

Case Reports

Synchronous Renal Fossa Recurrence with Bladder Metastases Due to Renal Cell Carcinoma

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KEY WORDS: renal cell carcinoma, bladder, metastasis

Introduction

Renal cell carcinoma (RCC) accounts for 3% of all malignancies in adults. It is the most lethal urologic cancer.⁽¹⁾ Common sites of distant metastatic disease are the adrenal gland (ipsilateral and contralateral), lung, liver, bones, subcutaneous tissues, and brain.⁽²⁾ Guinan and coworkers have found a direct correlation between solid tumor size and its metastatic potential.⁽³⁾ We report a rare metastasis of RCC, detected in a patient after radical nephrectomy.

Case Report

A 54-year-old male farmer presented to our clinic with gross hematuria. Three years earlier, he had been referred owing to right flank pain and intermittent hematuria. A renal mass (16 × 9 × 8 cm) occupying the upper pole of the right kidney had been found, and further investigations had shown no metastases. At that time, he had undergone right radical nephrectomy. Pathologic examination showed a papillary-type RCC invading the perinephric fat (T3aN0M0) (Figure 1).

From then until the current presentation, he had been well until the recurrence of hematuria. He had no history of cigarette smoking, diabetes

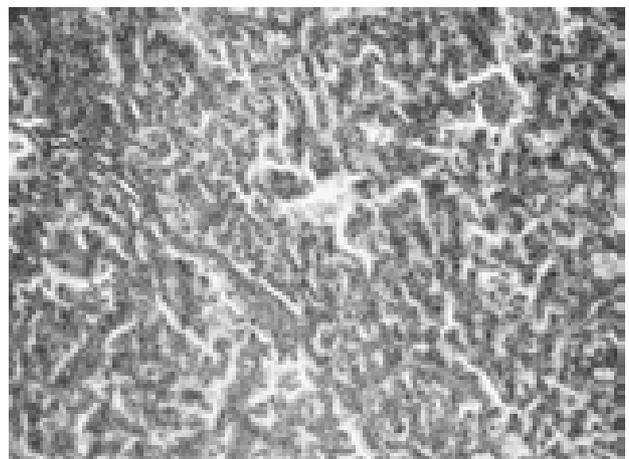


FIG. 1. Pathologic appearance of papillary-type renal cell carcinoma (Hematoxylin-Eosin, × 10)

mellitus, hypertension, or any other medical disease. Radiologic investigation revealed a solid cystic mass in the right renal fossa measuring about 7 × 6 cm. Imaging studies showed the remainder of the right ureter to be free of metastases. However, there was a suspected mass in the bladder. Cystoscopy revealed a frondlike tumor just over the right ureterovesical junction. The specimen resected for biopsy demonstrated papillary RCC (Figure 2). Results of biopsy specimens of other parts of the bladder were normal. Results of urine cytology were negative. Further investigation demonstrated no other metastases. Palliative transurethral resection (TUR) was performed. Immunohistological studies (CD10 and cytokeratin 20) performed on both the nephrectomy and TUR specimens

Received May 2004

Accepted April 2005

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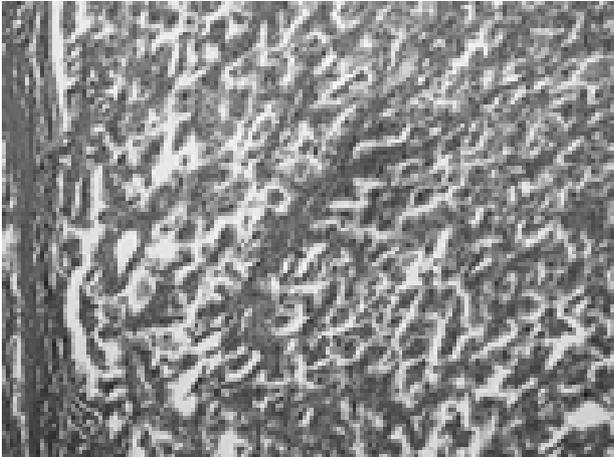


FIG. 2. Pathologic appearance of bladder metastases (Hematoxylin-Eosin, $\times 10$)

revealed the same histologic result (papillary RCC). The patient subsequently underwent immunotherapy. Two years later, the patient died owing to distant metastases.

