Letters to the editor

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Renal allotransplantation in idiopathic retroperitoneal fibrosis

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Idiopathic retroperitoneal fibrosis (RF) most commonly impairs renal function by involving the ureters in the fibrotic process. The inferior vena cava (IVC) and aorta may also be compressed, but this is usually below the level of the renal hilum [4, 5]. Eight cases have been reported of renal autotransplantation to salvage kidneys with extensive ureteral loss from RF or ureterolysis [2, 3, 6, 7, 8]. We find no previous report of renal allotransplantation in a patient with end-stage renal disease (ESRD) from RF.

A 38-year-old man was found to have RF in 1983. Both ureters were obstructed, and he underwent bilateral ureterolysis with ureteroneocystostomy on the right side. Omentum was used to wrap the right ureter. The left kidney never regained function. In 1986 his renal function deteriorated, and despite placement of a right ureteral stent, he progressed to ESRD and began hemodialysis. A nephew volunteered to donate a kidney and was found to be HLA-identical with a nonstimulating mixed lymphocyte culture.

The preoperative assessment of the recipient included computed tomography (CT) of the abdomen and the pelvis (Fig. 1). Thick retroperitoneal fibrosis extended from the distal IVC and aorta to the inguinal ligaments. An angiogram revealed normal arteries. A venogram showed obstruction of the left common iliac vein with multiple small collaterals (Fig. 2). The right common iliac vein was narrowed to the level of the IVC. Prior to the nephew's undergoing right donor nephrectomy, the recipient underwent exploratory surgery to confirm that transplantation was possible. The external and internal iliac artery and vein were not identified. With sharp dissection and the aid of fine needle aspiration, it was possible to free the right common iliac artery and distal IVC from the fibrosis for a short distance. Biopsies of the retroperitoneal fibrosis were sent for frozen section to confirm that there was no malignancy.

Care was taken to remove the donor kidney with a long length of ureter because of the required position in the recipient. The kidney was then transplanted to the only available vessels in an intra-abdominal position. The omentum was used to wrap the ureter down to the extravesical parallel incision ureteroneocystostomy [1]. The patient made an uneventful recovery and left the hospital with a serum creatinine of 1.2 mg/dl. Six months after transplantation his serum creatinine was 1.3 mg/dl.

Idiopathic retroperitoneal fibrosis is an unusual cause of ESRD. Ureteral obstruction does occur in RF, but it can usually be corrected with ureterolysis. Occasionally, renal autotransplantation is required to salvage a kidney when major ureteral loss occurs. This may have preserved renal function in our patient. However, he re-presented for care after irreversible renal failure had developed. The preoperative evaluation should include an abdominal CT scan and venography to define the extent of fibrosis and the venous anatomy. Although collateral veins have successfully been used in salvaging kidneys by autotransplantation [8], we preferred to find an unobstructed vein for this living donor allograft kidney.

Extensive retroperitoneal fibrosis from a nonmalignant cause is not a contraindication to renal allotransplantation from either a cadaveric or a living-related donor. Our patient had an HLA-identical related donor. The severe shortage of cadaveric kidneys, plus the favorable results of a well-matched kidney, favor the use of such donors. Careful preoperative evaluation is necessary to plan the procedure. In a procedure involving a living-related kidney donor, it is best to explore the recipient first to confirm that the procedure is possible.

The use of corticosteroids for post-transplantation immunosuppression is expected to prevent pro-

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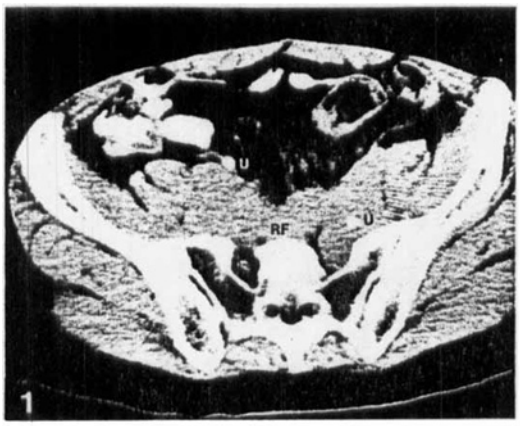

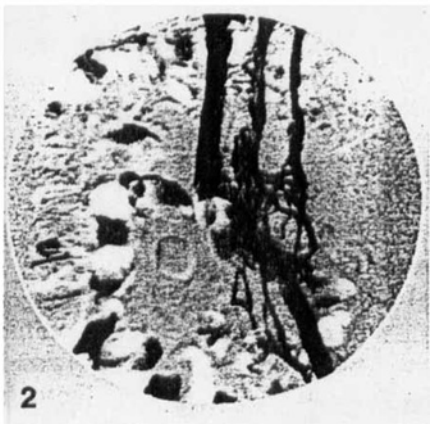

Fig. 1. Fibrotic process encasing the vessels from aortic bifurcation throughout the entire pelvis. The right ureter *(U)* is anterior to the retroperitoneal fibrosis *(RF)* at this level while the left ureter is encased

Fig. 2. Left common iliac vein obstructed with extensive collateralization

gression of the retroperitoneal fibrosis into new areas. Well-established areas of fibrosis will probably not be affected by immunosuppressive medications.

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