Actas Urol Esp. 2013;37(5):316–320

Actas Urológicas Españolas

www.elsevier.es/actasuro

SKILL AND TALENT

Urinary fistula repair in a renal graft through a partial nephrectomy and omentoplasty☆

F. Campos-Juanatey*, R. Ballestero-Diego, J.L. Gutiérrez-Baños, E. Hidalgo-Zabala, L. Gala-Solana, E. Mediavilla-Diez

Servicio de Urología, Hospital Universitario Marqués de Valdecilla, Santander, Spain

Received 28 July 2012; accepted 27 September 2012
Available online 26 September 2013

KEYWORDS
Kidney transplantation;
Postoperative complications;
Urinary fistula;
Urologic surgical procedures

Abstract
Objectives: We present the management with partial nephrectomy and interposition of the greater omentum in case of urinary fistulas in renal allograft.
Material and methods: We present a patient with necrosis at the inferior pole of the renal graft that affected calyceal system but with pyeloureteral vascularization preserved. The patient's condition was satisfactorily managed with a partial nephrectomy of the necrotic renal segment and primary suturing of the collecting system with interposition of the greater omentum. We reviewed the cases published to date of partial nephrectomy in renal allograft, and examined their outcomes by analyzing the patient presentation, diagnostic tools, and surgical techniques used.
Results: There are few cases in the current literature that describe conservative surgical management of urinary fistulas caused by segmental necrosis after renal transplantation.
Surgical approach using partial nephrectomy in these cases produces favorable outcomes in our experience and reported cases.
Conclusions: Despite its obvious surgical complexity, this nephron-sparing management is feasible and should be implemented in cases where the prior renal function and the quantity of healthy parenchyma indicate a favorable subsequent evolution for the renal graft.

PALABRAS CLAVE
Trasplante renal;
Complicaciones postoperatorias;
Fístula urinaria;

Reparación de fístula urinaria en injerto renal mediante nefrectomía parcial y omentoplastia

Resumen
Objetivos: Presentar el manejo mediante nefrectomía parcial e interposición de epiplon en casos de fístula urinaria en pacientes receptores de trasplante renal.

☆ Please cite this article as: Campos-Juanatey F, et al. Reparación de fístula urinaria en injerto renal mediante nefrectomía parcial y omentoplastia. Actas Urol Esp. 2013;37:316–320.

* Corresponding author.
E-mail address: fcampos@humv.es (F. Campos-Juanatey).

2173-5786/$ – see front matter

Procedimientos quirúrgicos urológicos

Material y método: Presentamos un paciente con necrosis del polo inferior del injerto renal que afecta al sistema calicial, pero con la vascularización pieloureteral conservada, manejado de manera satisfactoria mediante nefrectomía parcial del segmento renal necrótico y sutura primaria del sistema colector con interposición de epiplon mayor. Realizamos una revisión de los casos de nefrectomía parcial en injerto renal descritos, analizando sus características y destacando la forma de presentación, los métodos diagnósticos, así como las técnicas quirúrgicas empleadas y sus resultados posteriores.

Resultados: Existen pocos casos en la literatura contemporánea que describan un manejo quirúrgico conservador de las fístulas urinarias por necrosis segmentaria tras un injerto renal. El abordaje mediante nefrectomía parcial en estos casos presenta buen resultado en nuestra experiencia y en los casos descritos.

Conclusiones: El manejo conservador de nefronas es factible y debería aplicarse en casos en los que la función renal previa y la cantidad de parénquima sano indiquen una correcta evolución posterior del injerto renal, a pesar de la evidente complejidad quirúrgica.

Introduction

The occurrence of urinary fistulas during the immediate or late postoperative period is a complication that occurs in approximately 2% of the patients receiving a kidney transplant in contemporary series,[1–5] and it causes significant morbidity, being able to lead to graft loss. Similarly, segmental renal infarctions appearing in the transplanted organ cause an impairment of renal function in the recipient and, when they are long, they can lead to urinary leakage due to necrosis of the collecting system. The most common place of these infarctions is the lower pole of the kidney, affecting or not the pyeloureteral system, although they are described affecting other locations.

The management of fistulas of this etiology is variable, depending on factors of the graft and the recipient, with few cases in the literature in which a surgical approach with partial nephrectomy and repair of the collecting system is described. We report a new case of surgical management by means of partial nephrectomy of a urinary fistula due to necrosis of the lower pole affecting the calyceal system, with the peculiarity of the omental interposition for the reinforcement of the renal suture and the urinary tract one. We reviewed the cases published to date describing this surgical management, highlighting its presentation and diagnosis, as well as the characteristics of the surgical technique used in each case.

Clinical case

We report the case of a 61-year-old man, on renal replacement therapy with hemodialysis for a year for diabetic nephropathy with nephrosclerosis, receiving a deceased-donor kidney transplant dead at 74 from brain hemorrhage, with a cold ischemia time of 8 h 15 min. The organ has 2 renal arteries, one of which has 3 mm and lower polar location, which is accidentally sectioned without possibilities for repair, and 3 renal veins. In the renal implant, there are no surgical incidents, and a good recoloring of the graft is obtained. The evolution of the figures of renal function after the transplant is favorable. On postoperative day 9, it has an output of abundant clear fluid through the drainage and the surgical wound, with biochemical analysis compatible with urine. In the scintigraphy, we can observe a urinary leakage and a collection of radiotracer in the flank. CT describes leakage of urine from the lower pole of the kidney (Figs. 1 and 2). We attempted to perform conservative management with percutaneous nephrostomy placement, and given the technical impossibility of a puncture of the collecting duct, we decided to perform surgical examination. During the surgical procedure, we can see an area of lower pole renal infarction (Fig. 3). We released the infarcted parenchyma of the renal pelvis, which is not affected, and partial nephrectomy of the necrotic segment was conducted. We placed a nephrostomy tube and the urinary tract was closed with 3/0 polyglycolic acid, checking the tightness of the closure and all the urinary tract into the bladder by means of puncture and instillation of saline under pressure in the urinary tract. Omental interposition after buttonhole opening in the peritoneum, on the partial nephrectomy bed (Fig. 4). The omentum was sutured to the kidney capsule with renal parenchymal sutures of reabsorbable synthetic polyester,

Figure 1 Axial section of CT-scan in excretory phase, showing renal graft in the right iliac fossa, with fistulous tract through the renal parenchyma.