Discussion

Metastases to the bladder from RCC are extremely rare. The review of the literature and other case reports indicates that these metastases are usually diagnosed 2 to 3 years after initial diagnosis of primary renal tumor. The prognosis is poor and seems not to depend on the type of treatment. Most patients die within 1 year of diagnosis. Treatment should be as conservative as possible.⁽⁴⁾ Asynchronous metastasis is much more common than synchronous metastasis.⁽⁵⁾

Morphologically, RCC can be confused with transitional cell carcinomas, especially those exhibiting clear cell features, as well as with other bladder tumors such as paragangliomas and metastatic melanomas.⁽⁶⁾ In our patient, both the primary and metastatic pathology were papillary-type RCC. This characteristic also represents the majority of cases reported in the literature.

Additionally, simultaneous recurrence in the primary fossa and bladder is quite unique. The mechanism of spread to the bladder in our case seems to be direct extension and implantation. Other mechanisms such as a retrograde venous

embolism of tumoral cells from a renal vein into numerous venous connections of the left renal vein (which is why there are more left-sided renal tumors leading to bladder secondaries than right-sided tumors) and lymphatic spreads also have been proposed.⁽⁶⁾ Interestingly, this case was a right-sided renal tumor metastasized to the right side of the bladder.

Different treatments have been proposed including bacillus Calmette-Guerin,⁽⁷⁾ ureterectomy with cuff cystectomy,⁽⁸⁾ transurethral resection,⁽⁴⁾ and even radical cystectomy.⁽⁹⁾ Overall, the prognosis is poor.

References

1. Novick AC, Campbell SC. Renal tumors. In: Walsh PC, Retik AB, Vaughan ED, et al, editors. *Campbell's urology*. 8th ed. Philadelphia: WB Saunders; 2002. p. 2672-731.
2. Patel A, Kernion J. Diagnosis and staging of renal cell carcinoma. In: Oesterling JE, Richie JP, editors. *Urologic oncology*. 1st ed. Philadelphia: WB Saunders; 1997. p. 147-73.
3. Guinan PD, Vozelgang NJ, Fremgen AM, et al. Renal cell carcinoma: tumor size, stage and survival. Members of the Cancer Incidence and End Results Committee. *J Urol*. 1995;153:901-3.
4. Gallmetzer J, Gozzi C, Mazzoleni G. [Solitary synchronous bladder metastasis from renal cell carcinoma treated by transurethral resection]. *Urologe A*. 2000;39:52-4. German.
5. Ziade J, Cipolla B, Robert I, et al. [Synchronous bladder metastasis of a clear-cell adenocarcinoma of the kidney]. *Acta Urol Belg*. 1994;62:45-8. French.
6. Sim SJ, Ro JY, Ordonez NG, Park YW, Kee KH, Ayala AG. Metastatic renal cell carcinoma to the bladder: a clinicopathologic and immunohistochemical study. *Mod Pathol*. 1999;12:351-5.
7. Vecchioli Scaldazza C, Giacomini G. [Repeated bladder metastases from renal cell carcinoma. Report of a case with particular attention to the use of immunomodulators]. *Minerva Urol Nefrol*. 2000;52:215-8. Italian.
8. Chiu KY, Ho HC, Chen JT, et al. Renal cell carcinoma metastasized to the ureteral stump. *Zhonghua Yi Xue Za Zhi (Taipei)*. 2001;64:64-8.
9. Chinegwundoh FI, Khor T, Leedham PW. Bladder metastasis from renal cell carcinoma. *Br J Urol*. 1997;79:650-1.