KJU
Korean Journal of Urology

www.kjurology.org
DOI:10.4111/kju.2011.52.7.498

Case Report

Bilateral Renal Choriocarcinoma in a Postmenopausal Woman

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Choriocarcinoma is the most malignant tumor of gestational trophoblastic neoplasia. It grows rapidly and metastasizes to the lung, liver, and less frequently, the brain. Metastases to the kidney are rare in the literature, and bilateral involvement is even more scarce. Renal involvement of choriocarcinoma is highly exceptional and may mimic renal cell carcinoma. Here we report a case of bilateral renal choriocarcinoma presenting 5 years after a history of a total anterior hysterectomy because of a hydatidiform mole.

Key Words: *Choriocarcinoma; Kidney neoplasms*

Article History:
received 25 February, 2011
accepted 16 March, 2011

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Choriocarcinomas are rare, highly malignant trophoblastic tumors that are usually encountered after a pregnancy in the uterus. They are composed of two types of cells, syncytiotrophoblasts, the differentiated hormone-secreting component, and cytotrophoblasts [1]. Nongestational choriocarcinomas are believed to develop from pluripotent germ cells, most commonly arising in the gonads. Gestational choriocarcinoma is a rare complication of pregnancy with an incidence of 1 in 20,000 to 25,000 in Western countries. It arises from a prior molar pregnancy or rarely a nonmolar gestation within 1 year of the antecedent pregnancy [2]. Choriocarcinoma in postmenopausal women is very rare; however, a few cases of choriocarcinoma that developed after a long latent period from a previous pregnancy have been reported [2,3]. The most frequent sites of metastases are pulmonary and vaginal, but other abdominal viscera and the brain may also be affected, and renal involvement is rare [4]. Herein we report a case of renal choriocarcinoma in a postmenopausal woman with bilateral renal masses, 15 years after her last pregnancy and 5 years after a history of total anterior hysterectomy because of a hydatidiform mole.

CASE REPORT

A 50-year-old female presented to the emergency department with complaints of weakness, right lumbar pain, and painless total hematuria. She had lost 20 kg of weight in the past 2 months and her hematuria had been present for the past month with no history of trauma. The physical examination was unremarkable except for increased sensitivity on her right flank and hemoglobin and hematocrit values of 6.9 mg/dl and 20%, respectively. Owing to clot retention, continuous bladder irrigation was initiated and her hemoglobin levels were corrected with transfusions. Abdominal ultrasonography revealed bilateral renal masses. Computed tomography (CT) scans of the chest, abdomen, and pelvis showed a 9 cm cystic renal mass on the right and another 5 cm tumor on the left kidney; a subpleural 5 cm lesion was visible on the right lower lobe of the lung CT (Fig. 1, 2). Bone scans showed no evidence of metastasis. An ultrasound-guided tru-cut biopsy of the right kidney was performed with a pathologic diagnosis of xanthogranulomatous pyelonephritis. Fine-needle aspiration biopsy of the lung lesion was reported as the coagulation type of necrosis. After cystoscopic evaluation to disclose the source of the hematuria, right transperitoneal radical nephrectomy was performed. The surgery was uncomplicated except for a 3 cm tear in the vena cava that was primarily sutured.

On the first postoperative day an increase in serum bilirubin levels was detected and the patient developed tachypnea and dyspnea. A repeat CT scan of the chest and abdomen demonstrated multiple lesions in the liver and spleen that were not visible on the preoperative scans, with an increase in size and number of the lesions in the lung. The patient's recovery period was troublesome and extended; nevertheless, no further surgical intervention was nece-

