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A Case of Renal Transitional Cell Carcinoma Associated with Synchronous Contralateral Renal Cell Carcinoma

We report a case of simultaneous contralateral renal transitional cell carcinoma and renal cell carcinoma. A 63-yr-old male presented with hematuria. He was diagnosed with left renal pelvis tumor and contralateral renal cell carcinoma. Subsequently, the patient received left nephrectomy and paraaortic lymphadenectomy (transitional cell carcinoma, pT3N2M0). Post-operatively, chemotherapy of renal pelvis tumor and angioinfarction of contralateral renal cell carcinoma are being considered. We believe that management planning should be individualized in such cases.

Key Words: *Pelvic Neoplasms; Carcinoma, Renal Cell; Neoplasms, Multiple Primary*

Sung Kyu Hong, Seong Jin Jeong, Sang Eun Lee

Department of Urology, Seoul National University Hospital, Seoul, Korea

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Address for correspondence
Sang Eun Lee, M.D.
Department of Urology, Seoul National University Hospital, 28 Yongon-dong, Chongno-gu, Seoul, Korea
Tel: +82.2-760-2408, Fax: +82.2-742-4665
E-mail: urology@snu.ac.kr

INTRODUCTION

The occurrence of renal transitional cell carcinoma and synchronous contralateral renal cell carcinoma is extremely rare. So far, only around 10 cases (including cases diagnosed at autopsies) have been described in the literature, and this pattern of tumor occurrences has not yet been reported in Korea. We report a case of simultaneous contralateral renal transitional cell carcinoma and renal cell carcinoma.

CASE REPORT

A 63-yr-old male presented with a chief complaint of intermittent gross total hematuria which started 1 month before. Medical history and physical examination were unremarkable. Microscopic hematuria was detected in urinalysis, and serum creatinine was normal. The cystoscopy uncovered no abnormal mass in the bladder and no source of bleeding was detected. Intravenous pyelogram revealed hydronephrosis and delayed excretion of the left kidney (Fig. 1). The sonographic evaluation of the kidneys showed multiple simple cysts bilaterally, and wall thickening of the left renal pelvis, suggestive of a possible tumor in the left pelvocalyceal system. Subsequently, retrograde pyelography was performed, which demonstrated an irregular filling defect in the left renal calyx matching sonographic impression. Urine submitted for cytologic evaluation was positive for malignant cells which were suspected to be of transitional cell carcinoma. Under the impression of left renal pelvis tumor, computerized tomography was performed which not only showed irregular wall thickening around the left renal pelvocalyceal system of low attenuation, but also 2 cm sized slightly low attenuated mass from right renal upper

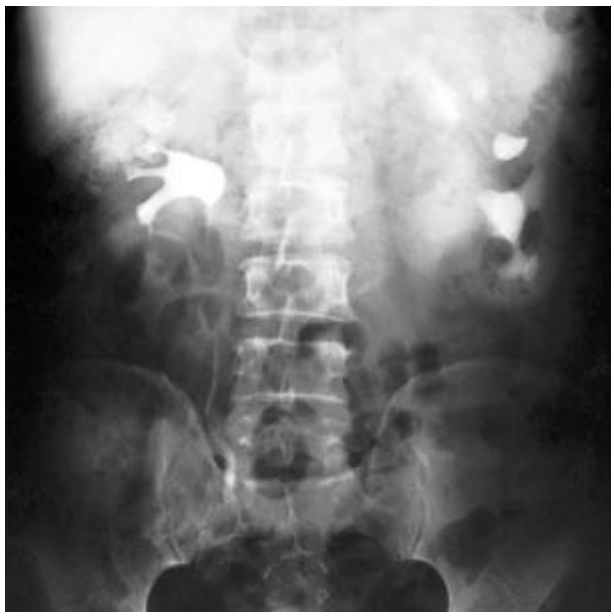

Fig. 1. Intravenous pyelographic image shows left hydronephrosis and filling defect in left renal pelvis.

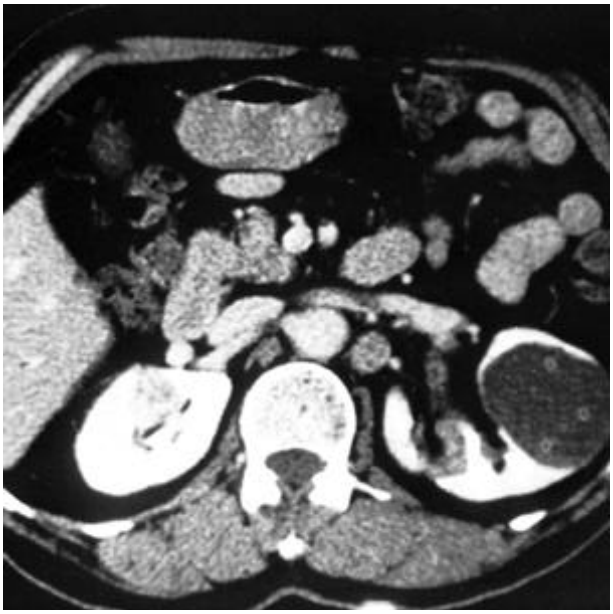

Fig. 2. CT image demonstrates irregular wall thickening around left pelvocalyceal system, and also low-attenuated mass in right kidney.

