

Urothelial tumor development at the ureteral stump 25 years after simple nephrectomy

Basit nefrektomiden 25 yıl sonra üreteral güdükten gelişen ürotelyal tümör

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ABSTRACT

A malignant tumor developing from a residual ureteric stump after a nephrectomy for benign disease is extremely rare. We report a 78-year-old woman with a high-grade invasive ureteral carcinoma that arose in the ureteral stump 25 years after an ipsilateral nephrectomy for benign pathology. Urologists should keep this pathology in mind in the differential diagnosis of hematuria.

Key words: Carcinoma; hematuria; nephrectomy.

ÖZET

Benign bir hastalık için uygulanan basit nefrektomi sonrası bırakılan üreter güdüklerinde malign tümör gelişimi çok nadirdir. Hematüri nedeniyle değerlendirilen 78 yaşındaki kadın hastaya 25 yıl önce benign bir patoloji nedeniyle nefrektomi uygulanmış olup, bırakılan üreteral güdük içerisinde ileri evreli invazif üreteral tümör gelişmiştir. Ürologlar, hematürisi olan bir hastayı değerlendirirken ayrırcı tanıda bu patolojiyi de gözönünde bulundurmalarıdır.

Anahtar sözcükler: Hematüri; karsinom, nefrektomi.

A malignant tumor occurring in a residual ureteric stump after a nephrectomy for benign disease is extremely rare. We report a patient with a high-grade invasive ureteral carcinoma that arose in the ureteral stump 25 years after an ipsilateral nephrectomy for benign pathology.

Case report

A 78-year-old woman presented with painless gross hematuria. She had a non-functioning kidney removed by a right simple nephrectomy 25 years earlier. Transabdominal ultrasonography and all other routine laboratory data were normal. Malignant epithelial cells were seen on cytological examination of a urine specimen. A cystoscopic examination revealed a small papillary protrusion through the right ureteral orifice. Ureteroscopy was planned, but insertion of the ureteroscope through the right orifice was impossible. Pathological examination of the specimen revealed non-invasive high-grade urothelial carcinoma. Magnetic resonance imaging (MRI) showed dilatation, especially in the distal part of the right ureteral stump, and

multiple solid masses in the lumen of the right ureter (Fig. 1). Surgery was performed, and the ureteral stump was excised completely, with a bladder cuff with lymph node dissection. The ureter measured 21 cm in length and 3 cm in width. The gross ureteral specimen showed multiple papillary tumors in the middle and lower parts of the ureter (Fig. 2). Histologically, the tumor was a high-grade transitional cell carcinoma and pT1 (Fig. 3). The lymph nodes showed reactive hyperplasia on pathological examination.

Discussion

It is important to investigate the complete urinary tract in a patient with hematuria. We found a transitional cell carcinoma of a ureteral stump that had been left after a previous nephrectomy for a benign pathology. A primary ureteral stump tumor is defined as a tumor occurring in the remnant ureter following a partial nephroureterectomy or nephrectomy, with no tumor in the parenchyma, pelvis, or excised upper ureter.^[1]

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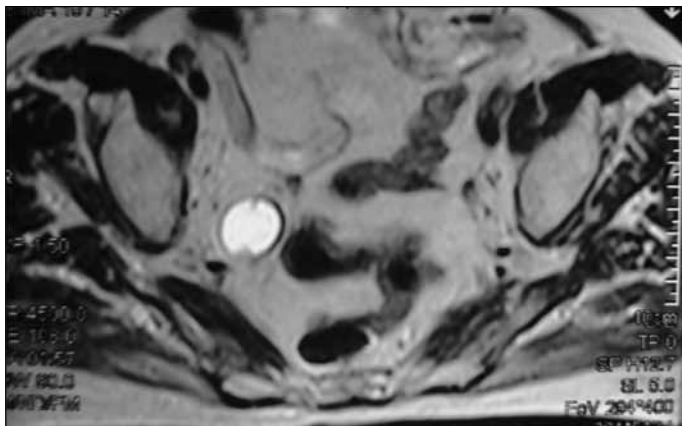


Figure 1. Magnetic resonance image reveals the right ureteral stump with multiple tumors in the lumen.

Imaging studies such as computerized tomography (CT) and retrograde urography are helpful for identifying a carcinoma in the ureter.^[2] Jaffe et al.^[3] have shown the feasibility of CT and MRI for the early diagnosis of a ureteral stump tumor. They recommended at least one of these procedures for surveillance, especially when retrograde ureterography is technically suboptimal or impossible.

Clinicians must consider the possible explanation for a malignant tumor in the remnant ureteral stump. Klee et al.^[4] suggested that reflux may explain a ureteral stump tumor in patients with bladder cancer. Ikeda et al.^[5] stated that benign conditions could be a possible cause, owing to chronic inflammation. In addition, malignant metamorphosis in areas of leukoplakia, hyperplastic and metaplastic changes due to chronic irritation, and exposure to carcinogenic agents are possible causes of ureteral stump tumors.^[6] In our case, the width of the ureteral stump (3 cm) and the fact that the lumen of the ureteral stump contained urine, which had entered the lumen via vesicoureteral regurgitation before the tumor obstructed the ureteral orifice, suggested chronic irritation attributable to reflux.

Kim et al.^[7] retrospectively reviewed the occurrence of primary carcinoma of the ureteral stump after nephrectomy and found that 8 of 318 (2.51%) patients were diagnosed as having a ureteral stump tumor. These 8 tumors consisted of 6 transitional cell carcinomas and 2 squamous cell carcinomas. The mean interval between nephrectomy and ureteral stump tumor diagnosis was 76.5 months.

Although transitional cell carcinoma of the ureteral stump is rare, urologists should include this pathology in the differential diagnosis of hematuria. Early diagnosis and appropriate treatment affects the prognosis because the degree of invasion has a negative impact on survival. We also suggest that nephroureterectomy is a better choice when planning a nephrectomy for benign diseases such as vesicoureteral reflux.

Conflict of interest

No conflict of interest was declared by the authors.



Figure 2. Gross appearance of the ureteral stump.

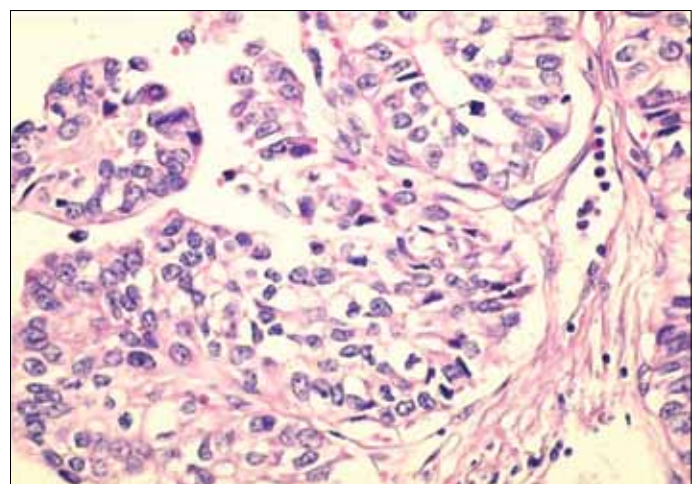


Figure 3. Microscopic appearance of the right ureteral stump was high-grade invasive ureteral carcinoma (x200, H-E).

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