Taiwanese Journal of Obstetrics & Gynecology 55 (2016) 881–885

Contents lists available at ScienceDirect

Taiwanese Journal of Obstetrics & Gynecology

journal homepage: www.tjog-online.com

Case Report

Gestational choriocarcinoma with renal and pulmonary metastases lacking a primary uterine origin

Hao-Ming Li [a], Wen-Chien Hou [b], Yu-Ju Lai [b], Chien-Chang Kao [c], Tai-Kuang Chao [d], Mu-Hsien Yu [b], Her-Young Su [b,*]

[a] Department of General Medicine, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan
[b] Department of Obstetrics and Gynecology, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan
[c] Section of Urology, Department of Surgery, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan
[d] Department of Pathology, Tri-Service General Hospital, National Defense Medical Center, Taipei, Taiwan

ARTICLE INFO

Article history:
Accepted 24 August 2015

Keywords:
choriocarcinoma
gestational
hematuria
kidney
metastasis

ABSTRACT

Objective: We describe a case of gestational choriocarcinoma metastasized to the kidney and lung, which presented initially as refractory hematuria after a term pregnancy 5 years earlier.
Case Report: A 35-year-old woman, G2P1, with a previous history of full-term pregnancy in 2009, presented to the emergency department complaining of intermittent gross hematuria for 2 months. Abdominal computed tomography showed a suspicious arteriovenous malformation in the right kidney and a thrombus within the right renal vein. Transarterial embolization was performed twice to treat the refractory hematuria but was unsuccessful, and radical nephrectomy of the right kidney was performed. The diagnosis was gestational metastatic choriocarcinoma of the kidney based on morphological, immunohistochemical, and DNA studies. Lung metastases were found by computed tomography of the chest. Pelvic ultrasound was performed but showed no primary tumor in the uterine cavity. After surgical intervention, adjuvant chemotherapy involving first single-agent chemotherapy with methotrexate followed by multiagent chemotherapy (EMACO regimen) failed.
Conclusion: In women of reproductive age, unexplained hematuria should raise concerns about possible choriocarcinoma, either metastatic gestational or primary nongestational choriocarcinoma of the kidney.

Introduction

Choriocarcinoma is characterized as a highly invasive tumor of gestational trophoblastic neoplasia (GTN). It can rapidly progress and metastasize via the hematogenous pathway to distant organs. Metastases to the kidneys are rarely mentioned in the literature [1]. Choriocarcinoma can be either gestational or nongestational. Gestational choriocarcinoma commonly originates from the uterus and can occur in any type of pregnancy [2]. Nongestational choriocarcinoma derives from germ cells of the gonads or, rarely, from extragonadal germ cells. As these two types of tumor differ in their genetic origin, prognosis, and sensitivity to chemotherapy, determining whether the tumor has a gestational or nongestational origin is essential [3]. Choriocarcinoma is known to be sensitive to chemotherapy, and the cure rate is >90% even in cases involving widespread metastatic disease [4]. We describe a case of gestational choriocarcinoma metastasized to the kidney and lung, which presented initially as refractory hematuria after a term pregnancy 5 years earlier.

Case Report

A 35-year-old woman, G2P1, had a full-term pregnancy with delivery via cesarean section because of failure to progress 5 years earlier, in 2009. The patient presented to the emergency department complaining of intermittent gross hematuria with blood clots for 2 months. Abdominal computed tomography (CT) was suggested for evaluation, but magnetic resonance imaging (MRI) was used because of a positive urinary pregnancy test. Pelvic ultrasound revealed an intrauterine gestational sac, which confirmed the pregnancy. Recall of the patient's gynecological history indicated that she experienced regular menstruation with normal duration and interval, and that the last menstrual period was 4 weeks before

* Corresponding author. Department of Obstetrics and Gynecology, Tri-Service General Hospital, 325, Section 2, Chenggong Road, Neihu District, Taipei 11490, Taiwan.
E-mail address: su108868@gmail.com (H.-Y. Su).

http://dx.doi.org/10.1016/j.tjog.2015.08.028

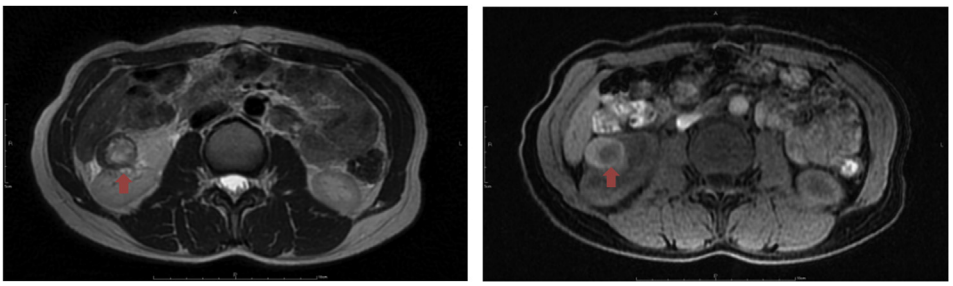

Figure 1. Magnetic resonance imaging of the abdomen showing a right renal tumor measuring approximately 3.4 cm × 3.7 cm (arrow).

presentation. MRI of the abdomen showed a right renal tumor (Figure 1). However, marked vaginal bleeding developed 2 days after this MRI, and a pelvic ultrasound revealed no gestational sac in the uterus, which indicated that a spontaneous abortion had occurred.