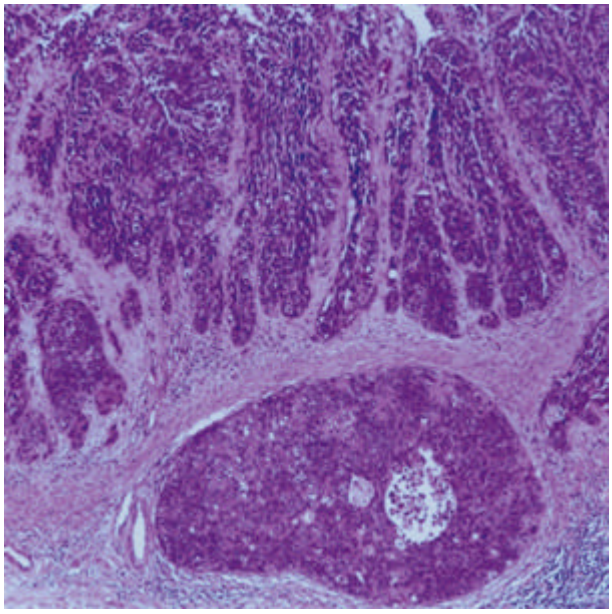

Fig. 3. Transitional cell carcinoma, grade III, in left renal pelvis shows invasion to renal parenchyma (H&E, ×40).

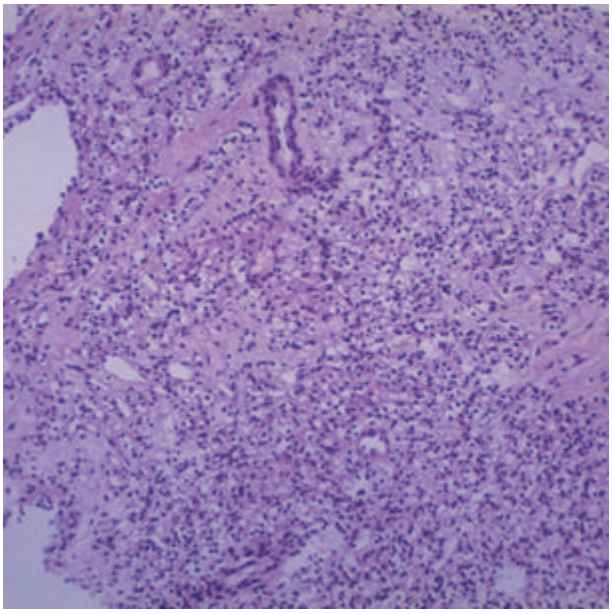

Fig. 4. Renal cell carcinoma of clear cell type with Furhman's nuclear grade of 2/4 in right kidney (H&E, ×100).

pole to renal hilum, suggestive of right renal cell carcinoma (Fig. 2). In addition, left paraaortic lymph node enlargement was noticed. Bone scan revealed no abnormality.

Subsequently, an exploration was planned, and the patient underwent left nephrectomy with paraaortic lymphadenectomy. Macroscopically, there was a gray-whitish protruding mass in the renal pelvis, measuring 7×6 cm, not involving the ureter. Pathological diagnosis was transitional cell carcinoma, grade III of the left renal pelvis with extension to peripelvic adipose tissue, invasion into the renal parenchyma, and invasion to renal capsule without penetration (pT3) (Fig. 3). Four out of 14 paraaortic lymph nodes dissected were positive for metastatic transitional cell carcinoma. The patient's postoperative course was smooth.

Two weeks after the surgery, computerized tomography-guided needle biopsy of the right renal upper pole mass was performed. The result turned out to be renal cell carcinoma of clear cell type with Furhman's nuclear grade of 2/4 (Fig. 4).

DISCUSSION

The first reported case with synchronous bilateral renal tumors of dissimilar cell type was described by Villegas in 1967, but it was from an autopsy (1). The first living patient was reported by Jozci and Wise et al. in 1976, a case in which a transabdominal partial nephrectomy for localized transitional cell carcinoma and radical nephrectomy for contralateral renal cell carcinoma were performed (2). They reported that the patient did well without any evidence of recurrence during an 8-yr postoperative follow-up.

Since the first case, there have been a few additional reports of synchronous renal pelvis tumor and contralateral renal cell carcinoma. We searched the literature

and found only 7 reported cases (no autopsy cases) (1-3). In all 7 cases, renal parenchymal-sparing surgery was tried. For renal cell carcinoma, radical nephrectomy was performed in 2 patients, partial nephrectomy in 2 patients, and tumor enucleation in 3 patients. Nephroureterectomy was performed in 2 patients, radical nephrectomy in 1, partial nephrectomy in 2, and tumor excision in 2 patients for renal pelvis tumors. One patient received post-operative chemotherapy on confirmation of the tumor stage (T3N0M1), and in another case, nephrectomy and eventual dialysis was performed because of the recurring renal pelvis tumor. Also, in about half of the cases, recurrent bladder tumor ensued, necessitating further operative managements (1-3). No exact data are available to assess the long-term prognosis in all of the patients.

Opinions vary on proper management of synchronous bilateral renal tumors of different histogenesis. Due to the scarcity and heterogenicity of the cases, no general guideline has been set. We believe that management planning must be individualized, and the life quality of the patient should be considered. In our case, radical nephrectomy would have been the treatment of choice for right renal cell carcinoma alone since the tumor was thought to be in Robson stage 1, which translates into five year survival rate of more than 75%. However, the contralateral renal pelvis tumor was in advanced stage (pT3N2M0), and five year survival rates less than 30% can be expected in such cases. So all things considered, the surgical management of contralateral renal cell carcinoma was thought to be of little value. Post-operative chemotherapy for renal pelvis tumor and angioinfarction of contralateral renal cell carcinoma are currently being considered. However, the patient's status would be one of the decisive factors in future therapeutic planning. The possible occurrence of bladder tumor should also be considered during the follow up.

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