Dear Editor,

We report the case of a patient presenting with early ureteral obstruction secondary to a calcified granuloma in the ureterovesical junction after a right heterotopic renal transplantation. This granuloma variant has not been described in literature.

A 34-year-old female with end-stage chronic renal failure secondary to systemic lupus erythematosus diagnosed in 1990 was admitted in the hemodialysis program in the year 2000. She had a history of hypersensitization, hyperparathyroidism secondary to chronic renal failure on treatment with cinacalcet (Mimpara) and calcitriol (Rocaltrol), and HT on treatment with atenolol, doxazocin, and amlodipine.

She was admitted in March 2008 for related living donor renal transplantation (husband). The donor underwent an uneventful laparoscopic left nephrectomy, and a single artery and vein kidney and a well vascularized ureter of the proper length were obtained. As part of the desensitization protocol, the patient received two doses of rituximab, six sessions of pre-transplant immunoabsorption, and three doses of monoclonal gamma globulin and induction with thymoglobulin. Post-surgical immunosuppressor treatment consisted of mycophenolate sodium 750 mg p.o/12 h, tacrolimus 6 mg p.o/12 h, and diminishing regimen of prednisone down to 20 mg p.o/d.

A heterotopic transplantation in the right renal fossa was performed, with termino-lateral anastomosis of the renal vein to the external iliac vein and termino-lateral anastomosis of the renal artery to the external iliac artery with continuous prolene 6 and 7/0, respectively; there was adequate perfusion after declamping, and no complications. A Politano-Leadbetter ureterovesical implantation was done, anchoring the distal end of the ureter with three loose poliglecaprone (Monocryl) 6/0 sutures, with immediate onset of diuresis. Warm ischemia time was 2 min, and total ischemia time was 50 min. A postoperative renal doppler ultrasound was normal, and an isotope renography showed adequate uptake. The patient’s kidney function improved; her creatinine level was 0.8 mg/dL when she was released.

The patient was readmitted 14 days later for pain at the level of the graft, anuria, and declining renal function, with a change in creatinine from 0.8 to 2.3 mg/dL. An abdominal ultrasound reported pyeloureteral ectasia up to the ureterovesical anastomosis, where a hyperechogenic image compatible with lithiasis was found. Diuresis was spontaneously reinitiated, and creatinine dropped to 0.5 mg/dL. An abdominal CT reported pyeloureteral ectasia in the kidney graft and ureteral dilatation with an intravesical calcified mass in the area of the ureteral anastomosis of the graft, which could correspond to a hematoma or a calcified

Post-renal transplantation intermittent anuria secondary to calcified granuloma of the neomeatus

Anuria intermitente postrasplante renal secundaria a granuloma calcificado del neomeato
granuloma (fig. 1). A calcified neomeatus was found with cystoscopy. Lab tests showed hypercalcemia of 13.1 mg/dL (n: 8.4-10.2 mg/dL) in the context of secondary hyperparathyroidism intensified by the discontinuation of cinacalcet (Mimpara) a few weeks before; normal levels were recovered after hydroelectrolytic replacement therapy and pharmacological treatment.

A wait-and-see management and ambulatory follow-up was decided based on the fact that creatinine levels were normal. The patient was readmitted three days later with a deterioration of the renal function, creatinine at 2.2 mg/dL, and sudden anuria for 10 h. A new cystoscopy showed the calcified and strictured neomeatus. The calcified granuloma was completely removed and a 4'8 Fr pigtail catheter up to 15 cm was inserted. The proper placement was radiologically verified, and a Foley #18 catheter was left in place; urine was clear at the end of surgery. Creatinine levels became normal (0.7 mg/dL), and the patient was released in good condition; the pigtail was removed after 30 days. The level of creatinine one month later was 0.8 mg/dL. The biopsy report described a fibrin-leukocyte material with foci of necrosis and calcification (fig. 2).

Urological complications of renal transplantation are the main cause of surgical morbidity; the rates vary from 3 to 20% in different series.1,2 There are several urinary tract reconstruction techniques; the Politano-Leadbetter is the technique used at our center since the instauration of the renal transplant program in 1965, with very good outcomes and few complications.3 The neomeatus was reconstructed with a cuffing technique turning the edges inside out and using three 6/0 Monocryl sutures to secure it.

The most common urological complications are urinary tract obstruction and fistula. Ischemia and the surgical technique are the factors implicated in early complications, and ischemia and infections at later stages.4 Early obstruction occurs during the first week, in the immediate postoperative period. Some are extremely rare, but require early management when they do appear. The clinical manifestations and the management depend on the type of complication. Common causes are hematoma, abscess, seroma, lymphocele, edema, inflammation, clots, ureteral twists, or, as in our case, a calcified granuloma in the neomeatus.5 There are no published reports about calcified granuloma in this location. The risk factors implicated in this case are ureteral distal ischemia and the suture material (Monocryl), which serve as a substrate for the crystallization and subsequent growth of the calcification of the granuloma, a process potentiated by hypercalciuria and hyperphosphaturia present in the patient’s secondary hyperparathyroidism; such a rapid process (26 days after surgery) was remarkable.

The diagnosis and treatment of this complication were done with interventional cystoscopy, with a good outcome and recovery of the kidney function.

REFERENCES


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