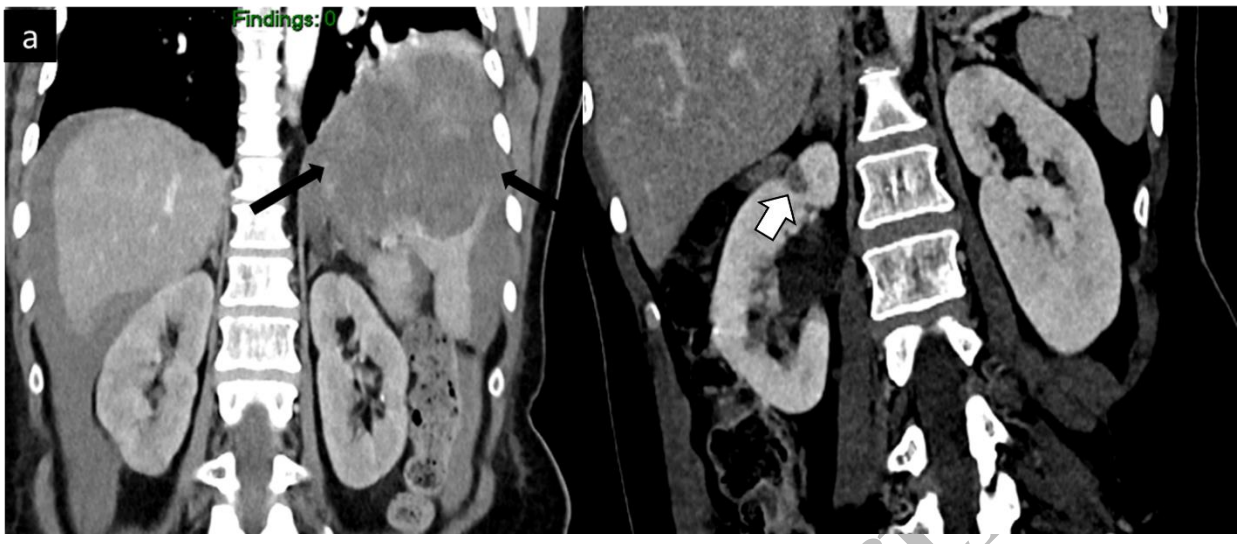

Figure3: Contrast enhanced CT performed after 25 days from initial CT because patient showed sudden drop of hemoglobin. Coronal reformat CT (a-b) reveals newly developed moderate hemoperitoneum with rapid increase in size of splenic hemorrhagic masses (black arrow) that are likely the cause of the retroperitoneal bleed. In addition, the right renal mass has also progressed in size (white arrow)

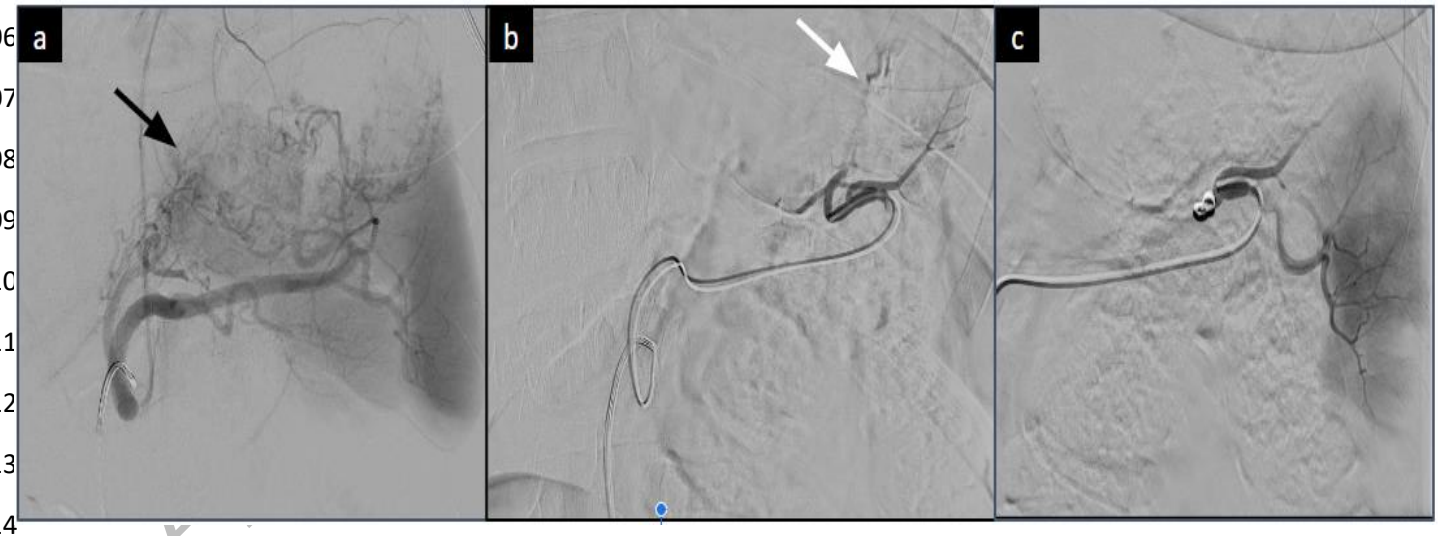

Figure 4: Splenic artery embolization (distal technique). A) Celiac angiogram shows large round mass medial to the spleen corresponding to the known metastatic deposit (black arrow). No active extravasation; B) Distal splenic artery branches are selected. Abnormal blush with active extravasation was seen from a branch of splenic artery (white arrow); C) A 2.7F Progreat microcatheter was then inserted co-axially through the 5F catheter and advanced. This was super selectively cannulated and embolization was then performed with PVA particles and coils. No further extravasation seen (image C).