Long-Term Outcome of Reusing a Kidney Allograft Retrieved From a Living Recipient and Retransplanted Into a Second Recipient

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Abstract
This case report shows that the 5-year outcome of a reused kidney from live-kidney allograft recipients because of intractable recurrence of thrombotic microangiopathy was excellent.

Key words: Retransplant, Reuse, Long-term, Outcome

Dear Editor,

Few cases of dealing with the reuse of kidney allografts have been reported. Tariel and associates in 2003, 1 and Celik and associates in 2007, 2 each reported 1 case of reusing a kidney transplant from a brain-dead kidney transplant recipient. In 2008, we reported the first case of reusing a kidney transplant from a live-kidney transplant recipient with intractable recurrent thrombotic microangiopathy. 3 Recently, Gallon and associates reported the successful reuse of a kidney allograft from a live-kidney transplant recipient with severe focal segmental glomerulosclerosis. 4 Almost no data regarding the long-term outcomes of reused kidney allografts exist. We describe the 5-year outcome of the recipient of a reused kidney allograft.

A 34-year-old kidney allograft recipient developed intractable severe recurrent idiopathic thrombotic microangiopathy in the allograft within a few weeks of the transplant. This was despite intensive plasma exchanges, and steroid and rituximab therapies. Eculizumab was not used; hence, at 8 weeks after transplant, we performed a nephrectomy. The kidney allograft was considered to be functioning well (serum creatinine 120 μmol/L, microalbuminuria 1.2 g/d). After having given written, informed consent, a 54-year-old non–HLA-sensitized hemodialysis woman, whose kidneys failed because of polycystic kidney disease, received a reused kidney allograft. The surgical procedure was difficult but uneventful. The second recipient received an induction therapy of antilymphocyte globulins, followed by tacrolimus, mycophenolate mofetil, and low-dose steroids. The postsurgical phase was uneventful, and the patient returned to work within 1 year after transplant. After retransplant, she did not present with delayed graft function. At 6 months after retransplant, her serum creatinine was 97 μmol/L, estimated Modification of Diet in Renal Disease glomerular filtration rate was 60 mL/min, and albuminuria was 0.5 g/d. At 5 years after the transplant, her serum creatinine was 79 μmol/L, estimated glomerular filtration rate was 70 mL/min, and albuminuria was < 0.5 g/d (Figure 1A).

A kidney-edge biopsy performed before retransplant showed 1 normal artery and 30 glomeruli: 1 contained microthrombi, 2 had widening of the subendothelial space, but the others were normal. Another biopsy performed 45 days after the retransplant showed mild glomerular lesions (Banff i0,i0,g1, ptc0,v0,aah1,cg0,ci1,ct1,cv0,mm0, and negative C4d staining). Another biopsy performed at 2 years after the transplant found almost normal renal parenchyma, 1 histologically normal arteriole, and 12 almost histologically normal glomeruli.
(Banff t0,i0,g0,v0,ptc0,aah0,cg0,ci0,ct1,cv1,mm0, and negative C4d staining) (Figure 1B).

Hence, the 5-year outcome of the reused kidney was excellent. This case report highlights that the reuse of kidney allografts from live-kidney allograft recipients in cases of intractable recurrence of the initial disease, such as thrombotic microangiopathy, is possible, safe, and is associated with a good long-term outcome.

References