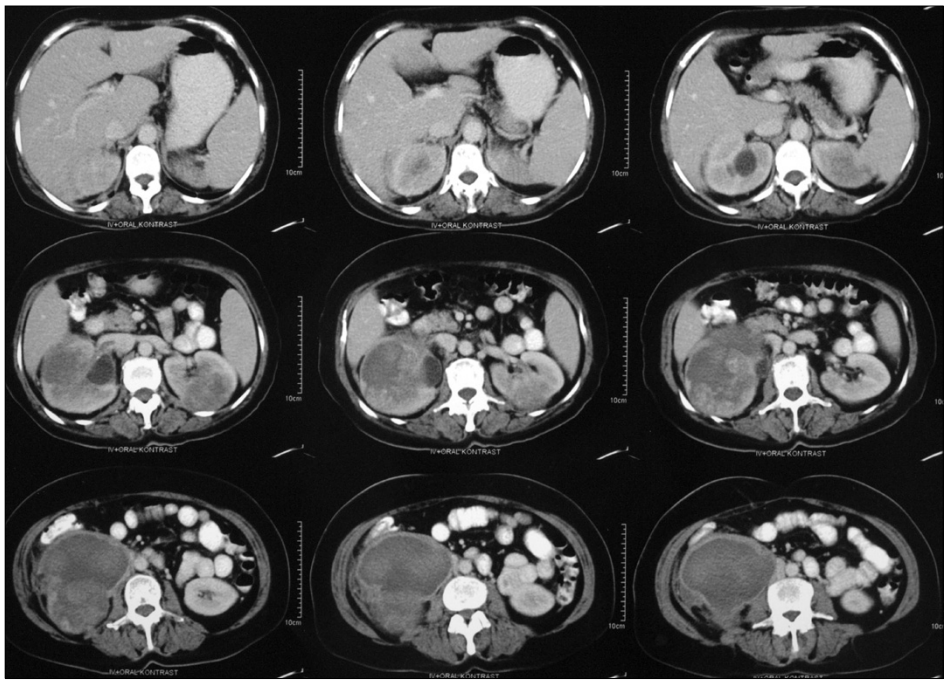

FIG. 1. Abdominal CT scan showing bilateral renal masses.

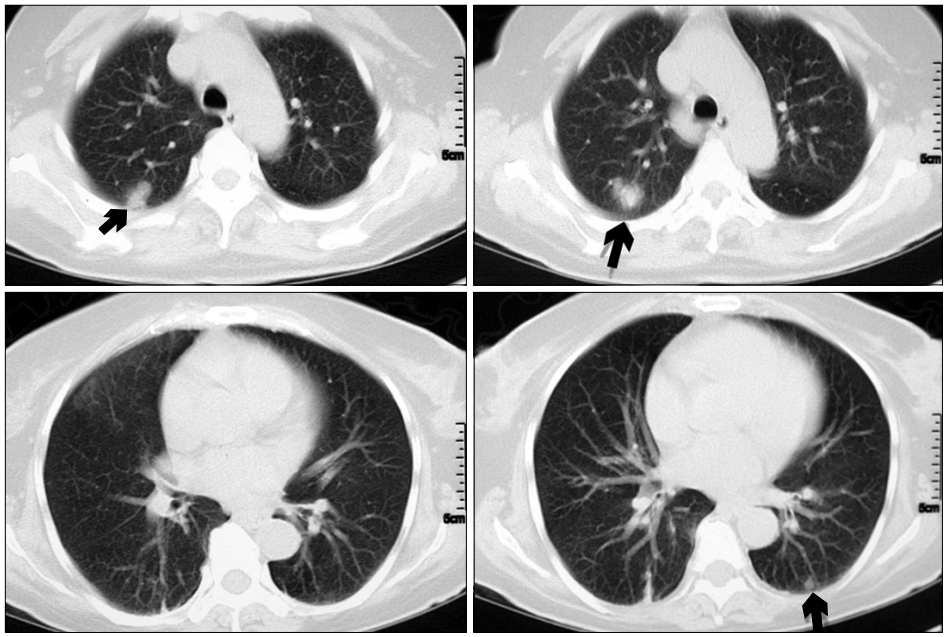

FIG. 2. Peripheral nodular lesions on both lungs (black arrows).

ssary. The pathologic report of the removed kidney was pure choriocarcinoma (Fig. 3); assessment of the serum beta-human chorionic gonadotropin level was over 1 million mIU/ml. The final diagnosis was gestational choriocarcinoma, and the patient was referred to the oncology department for methotrexate-based chemotherapy following stabilization of her general status.

