Ureterocalicostomy Using Native Ureter in an Allograft Kidney: A Case Report

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Abstract

Ureteral obstruction is the most common complication of renal transplant. It is managed through minimal invasive procedures or open surgeries. Herein, we report the procedure and clinical outcomes of a case of ureterocalicostomy with lower pole nephrectomy in a patient with extensive ureteral stricture after renal transplant. Based on our search, there are 4 cases of ureterocalicostomy in allograft kidney in the literature, and only 1 of these included the application of partial nephrectomy. We offer this rarely applied option for those cases with extensive allograft ureteral stricture and very small, contracted, and intrarenal pelvis.

Key words: *Complication, Kidney transplantation, Ureteral stricture*

Introduction

Renal transplant is the preferred treatment for patients with end-stage renal disease (ESRD). There are several possible postoperative renal transplant complications, including urine leak, ureteral stricture, vesicoureteral reflux, hematuria, urinary tract infections, and vascular complications.[1] Ureteral obstruction is the most common cause of urinary complications.[1] Ureteral stricture has been found to be associated with decreased death of censored graft survival.[2,3]

The management of ureteral strictures consists of minimally invasive techniques and open surgical procedures based on the level of complexity.[4] Herein, we report a case of ureterocalicostomy, using the native ureter in a patient with extensive allograft ureteral stricture after renal transplant.

Case Report

Informed consent was obtained from the described patient. A 20-year-old female patient with ESRD due to glomerulonephritis underwent deceased donor renal transplant. Two months after transplant, she presented with oliguria, nausea, and vomiting. The patient had no history of fever, gross hematuria, graft surgery site pain, or malaise. The immunosuppressive regimen consisted of tacrolimus, mycophenolate mofetil, and prednisolone.

Physical examination showed that vital signs were stable with no abdominal or graft site tenderness, but edema was present in the lower extremities.

The laboratory data showed elevated serum creatinine (7.4 mg/dL). The abdominopelvic sonography showed severe pelvocaliectasis (hydronephrosis) of the transplanted kidney without ureteral dilatation. Due to severe hydronephrosis and elevated serum creatinine, a 6F percutaneous nephrostomy tube was placed into the grafted kidney, guided by sonography. After nephrostomy insertion, the patient developed adequate urine output through the nephrostomy tube, and her serum creatinine decreased to 1.1 mg/dL after 4 days. Nephrostography via a nephrostomy tube revealed severe pelvocaliectasis and small intrarenal pelvis without visualization of the ureter, conditions which favored extensive ureteral stricture (Figure 1). We were not able to progress the guide wire through the transplanted ureter for endoscopic management. Thus, we decided to proceed with exploration of the graft and reconstruction of the ureter.

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