

Esophageal Squamous Cell Carcinoma with Solitary Renal Metastasis-A Case Report

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ABSTRACT

An esophageal carcinoma is often diagnosed at an advanced stage and only few patients can be treated for curative resection. The kidney is the fifth most common visceral metastasis site of a primary esophageal carcinoma, ranked after lung, liver, bone and the adrenal gland. More than 50% of renal metastases typically show bilateral involvement. Solitary, unilateral renal metastasis is extremely rare. Therefore, the diagnosis of renal metastases is very difficult. Herein, we report a patient with advanced esophageal cancer and lung metastasis after neoadjuvant concurrent chemoradiotherapy complicated by poor appetite and abdominal pain. Subsequently, a solitary left renal mass was confirmed as esophageal squamous cell carcinoma origin by the immunohistostaining. Prognosis after treatment of recurrent disease is disappointing, and the prognosis is poor. Better early detection methods and effective systemic therapeutic plan for such rare cases are needed.

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Key words: Esophageal cancer; Renal metastasis; Solitary kidney metastasis; Squamous cell carcinoma

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CASE PRESENTATION

Esophageal carcinoma is often diagnosed at an advanced stage and only a small number of patients can be treated for curative resection^[1]. The kidney is the fifth most common visceral metastasis site of a primary esophageal carcinoma, ranked after lung, liver, bone and the adrenal gland^[2]. More than 50% of renal metastases typically show bilateral involvement^[3]. Herein, a case of solitary, unilateral renal metastasis in a patient with palliative resected thoracic esophageal squamous cell carcinoma after neoadjuvant concurrent chemoradiotherapy, is reported.

A 46 year-old male was a case of esophageal squamous cell carcinoma status post concurrent chemo-radiotherapy in 2007. He accepted 3 cycles of palliative chemotherapy with cisplatin (75 mg/m²) on day 1 and 5-fluorouracil (1 000 mg/m²) on days 1 to 4, which was repeated every 3 weeks since April, 2009 due to disease relapse. The follow-up chest computerized tomography (CT) showed shrinkage of the esophageal tumor size and only one 5 cm lung metastatic mass found without other sites distant metastases. Then, he received palliative operation with wedge resection of right upper lung and palliative esophagectomy + gastric tube reconstruction on July 22 2009. The pathology examination of lung also revealed metastatic squamous cell carcinoma from esophagus.

After several months, he was admitted for poor appetite and abdominal pain on September 13 2009. The lab data showed white cell count of 9240/cumm, Blood urea nitrogen of 12 mg/dL, creatinine of 0.77 mg/dL, and C-reactive protein of 6.58 mg/dL. Urine routine revealed white blood cell count of 0-2/high power field (HPF), red blood cell count of 0-2/HPF. Abdominal CT (Figure 1A, 1B) was arranged and revealed a new-developed tumor mass lesion, size 5×5.2×4 cm over left kidney. The pathology examination of CT guided biopsy of left renal mass showed metastatic squamous cell carcinoma which coincided with the previously resected esophageal carcinoma (Figure 2). Cytokeratins (CK) 7 and 20 were all negative in our case which could lead to the accurate diagnosis of a metastatic kidney tumor from esophageal cancer. The fourth time chemotherapy with 5-fluorouracil and cisplatin was arranged. Then, he was discharged with the regular outpatient department follow-up. Unfortunately, he died in September 2011 due to aspiration pneumonia with septic shock.

DISCUSSION

There are total 9 cases of esophageal cancer with solitary renal

metastasis, including our patient according to our literature review (Table 1). Because the prognosis of the esophageal cancer patient has improved significantly in recent years, the risk of a patient developing a distant metastasis has increased. In addition, to distinguish common epithelial tumors arising in the kidney, the most common cytokeratins used in human pathology are CK 7 and 20; both cytokeratins are expressed in many urothelial carcinomas as well as in pancreatic carcinomas, cholangiocarcinomas, and ovarian mucinous carcinomas^[4,5]. Therefore, CK 7, and CK 20 were negative in squamous cell carcinoma, and then for distinguishing the metastatic kidney mass. For this reason, our patient with advanced esophageal squamous cell carcinoma with unilateral left renal mass had negative immunorexpression of CK7, CK 20, and the renal mass located over subcapsular region. Although he did not have the symptoms of hematuria, we still make the diagnosis of left renal metastasis from esophageal squamous cell carcinoma.

Unfortunately, the treatment of solitary renal metastasis of esophageal cancer is still controversial with either nephrectomy or conservative treatment with chemotherapy due to the rarity of such cases. The treatment outcome of a recurrent disease is disappointing, and the prognosis is notoriously poor. We need more early detection methods and effective systemic therapeutic plan for such kind of patients to improve the disease free interval.