DISCUSSION

Nongestational choriocarcinoma can arise from germ cell or trophoblastic differentiation within endometrial carcinomas. Gestational choriocarcinomas are mostly seen in women of reproductive age, generally within 1 year after a molar or nonmolar pregnancy. The risk of developing choriocarcinoma is exceptional before 20 years of age but increases significantly from 40 years onward. Nearly 30% of patients with choriocarcinoma present with metastasis on diagnosis. The tumor has a tendency to disseminate hematogenously. Lung, vagina, and brain metastasis occurs in 50%, 30%, and 10% of cases, respectively; liver and kidney metastasis is less common [5]. Urological involvement with gestational trophoblastic neoplasia is relatively rare, but renal involvement may cause massive retroperitoneal he-

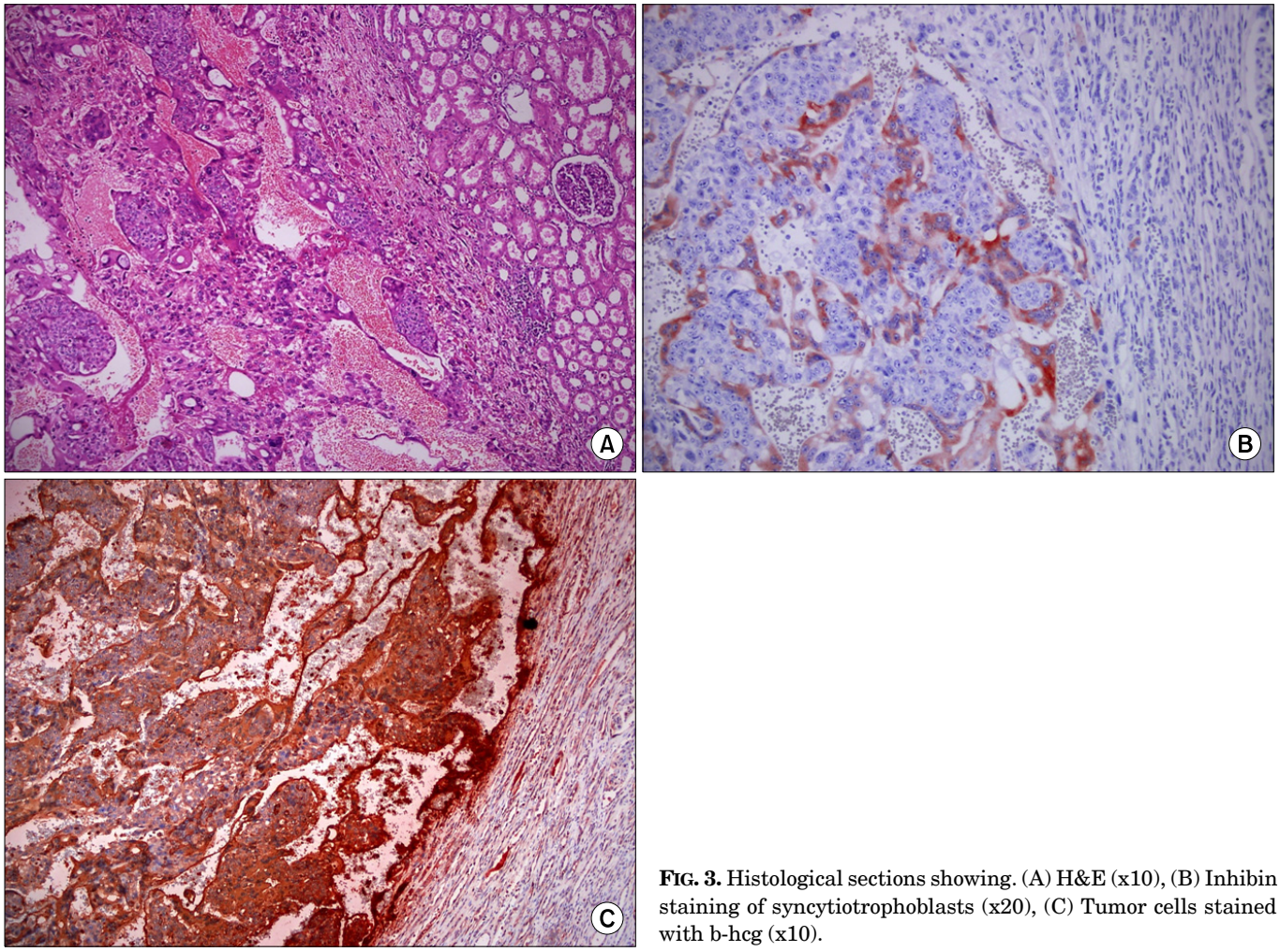

FIG. 3. Histological sections showing. (A) H&E (x10), (B) Inhibin staining of syncytiotrophoblasts (x20), (C) Tumor cells stained with b-hcg (x10).

morrhage [4]. Renal metastases can cause abdominal pain, hematuria, or oliguria but are more usually found as incidental mass lesions during radiological staging.

According to the International Society for the Study of Trophoblastic Disease, the incidence of renal metastases from choriocarcinoma is rare and can result in perinephric hemorrhage and lead to spontaneous rupture. Renal involvement can also present with hematuria [6]. The case we reported here presented with gross hematuria originating from the right kidney that was confirmed by cystoscopic evaluation. Additionally, no evidence of other metastasis was determined except for the lesion in the lung, which could not be diagnosed by fine-needle biopsy. Wang et al reported that renal metastases were invariably preceded by lung metastasis (100%), indicating that renal metastasis is most likely the result of dissemination of tumor cells through the general circulation secondary to lung metastasis [7]. However, this seems not to have been the case in our patient, in whom dissemination of lung metastases occurred after radical nephrectomy.

