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Renal cell carcinoma and acquired cystic kidney disease after renal transplantation

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The incidence of renal cell carcinoma (RCC) is known to increase in patients with chronic renal failure who are placed on dialysis. The risk is 50 times higher than that seen in the general population [5] and it is usually related to acquired cystic kidney disease (ACKD). For this reason, regular follow-up with tomography or sonography is recommended for all dialysis patients, particularly those with known ACKD. Transplantation is said to reverse the progression of cystic disease and, therefore, to prevent the development of these tumors [3]. We report a case of RCC that developed 7 years after renal transplantation in a native kidney affected by ACKD.

A 58-year-old man with long-standing chronic renal failure secondary to chronic glomerulonephritis had been on hemodialysis for 5 years when a cadaveric renal transplant was performed. He was maintained on azathioprine (150 mg daily) and prednisone (10 mg daily), had no complications, and had normal renal function (creatinine 1.1 mg/dl). Seven years after transplantation, the patient complained of fever and back pain. Sonography and abdominal CT demonstrated a solid mass of 7 cm in the left kidney and ACKD in both kidneys. Technetium gammagraphy showed several images of hyperactivity in the dorsal backbone, pelvis, and ribs, suggestive of metastasis. Nevertheless, surgical nephrectomy was indicated because of severe back pain and gross hematuria. A left nephrectomy was performed and the kidney was found to have extensive ACKD with a 7-cm renal cell adenocarcinoma. Papillary hyperplasia was found in some cysts and the perirenal ganglion was affected. Immunosuppressive therapy was maintained because of the irreversibility of neoplastic disease. Afterwards, the patient complained of thoracic bone pain, which corresponded with the presence of a metastasis. Four months later, he died from extensive disseminated neoplasia, most noticeably in the lungs. A necropsy was not authorized.

Certainly RCC in the native kidneys of transplanted patients accounts for less than 5% of all malignancies [7]; skin cancers and non-Hodgkin's lymphomas are the more frequent malignancies in these immunosuppressed patients. However, several cases of RCC in transplanted patients with disseminated metastasis have recently been reported [1, 2, 6, 10], and this may be especially frequent in the cyclosporin A era [8, 9]. The procedure with respect to immunosuppressive therapy in transplanted patients with neoplastic diseases depends upon localization, type of neoplasia, and the possibilities for healing. Immunosuppressive treatment must be stopped in all visceral tumors with healing possibilities, except for cutaneous cancers; steroids may, however, be maintained. The healing of the neoplasia has priority over preservation of graft function. In our patient neoplastic disease was diagnosed without any possibilities of healing. Therefore, immunosuppressive therapy was maintained.

Although the size of cysts usually decreases after kidney transplantation [3, 4, 10], the use of immunosuppressants may increase the risk of developing RCC. Nowadays, we find it reasonable to recommend that native kidneys of all transplanted recipients be imaged regularly (every year) to detect ACKD and early RCC.

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