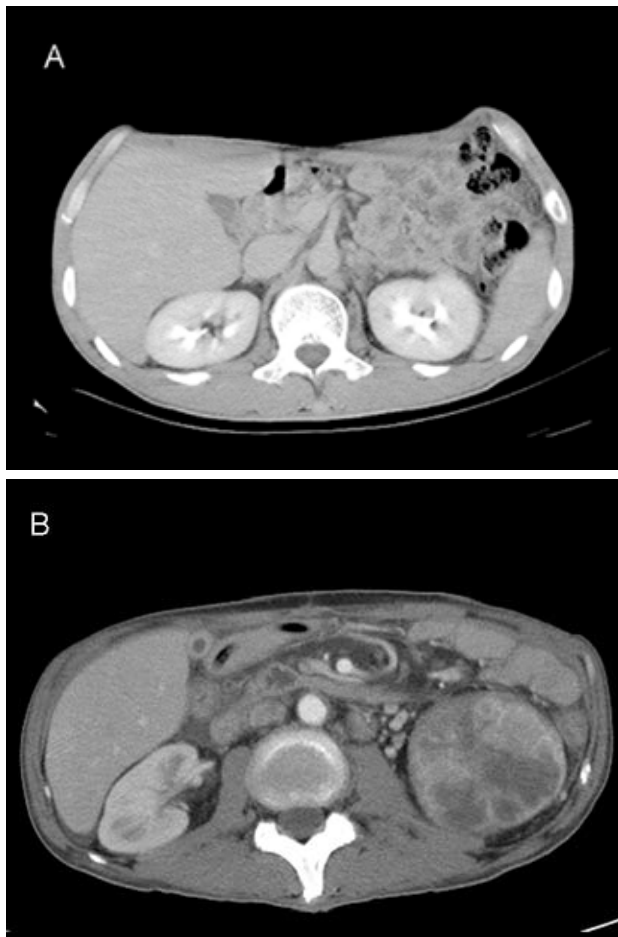


Figure 1 A: abdominal CT scan revealed normal bilateral kidney sizes in March 2009; B: abdominal CT scan showing a heterogeneous attenuating mass, size 5×5.2×4 cm in the left kidney; no other metastatic lesions are evident in September 2009.

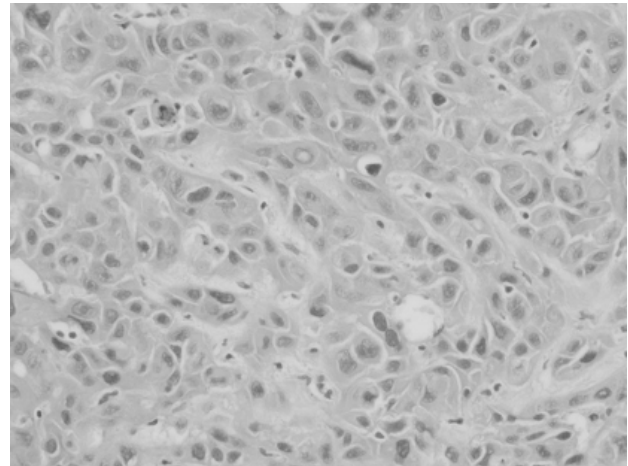


Figure 2 Displayed histological examination of the CT guided biopsy of kidney which showed a metastatic squamous cell carcinoma, which coincided with the histological findings of the previously resected esophageal carcinoma (hematoxylin and eosin stain×100).

Table 1 A literature review about the previous case reports.

Study/year	Case history	Treatment
Matsushita Y <i>et al</i> /1998 ^[2]	74 years old male, esophageal squamous cell carcinoma with right kidney metastasis	Right partial nephrectomy
Do Hyoung Lim, M.D. <i>et al</i> /2004 ^[3]	64 years old male, locally advanced esophageal cancer, squamous cell carcinoma s/p concurrent chemo-irradiation therapy in 2001 with left kidney metastasis in 2003	Right radical Nephrectomy and chemotherapy
You Sheng Mao, MD <i>et al</i> /2003 ^[6]	64 years old male, esophageal adenocarcinoma, Stage II (T2N0M0) s/p concurrent chemo-irradiation therapy in 1993 with brain metastasis in 1996 s/p whole brain irradiation, with right kidney metastasis in 1996	Right nephrectomy
Ja Hyeon Ku1 <i>et al</i> /2005 ^[7]	65 years old male, esophageal squamous cell carcinoma, stage cT3N0M0 s/p esophagectomy in 2000, with right kidney metastasis in 2003	Right nephrectomy And chemotherapy
Nagai T <i>et al</i> /1989 ^[8]	50 years old male, esophageal; squamous cell carcinoma, with right kidney metastasis in 2 years later	Radiotherapy and Right nephrectomy
Mori N <i>et al</i> /1999 ^[9]	64 years old male, squamous cell carcinoma s/p esophagectomy with right kidney metastasis in 7 months later	No mention
Shimizu H <i>et al</i> /1990 ^[10]	62 years old male, squamous cell carcinoma s/p esophagectomy with left kidney metastasis in 5 months later	Left nephrectomy
Tokunaga masanori <i>et al</i> /2006 ^[11]	51 years old male, esophageal cancer, highly differentiated carcinoma s/p operation with left kidney metastasis	Left nephrectomy

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