



EDITORIAL COMMENT

The authors report 27 patients rendered surgically ($N=23$) or functionally ($N=4$) anephric after kidney cancer operations. Sixteen patients had renal cell carcinoma (RCC, histologic subtype not specified) and 9 transitional cell carcinoma. No partial nephrectomies were done in the 7 T1 patients (5 due to severe preexisting chronic kidney disease (CKD) and 2 due to anatomic complexity). Only 4 patients underwent renal transplantation, all T1a RCC (<4 cm) and age less than 70 years, after a median wait time of 21.6 months (7.2-53.3 months), and none developed cancer recurrence. The nontransplant patients did not fare as well with 2 dying from perioperative events, 6 from metastatic disease, and 7 from comorbidities.

Not that long ago the correct board answer for the optimal treatment of bilateral renal tumors was bilateral nephrectomy and eventual transplantation. Over the last 20 years, the fields of renal transplantation, renal tumor biology, and kidney sparing surgery have developed in parallel. Kidney tumors, diverse diseases with distinct molecular defects, have variable prognoses ranging from benign, to indolent, to highly malignant and metastatic.¹ Medical comorbidities (hypertension, diabetes, and cigarette smoking related vascular disease) coupled with the aging process, cause CKD. CKD is highly prevalent in the United States (12%-14%),² but more so in kidney tumor patients (26%),³ and is an independent risk factor for the development of kidney cancer.⁴ The adoption of elective partial nephrectomies and its oncological equivalency to radical nephrectomy for T1 tumors in healthy patients with long life expectancy coupled with active surveillance strategies for elderly and co morbidly ill patients with limited life expectancy, has undoubtedly reduced the number of patients with treatment related end-stage renal disease (ESRD), almost all of whom would never receive a transplant.⁵

NIDDK data from 2013 indicate that there are 661,000 patients in the United States with ESRD, 468,000 on dialysis, 193,000 with a functional kidney transplant, and 17,600 transplants performed yearly. Five-year survival for patients on dialysis is only 34% and 47,000 patients die yearly.⁶ The shortage of donor kidneys leads to long waiting lists. Optimum outcomes are achieved for ESRD patients receiving a kidney in less than 1 year but most transplant teams force kidney cancer patients to wait 2-5 years during which time comorbid cardiovascular disease progression can lead to ineligibility and death. Today,

nephrologists, oncologists, and transplant teams are reformulating transplant guidelines⁶ based on integrated cancer risk tools⁷ recommending low-risk patients (ie, small low-grade tumors, those with limited metastatic potential such as chromophobe or clear cell papillary) be treated the same as noncancer bearing ESRD patients whereas those with poor-risk tumors (distal nephron, sarcomatoid features, IVC extension) would be excluded due to the high risk of metastatic disease in the near term. Other intermediate patients require conference with oncological and transplant teams to decide the appropriate waiting time.

Urologic surgeons contemplating kidney tumor operations that can lead to ESRD must balance both the oncologic and renal medical risks of surgical intervention with the anticipated prognosis based on ESRD. Transplantation, though effective, is not a likely solution for the vast majority of such patients. Liberal use of kidney sparing operations and active surveillance strategies will reduce the number of patients that face the difficult straits the authors described in this paper.

Paul Russo, MD, FACS, Memorial Sloan Kettering Cancer Center, Weill Cornell School of Medicine, New York, NY

References

1. Signoretti S, Flaifel A, Chen YB, et al. Renal cell carcinoma in the era of precision medicine: from molecular pathology to tissue-based biomarkers. *J Clin Oncol* 2018. Oct 29: JCO2018792259. doi:10.1200/JCO.2018.79.2259. [Epub ahead of print].
2. Russo P. End stage and chronic kidney disease: associations with renal cancer. *Front Oncol*. 2012;2:1-7. article 28.
3. Huang WC, Levey AS, Serio A, et al. Chronic kidney disease following nephrectomy for small renal cortical tumors. *Lancet Oncol*. 2006;7:735-740.
4. Lowrance WT, Ordonez J, Udaltsova N, et al. CKD and the risk of incident cancer. *J Am Soc Nephrol*. 2014;10:2327-2334.
5. Finelli A, Ismaila N, Bro B, et al. Management of small renal masses: American Society of Clinical Oncology Clinical Practice Guideline. *J Clin Oncol*. 2017;20:668-680. 35.
6. <https://www.niddk.nih.gov/health-information/health-statistics/kidney-disease>.
7. Nguyen KA, Syed JS, Luciano R, et al. Optimizing waiting duration for renal transplants in the setting of renal malignancy: is 2 years too long to wait? *Nephrol Dial Transpl*. 2017;32:1767-1773.

<https://doi.org/10.1016/j.urology.2018.12.038>
UROLOGY 126: 139, 2019. © 2019 Elsevier Inc.