

Time-limited trials of dialysis in the intensive care unit: Are we timing dialysis initiation appropriately?

Abstract

Patients in the intensive care with acute kidney injury (AKI) needing dialysis are acutely ill with poorer prognosis than those who do not have AKI. Initiating RRT can lead to worsened morbidity, extra suffering, and increased health care costs. We discuss the option of time limited trials (TLTs) of dialysis in this setting

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Abbreviations: AKI, acute kidney injury; TLTs, time limited trials; RRT, renal replacement therapy; LVAD, left ventricular assist device

Introduction

Nephrologists are often consulted for renal replacement therapy (RRT) in critically ill patients in whom the overall prognosis is poor and the benefit of RRT (mortality in these scenarios is 50% or higher) is questionable.¹ Initiating RRT can lead to worsened morbidity, extra suffering, and increased health care costs. Time-limited trials (TLTs) in these scenarios offer a potential bridge between conflicted providers or family members.

The “technological imperative” is an imperative of possibility in health care. If it is possible, it has to be done. With the availability of continuous RRT, dialysis can be done more safely, even in critically ill patients. As a consultant in the intensive care unit, the nephrologists often rounds separately, this can lead to fragmented messages delivered to patients and families. Alternatively, the primary team might have already discussed dialysis as a “life-saving” intervention, creating expectations from patients and families. The intensive care unit is a highly stressful environment for families and staff, and fragmented

communication can augment our troubles. Within this environment, the technological imperative and cultures of care can mean that starting a patient on dialysis might be easier than withholding it, even when nephrologists might disagree.²

These scenarios can lead to interprofessional conflict among staff and to clinician unease. Providers’ unexamined emotional responses can lead to burnout, cynicism, frustration, and ultimately, poor patient care.³ Some scenarios described below where TLTs of dialysis can set clear treatment goals for the primary team and the nephrologists.

When the overall prognosis or clinical benefit of RRT is uncertain, TLTs of dialysis must be considered. TLTs are goal-directed trials of RRT limited by predetermined outcomes evaluated at planned intervals. The emphasis must be on clearly defining and documenting the goals of care with an understanding that the intervention must be stopped if goals are not achieved.⁴

There are potential benefits of a TLT of dialysis.⁵ It allows the nephrologists’ to assess the reversibility of acute kidney injury, the response to RRT, and changes in the patient’s overall prognosis. TLTs can allow families to come to terms with the guarded prognosis without a sense of abandonment (Table 1) (Table 2).

Table 1 Examples of potential clinical scenarios in which time-limited trials may be of use

S. no.	Examples of potential clinical scenarios in which time-limited trials may be of use
1	In advanced heart failure with hypervolemia where transplant or LVAD therapies are not available, a TLT could allow assessment of patient response to inotropes and medical management
2	Medical optimization before a potentially life-saving high-risk
3	procedure
4	Relief of dyspnea in a hypervolemic patient being transferred to
5	hospice care
6	Continuing RRT until the arrival of a family member

LVAD, left ventricular assist device; RRT, renal replacement therapy; TLT, time-limited trial

Table 2 Steps in the process of a time-limited trial of dialysis Preparation

S. no.	Steps in the process of a time-limited trial of dialysis preparation
1	Gather information regarding context of overall prognosis, severity, and prognosis of AKI, and discussions with other providers to obtain consensus
2	Identify short- and long-term clinical milestones to assess for progress (or decline)
3	Consider palliative care consult for assistance Communication
4	Explore patient/family values and goals of care
5	Share prognosis with family
6	Discuss the milestones to be achieved with RRT in accordance with a patient's values and goals
7	Share the anticipated timeframe of the trial (this can be variable)
8	Document all discussions and goals clearly After initiating a TLT
9	Meet with family and providers regularly
10	Communicate with providers before and after meetings to maintain a unified message
11	Consider available choices, including hospice, at the predetermined end of the TLT if the patient has not met the goals

AKI, acute kidney injury; RRT, renal replacement therapy; TLT, time-limited trial

The guidelines of the Renal Physicians Association on shared decision-making are a useful tool for nephrologists in these ethical situations. There are guidelines specific to the acute setting as well, with step-by-step details on sharing prognosis, communication tools, and TLTs. One very specific recommendation is to offer RRT in critically ill patients when there is ongoing conflict between medical staff and the patient. Dialysis can be provided while pursuing conflict resolution, provided that the patient or legal agent requests it. Physicians familiar with these tools were more comfortable applying these guidelines clinically than those who were not.⁶

The decision to initiate RRT in a critically ill patient is tough when the overall prognosis is unclear. Nephrologists in practice and training should familiarize themselves with the Renal Physicians Association guidelines to assist with realistic decision-making and communication with patient surrogates. Establishing clear indications for TLTs in dialysis and studies that assess outcomes, including morbidity, can help us be better at predicting prognosis and communicating with families in these scenarios.

Conclusion

Having these conversations with families and explaining the prognosis can help develop a relationship of trust with families.

Information in the Clinical Journal of the American Society of Nephrology ethics series⁵ can help guide us regarding TLTs in dialysis.

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Conflict of interest

Authors declare there is no conflict of interest in publishing the article.

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