RESEARCH LETTER

Inpatient Kidney Palliative Care for Kidney Transplant Recipients With Failing Allografts



To the Editor:

Kidney transplantation provides longer survival and better quality of life than dialysis for patients with endstage kidney disease. However, complications and allograft failure are common. The clinical course of patients with allograft failure tends to be complex and variable. Navigating the experience of allograft failure—including decisions regarding dialysis, retransplantation, or conservative management—can therefore be emotionally challenging for both patients and providers.

Kidney palliative care has emerged as an important subspecialty of palliative care and nephrology. Together with nephrologists, kidney palliative care clinicians provide symptom management, psychosocial and spiritual support, and assistance with goal-driven individualized decision making. Although kidney palliative care is growing, patients with kidney failure tend to receive palliative care less frequently than other seriously ill patients, especially after transplantation. The utility of kidney palliative care for patients with allograft failure has not been well delineated.

In January 2019, we created an inpatient kidney palliative care service (KidneyPal) at Brigham Health. KidneyPal resulted from a systematic needs assessment about what kind of additional palliative care support was most needed in our hospital system. It is an interprofessional team consisting of a nurse practitioner, a social worker, and physicians boarded in hospice and palliative medicine who align with nephrology providers and see patients with kidney diseases. Rather than triggerbased criteria, KidneyPal consultation occurs at the discretion of the nephrologist or treating team, which is a standard institutional practice designed for flexibility and relationship building. Before KidneyPal, the general palliative care service provided ad hoc consults; however, no dedicated team was specifically aligned with nephrology.

In this cross-sectional study, we examined the frequency and focus of inpatient palliative care consultation for patients who experienced allograft failure or death with a functioning graft before and after the creation of KidneyPal.

We conducted a retrospective chart review of 2 years before and after KidneyPal implementation (January 1, 2017, to September 30, 2020; Item S1). We included adult patients (aged 18 years or older) who received post–kidney transplant care at Brigham Health and experienced allograft failure, defined as an imminent indication or chronic need for kidney replacement therapy for more than 3 months, or death.

Fifty-four and 59 patients were included before and after KidneyPal implementation, respectively (Table 1, Table S1). For patients who experienced death with a functioning allograft, inpatient palliative consultation frequency was not remarkably different before and after the creation of the KidneyPal service (40% vs 33%). However, for patients with allograft failure, palliative care consultation increased from 5.9% to 24.1% after the creation of KidneyPal. Death in the intensive care unit was common both before and after KidneyPal was created (15% vs 17%); however, death in hospice was more frequent after KidneyPal was created (7% vs 15%). Although all palliative care clinicians addressed code status, symptom management, and psychosocial issues, KidneyPal clinicians held more discussions about treatment options for allograft failure than generalist palliative care clinicians (20% vs 41%). Additionally, after the start of KidneyPal, more patients chose dialysis as a time-limited trial (and ultimately stopped receiving dialysis) or made an active decision for hospice or comfort-focused care in the hospital (3% vs 17%).

To our knowledge, this is one of the first studies examining palliative care provision in patients with a kidney transplant with allograft failure or death with a functioning graft. One of the strengths of our study was that we codified the content of the palliative care intervention in a granular way, including not only mortality and hospice use but also symptom management, care coordination, and palliative care team composition. We also noticed several changes in posttransplant care after the creation of the KidneyPal team. First, we noticed more palliative care consultations at the time of allograft failure. This allowed both clinicians and patients to have more discussion regarding individualized goals of care and treatment options for allograft failure and shifted the decision making. Second, more patients with allograft failure chose either to have a time-limited trial of dialysis, comfort-focused care in the inpatient setting, or discharge to home hospice, after consulting palliative care. We suspect that the subset of patients who chose nondialytic care after graft failure had goals and values that would not have been achieved with dialysis resumption, and the role and expertise of the palliative care team, when partnered with transplant nephrology, led to changes in decisions and, ultimately, care delivered. Our study is observational and has several limitations, including selection bias of patients referred to KidneyPal, who tended to be older with a lower chance of retransplantation.

