

Transition of Care after Allograft Failure

By Itunu Owoyemi

Transplantation remains the best treatment modality for kidney failure. Despite the significant improvement in immunosuppression and reduction in acute rejection rates, allograft failure with return to dialysis is common (1). Infection and cardiovascular disease are the two major causes of mortality after returning to dialysis (2). It is important to carefully optimize immunosuppression management due to the need to balance the risk of infection and mortality with continuation on dialysis versus the chronic inflammatory state and increased sensitization to allograft major histocompatibility complex (MHC) antigens with discontinuation of immunosuppression (3).

The American Society of Transplantation-Kidney Pancreas Community of Practice (AST-KPCOP) established a work group to study Kidney Recipients with Allograft Failure, Transition of Kidney Care (KRAFT). AST-KPCOP conducted a survey among adult transplant providers covering 49% of transplant centers across the United States. The survey was performed to evaluate current practices that highlighted the need to standardize immunosuppression management after graft failure as well as effective transition of care in clinical practice (4). Only 22% of the respondents mentioned that a majority of their patients with failing allografts were relisted for another kidney transplant before starting dialysis. Most of the respondents reported their decision to wean off immunosuppression was most importantly based on the availability of a living donor, followed by risk of infection, risk of sensitization, frailty, and side effects of the medications. The most common approach for tapering immunosuppression was to initially discontinue the antimetabolite (such as mycophenolate mofetil or azathioprine). The survey also showed that 25% of the respondents would use urine volume/residual kidney function as a guide for weaning immunosuppression. Whereas a paucity of data exists for tapering immunosuppression based on urine volume, survival benefit has been demonstrated in recipients who remained on immunosuppression with residual kidney function (5). Most of the respondents referred patients for nephrectomy when there were persistent signs and symptoms of rejection.

The survey highlighted the varying care of the failing transplant and the need to have high value and collaborative care in clinical practices. The KRAFT study group later proposed a comprehensive shared-care model for improved collaboration between transplant providers and general nephrologists to improve clinical outcomes with management of the failing allograft outlined in the *American Journal of Transplantation* (6). ■

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Stable transplant function eGFR > 20 mL/min/1.73 m²



Candidate for re-transplantation	Not a candidate for re-transplantation
<ul style="list-style-type: none"> Close monitoring of levels of immunosuppression and side effects Optimize CKD management including BP control, anemia, proteinuria, and secondary hyperparathyroidism. Routine malignancy surveillance 	<ul style="list-style-type: none"> Establish joint management approach with general nephrologist. Continue close monitoring at transplant center. Close monitoring of levels of immunosuppression and side effects Optimize CKD management including BP control, anemia, proteinuria, and secondary hyperparathyroidism. Routine malignancy surveillance

The authors propose a shared-care model in which there is improved coordination between transplant providers and general nephrologists so that immunosuppression management and preparation for renal replacement therapy and/or repeat transplantation can be conducted with the goal of improved outcomes and decreased morbidity.

Michelle Lubetzky, Ekamol Tantisattamo, Miklos Z Molnar, et al. The failing kidney allograft: A review and recommendations for the care and management of a complex group of patients. *Am J Transplant* Jun 2021. doi: 10.1111/ajt.16717. Visual Graphic by Edgar Lerma, MD, FASN

Failing allograft with declining function



Candidate for re-transplantation	Not a candidate for re-transplantation
<ul style="list-style-type: none"> Refer for relisting when eGFR approaches 20 mL/min/1.73 m². Establish baseline PRA value. Living donor champion Discuss options for decreasing time to transplantation. Referral to general nephrology (for preparation for dialysis) Consider reduction in immunosuppression (to decrease side effects and complications). Maintain calcineurin inhibitor (CNI) trough (in the low therapeutic range). 	<ul style="list-style-type: none"> Establish vascular access. Continue transition of care to general nephrology. Coordinate reduction in immunosuppression over time. Reduction in anti-metabolite by 50% Maintain CNI ± low-dose prednisone. Monitor for graft intolerance syndrome.

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Failed allograft with return to dialysis



Candidate for re-transplantation	Not a candidate for re-transplantation
<ul style="list-style-type: none"> Primary management with general nephrology Monitor CPRA every 3–6 months. Taper off immunosuppression. <ul style="list-style-type: none"> Reduction in anti-metabolite by 50%; maintain CNI ± low-dose prednisone 3 months post-dialysis initiation: Stop anti-metabolite; maintain low-dose CNI ± low-dose prednisone. 6 months post-dialysis initiation: Reduce CNI by 50% ± low-dose prednisone. 9 months: Consider additional reduction in CNI or maintenance of prednisone 5 mg. 12 months: Consider cessation of all immunosuppression if no signs of graft intolerance syndrome and no significant increase in CPRA value. Continue to monitor for sensitization while wait listed and signs of toxicity from immunosuppression. 	<ul style="list-style-type: none"> Primary management with general nephrology Taper off immunosuppression. <ul style="list-style-type: none"> Stop anti-metabolite. Taper CNI and/or low-dose prednisone therapy for 6–12 months in coordination with transplant nephrology. Monitor for graft intolerance syndrome. Monitor patient every 3–6 months until patient is off immunosuppression.

These immunosuppression management strategies represent a general guideline from the consensus committee; however, all changes in immunosuppression and the decision to stop all immunosuppression should be done on an individual basis in consideration of balancing the risks of sensitization and potential complications from prolonged immunosuppression and in coordination with both transplant and general nephrology.

The authors propose a shared-care model in which there is improved coordination between transplant providers and general nephrologists so that immunosuppression management and preparation for renal replacement therapy and/or repeat transplantation can be conducted with the goal of improved outcomes and decreased morbidity.

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