Renal cell carcinoma of the native kidney in a renal transplant recipient

**Vikrampal Bhatti, Ananthalexmi Vangapalli,
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ABSTRACT

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CASE REPORT

A 73-year-old white male was seen for fever, back pain and dysuria of three-day duration. His past medical history was significant for end stage renal disease secondary to hypertensive nephropathy status post deceased donor kidney transplant ten years ago and multiple skin cancers status post resection. His maintenance immunosuppression included tacrolimus 3 mg twice a day, azathioprine 75 mg daily and prednisone 10 mg daily. He was treated with antibiotics for Urinary tract infection. Ultrasound of the transplanted kidney was normal and the serum creatinine was at baseline. However, native kidney ultrasound done because of the back pain showed ~6 cm mass in the right kidney (Figure 1A). He never had gross or microscopic hematuria. His symptoms improved but MRI scan of abdomen showed heterogeneous mass (5.2x5.1x4.8 cm) in the superior pole of the right kidney suggestive of renal cell carcinoma along with bony lesions suspicious for metastases. Also, there were multiple cysts in both native kidneys and he did not have cystic renal disease prior to transplant (Figure 1B–C). He developed acquired cystic renal disease of native kidneys which unfortunately, was never screened for.

DISCUSSION

The incidence of renal cell carcinoma is increased in kidney transplant recipients and, particularly those with

Figure 1: (A) Renal ultrasound showing the mass in the right kidney (arrow), (B, C) MRI abdomen showing heterogeneous mass suggestive of Renal cell carcinoma (black arrow) and bilateral native kidney cysts (arrows).

acquired cystic disease of the kidneys [1]. Chronic renal failure (particularly in patients on maintenance dialysis) is frequently associated with the development of multiple and bilateral renal cysts [2, 3]. There is conflicting data on whether to screen patients with advanced kidney disease for acquired cystic disease and thereby early detection of premalignant or malignant lesions [4–6]. Current major guidelines do not recommend routine screening of average risk patients for renal cell carcinoma. The learning point from our case is that till we have detailed guidelines designed by the major international transplantation societies, it is prudent to screen transplant recipients with periodic ultrasound of the native kidneys (6 months to 1 year) [7] irrespective of the presence or absence of microscopic hematuria. In fact, a Japanese study has shown that in dialysis patients with renal cell carcinoma, the survival rate in the group detected by screening was better than that in the group detected by symptoms [8]. If the ultrasound demonstrates cysts, a computed tomography (CT) scan with contrast or magnetic resonance imaging (MRI) scan

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without gadolinium may be performed at yearly intervals especially in patients with good life expectancy and those with larger lesions to screen for the possible development of malignancy [6, 9]. Urology consultation should be sought for patients with Bosniak class III and IV cysts, to discuss the surgical options including total nephrectomy or nephron-sparing (partial) nephrectomy.

CONCLUSION

Our case of renal cell carcinoma that developed in a renal transplant patient and acquired cystic disease of the native kidneys emphasizes the need for establishment of routine screening protocol in such patients.

Keywords: Acquired cystic renal disease, Renal cell carcinoma, Screening

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Author Contributions

Vikrampal Bhatti – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Ananthaxmi Vangapalli – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

Deepti Bhattacharya – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

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Guarantor

The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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