In conclusion, studies on the care of patients with a failing allograft are limited, and more studies are needed to help meet their complex needs. Discussing the prognosis, goals of care, and treatment options with attention to physical and psychosocial symptoms after graft failure may be enhanced by collaboration with an interprofessional specialty kidney palliative care team.



Table 1. Patient and Palliative Care Outcomes

	Before KidneyPal Implementation, 2017-2018 (n = 54)		After KidneyPal Implementation, 2019-2020 (n = 59)	
	Palliative Consult (n = 10)	No Palliative Consult (n = 44)	Palliative Consult (n = 17)	No Palliative Consult (n = 42)
Patient outcome, n (%)				
Death with functioning graft	8 (80)	12 (27)	10 (59)	20 (48)
Graft failure				
Preemptive retransplant	_	_	_	_
Dialysis intended as bridge	_	12 (27)	_	15 (36)
Dialysis intended as destination	1 (10)	20 (45)	2 (12)	7 (17)
Trial of dialysis followed by discontinuation	1 (10)	_	1 (6)	_
Trial of dialysis followed by continuation	_	_	_	_
Active decision against dialysis alive on CKM	_	_	_	_
Active decision against dialysis death	_	_	4 (24)	_
Death in ICU, n (%)	4 (40)	4 (9)	4 (24)	6 (14)
Hospice, n (%)	3 (30)	1 (2)	8 (47)	1 (2)
Topics in palliative care, n (%)				
Communication/coordination on kidney disease treatment options	2 (20)	NA	7 (41)	NA
Decision making on other treatment (chemotherapy, surgery)	3 (30)	NA	3 (18)	NA
Code status discussions	8 (80)	NA	15 (88)	NA
Symptom management	8 (80)	NA	16 (94)	NA
Spiritual support	5 (50)	NA	6 (35)	NA
Psychosocial support	10 (100)	NA	16 (94)	NA
Palliative care involvement, n (%)				
Interprofessional type				
MD	7 (70)	NA	13 (80)	NA
NP	5 (50)	NA	7 (44)	NA
SW	5 (50)	NA	12 (75)	NA
Chaplain	5 (50)	NA	6 (38)	NA

Abbreviations: CKM, conservative kidney management; ICU, intensive care unit; MD, medical doctor; NA, not applicable; NP, nurse practitioner; SW, social worker.

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SUPPLEMENTARY MATERIAL

Supplementary File (PDF)

Item S1: Supplemental Methods
Table S1: Patient Characteristics

ARTICLE INFORMATION

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REFERENCES

 Awan AA, Niu J, Pan JS, et al. Trends in the causes of death among kidney transplant recipients in the United States (1996-2014). Am J Nephrol. 2018;48(6):472-481.

- Davis S, Mohan S. Managing patients with failing kidney allograft: many questions remain. Clin J Am Soc Nephrol. 2021; doi:10.2215/CJN.14620920
- Mayrdorfer M, Liefeldt L, Wu K, et al. Exploring the complexity of death-censored kidney allograft failure. J Am Soc Nephrol. 2021;32(6):1513-1526.
- Lam DY, Scherer JS, Brown M, Grubbs V, Schell JO. A conceptual framework of palliative care across the continuum of advanced kidney disease. Clin J Am Soc Nephrol. 2019;14(4):635-641.
- Gelfand SL, Jain K, Brewster UC, Leonberg-Yoo AK. Combined nephrology and palliative medicine fellowship training: a breath of fresh AIRE. Am J Kidney Dis. 2022;79:117-119.
- Butler CR, Reese PP, Perkins JD, et al. End-of-life care among US adults with ESKD who were waitlisted or received a kidney transplant, 2005-2014. J Am Soc Nephrol. 2020;31(10):2424-2433.
- Wentlandt K, Weiss A, O'Connor E, Kaya E. Palliative and end of life care in solid organ transplantation. Am J Transplant. 2017;17(12):3008-3019.