

Renal Cell Carcinoma in a kidney allograft 11 years after renal transplant

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Citation

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Abstract

Malignancies are common after renal transplant because of immunosuppression. Renal cell carcinoma is common but occurs in the native kidney. Carcinoma in the transplant kidney is less common but has been reported with an average interval of 3 to 4 years after transplant. We report a case of renal cell carcinoma occurring in transplant kidney 11 years after renal transplant and it was treated with partial nephrectomy. The patient responded well to this conservative approach.

INTRODUCTION

The incidence of post transplantation cancer increases because of immunosuppressive therapy(1).However the incidence of post renal transplantation malignancies varies among different countries(2,3,) The length of interval between transplantation and the point when a transmitted tumour becomes evident can be as long as 36 to 42 months(4). The common malignancies include skin cancer, renal cell carcinoma of the native kidney, hepatocellular carcinoma, post transplantation lymphoproliferative disease, uterine cancer, and colorectal cancer. De novo primary renal cell carcinoma (RCC) usually involves the native kidney with only a few reported cases of RCC in a kidney graft (5).Herein we have reported a case of a patient with a solitary RCC in a renal allograft 11 years after transplantation, and it was treated with partial nephrectomy.

CASE REPORT

A 60 year old male patient with chronic renal insufficiency at 41 years of age due to interstitial nephritis. There had been no abuse of analgesics. He was maintained on hemodialysis for 18 months and received a cadaveric kidney transplant in 1990.The donor was a 21 year old Caucasian female who died due to cerebral trauma. Serological tests showed compatible ABO and good HLA tissue typing. The contralateral kidney from donor was not transplanted because

of technical complications during explantation. The patient was doing well with baseline creatinine of about 1.5 for

twelve years. Subsequent to this his creatinine started increasing to 1.9 and then to 2.4. At this time he was scheduled for a biopsy of the transplant kidney, when the ultrasound of the kidney showed a solid appearing mass in the lower mid pole of the transplant kidney. This was further evaluated with a CT and MRI and all the studies supported the diagnosis of renal cell carcinoma (Figure 2 and 3).

Figure 1

Figure 2 MRI showing mass in lower pole of kidney

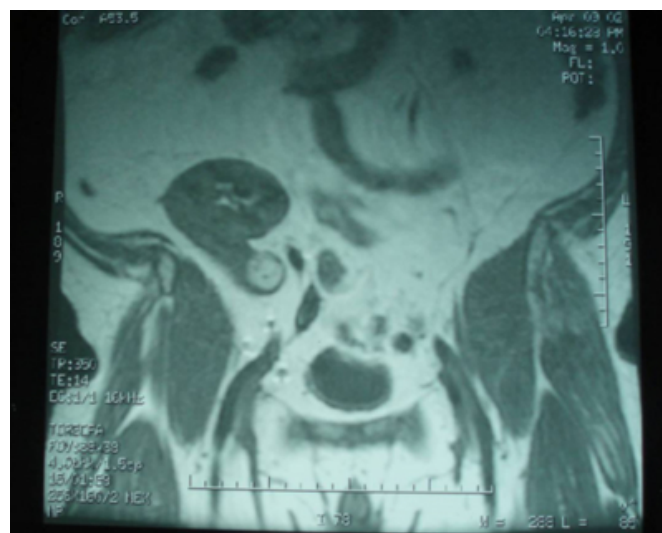
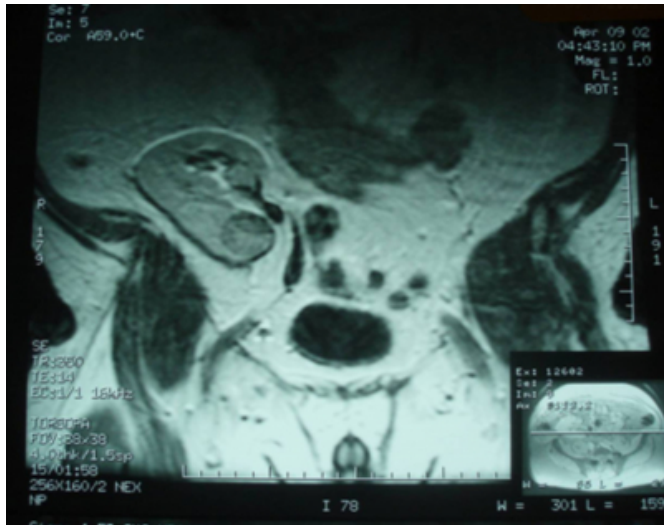