Choriocarcinoma is preceded by a hydatidiform mole 60% of cases, by previous miscarriages in 23%, by full-term pregnancy in 10%, and is primary in 5% of cases. Our case had a choriocarcinoma with a history of a hydatidiform mole 5 years previously.

The International Federation of Gynecology and Obstetrics (FIGO) staging for trophoblastic diseases that was devised in 1992 was improved in 2002 by combining the basic anatomic staging with the modified WHO risk factor scoring system [8]. The diagnosis and treatment of choriocarcinoma is based on the biological behavior of the tumor rather than a histopathological diagnosis. The histological choriocarcinoma does not add to the risk score by the FIGO system. Use of the FIGO staging system is essential in determining initial therapy for patients with gestational trophoblastic neoplasia to ensure the best possible outcomes with the least morbidity. Our case was staged as IV: 20 according to the FIGO 2002 scoring system.

Patients with high-risk metastatic gestational trophoblastic neoplasia (FIGO stage IV and stages II-III score 7) should be treated initially with multiagent chemotherapy with or without adjuvant surgery or radiation therapy [9]. Multiagent chemotherapy, a combination of etoposide, high-dose methotrexate with folinic acid, actinomycin D, cyclophosphamide, and vincristine (EMA-CO), results in improved remission and survival rates. Virtually 50% of

high-risk patients require surgical treatment during the course of treatment [10].

In conclusion, this case demonstrates that metastatic choriocarcinoma can present with flank pain, hematuria, and a renal mass imitating renal cell carcinoma. Also interesting in our case was the occurrence of bilateral renal masses followed by disseminated multi-organ metastases at 5 years after a hydatidiform mole treated with total abdominal hysterectomy and bilateral salpingo-oophorectomy. The patient was referred to medical oncology after the right radical nephrectomy and is still undergoing a chemotherapy protocol.

Conflicts of Interest

The authors have nothing to disclose.

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