The patient visited our urology department for second opinion regarding the renal tumor. Abdominal CT showed a suspicious arteriovenous malformation in the right kidney and a thrombus within the right renal vein (Figure 2).

Repeated transarterial embolization was performed twice to treat the refractory hematuria but was unsuccessful. Radical nephrectomy of the right kidney was performed to control the refractory hematuria and bleeding, and the symptoms subsided after this surgical intervention (Figure 3).

Microscopic examination of the resected tumor revealed tumor cells infiltrating into the renal parenchyma, causing focal renal pelvis invasion, and had seeded and embolized into the large vessel wall. The tumor was immunopositive for beta-human chorionic gonadotropin (β-hCG), 3-β-hydroxy-δ(5)-steroid dehydrogenase (HSD3B1), Ki67, and cytokeratin 7 (Figure 4). The morphological and immunohistochemical findings suggested that the likely diagnosis was gestational choriocarcinoma or primary choriocarcinoma of the kidney. DNA studies were performed and revealed Y chromosomes in the tumor cells (Figure 5), which confirmed gestational choriocarcinoma with renal metastasis.

Prominence of the right hilar region of the lung was detected in a preoperative chest X-ray. CT of the chest was performed after surgery and revealed an irregular mixed soft-tissue, cystic lesion in the superior right lower lobe, and multiple cavitary lesions in both lungs, which were suspected as lung metastases (Figure 6). No respiratory manifestations, except for those noted in the imaging studies, were observed during the entire course of the disease.

According to the revised staging system for GTN approved by the International Federation of Gynecology and Obstetrics (FIGO) in 2002, the final diagnosis was choriocarcinoma, FIGO Stage IV. To evaluate the prognosis and treatment selection, the Prognostic Scoring Index modified by the World Health Organization (WHO) was applied. Although the prognostic score was considered high risk, single-agent chemotherapy with a regimen of methotrexate

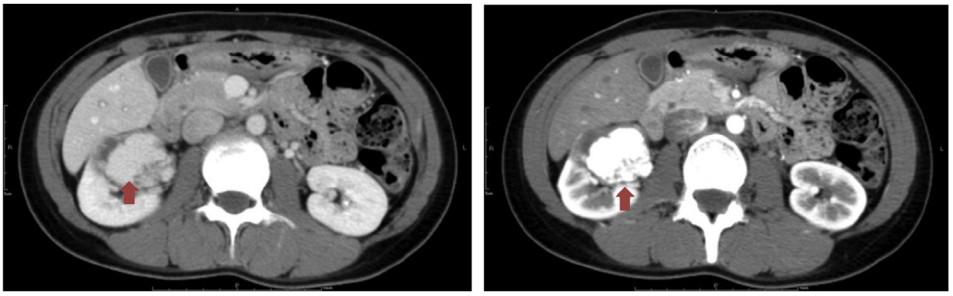

Figure 2. Computed tomography of the abdomen showing a tumor measuring approximately 5 cm × 4.5 cm (arrow), which raised suspicion of an arteriovenous malformation in the right kidney with a thrombus measuring approximately 1.3 cm within the right renal vein.

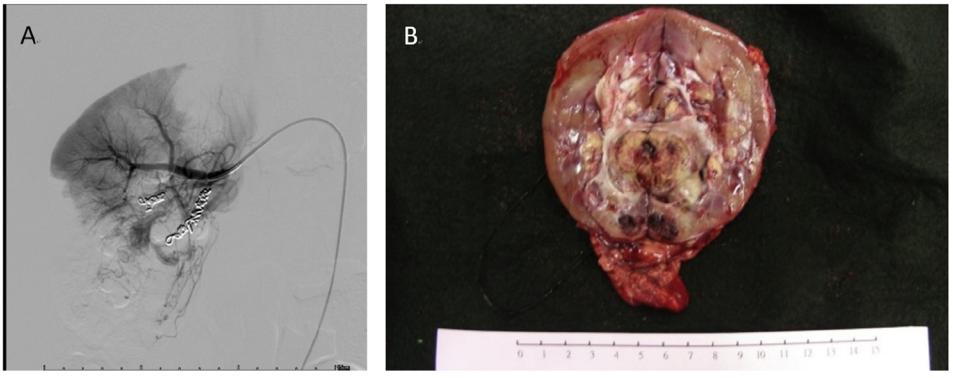

Figure 3. (A) Angiography of the right kidney when the transarterial embolization was performed to control the refractory hematuria; (B) gross photograph showing multiple heterogeneous, well-defined, and multicystic mass lesions in the middle and lower poles of the right kidney measuring 5 cm in diameter with some hematoma and necrosis.