Figure 2

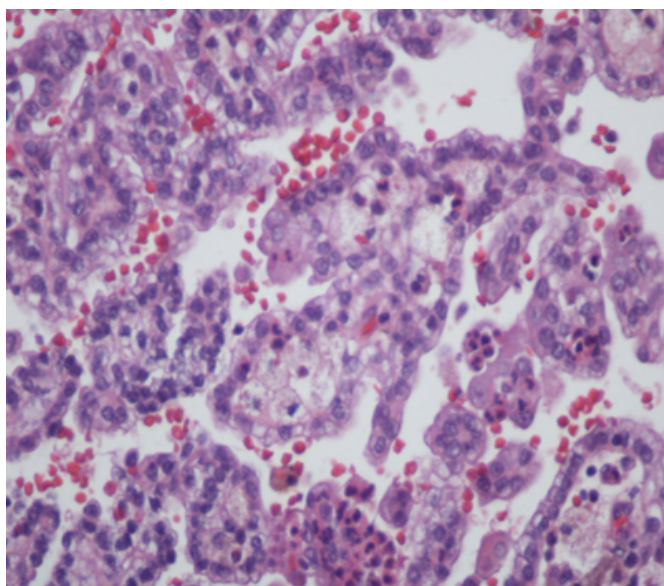
Figure 3 MRI showing mass in lower pole of kidney



The patient was scheduled for exploration of transplant kidney with planned partial transplant nephrectomy to preserve the renal function. The patient had a successful partial transplant nephrectomy and a 3.5 cms solid mass was excised. The biopsy of the mass showed a renal cell carcinoma of the transplant kidney (Figure 1). Subsequent to this patient continued to do well for 4 years after which he became dialysis dependent. He received a second kidney transplant in 2008 which was a living related donor transplant and is doing well.

Figure 3

Papillary features of Renal cell Carcinoma Figure 1



DISCUSSION

There is an increased incidence of cancer in organ transplant

recipients. Immunosuppression is associated with worst prognosis(6,7).The overall incidence of malignancies varies from country to country. It is 4-18% in USA (8),3-9% in Europe(9), 6.3-12% in Australia and New Zealand(10), 8.3% in Nordic countries(11), and 2.6-4% in Japan(12).Renal cell carcinoma in renal transplantation can be present either in the donor, as a pre-existent neoplasm in the recipient prior to transplantation, as de novo malignancy arising post transplantation in the native recipient kidneys or in the graft. Late development of

primary tumour in kidney allograft is a rare event (13). More commonly, renal cell carcinoma arises from the native kidneys of transplant recipients. Patients with ESRD have additional risk of developing renal malignancy. The length of time a patient remains on dialysis increases risk of acquired cystic disease and renal cell carcinoma in native kidneys with a reported cancer incidence of 1.6 to 4.2% (14, 15). Total transplant nephrectomy can provide a durable cure but it returns the patient to chronic dialysis. Tumours less than 4 cms and in peripheral location can be managed with nephron sparing surgery. Several reports support the use of partial nephrectomy for management of RCC in a transplant kidney(16, 17). It has been shown to be as effective as radical nephrectomy if technically feasible(18). Techniques like radiofrequency ablation (19) or cryotherapy (20) of renal cell carcinomas exist but long term data is lacking.

CONCLUSION

We conclude that renal cell carcinoma though common to occur in the native kidneys after renal transplantation can occur in the transplant kidney as well, with a variable incidence. Though the average interval from transplant is 3 to 4 years, it can rarely present as late as 11 years after renal transplant. If the tumour is small and localized, it can be managed with conservative approaches like partial nephrectomy and radiofrequency ablation

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