

Dialysis: Survival and Palliation

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Introduction

Kidney supportive care is palliative and can extend survival of patients with end-stage kidney disease. Patient-centered care adapts the treatment plan to patient goals and values, life style and community [1]. Conversations with the patients about renal replacement therapy should result in plan of care which gives priority components of medical care important to patients over components which patients feel are less important. Renal replacement therapy may or may not improve quality of life and has a variable influence on the length of life. Patients who present with end-stage renal failure have multiple symptoms which impair quality of life (fatigue, pain, sleep disorders, restless leg syndrome, weight loss, anorexia, dysgeusia and depression) which may not improve with dialysis. Some of the symptoms are shared by comorbid illnesses common in older patients with chronic renal failure such as cancer, heart failure and chronic obstructive lung disease (COPD) [2-11]. Symptoms of these comorbid illnesses will not improve with renal replacement therapy. Symptoms and poor quality of life in renal failure are underreported but prognostically important [12].

Discussions centered on initiation of dialysis should include the palliative benefits or lack of palliative benefits to dialysis and the potential to extend life and how long life might expect to live on average. Thamer and colleagues used the US Renal Data System and Claims data from the Centers for Medicare and Medicaid Services to generate a survival prediction tool for older individuals who were initiated on dialysis. A scoring system based on age, albumin, activities of daily living, comorbid illnesses (cancer, heart failure) and hospitalizations within the last year accurately predicted 3-month mortality [13]. Some of the predictors overlap with the geriatric frailty syndrome as published by Fried et. al. [14]. Individuals who had a shorter survival on dialysis are older, with evidence of systemic inflammation (low albumin), had comorbid illnesses, reduced. Many were probably frail prior to dialysis which would predict reduced appetite, sarcopenia, dysgeusia, increased falls, cognitive impairment and mortality [15, 16]. Another recent study found that a simple frailty scale and comorbidity score could be used to predict survival and better inform the shared decision-making process for patients with advanced kidney disease [17].

Quantity and Quality

The risk of mortality of end-stage renal failure and the life prolonging nature of dialysis may be the deciding factor for patients who value quantity of life over quality. These patients decide to go on dialysis despite a worse outlook relative to healthier individuals. Not all patients with increased risk factors for 3-month mortality die at 3 months. Prediction models do not accurately predict individual survival but population or cohort survival. While some patients are centered on longevity, others may base decisions on quality of life which will influence decisions regarding dialysis more than longevity. Some may have tasks to complete or relationships to mend and dialysis may afford the time to accomplish these life goals regardless of the quality of life. Individuals who value quality to a greater extent than quantity ask whether they will feel better, have improved quality of life, have intolerable adverse effects on dialysis or improved uremic symptoms?

Frailty

Frailty (unintentional weight loss, decreased strength, decreased exercise intolerance, reduced gait speed and fatigue) predicts the lack of benefit to renal replacement therapy in patients over the age of 65. Individuals with end-stage renal failure and frailty have a 2.6-fold increase in mortality and 1.4-fold risk of repeat hospitalizations in depended of age, comorbidities and disabilities [18]. Physical function, social interactions and self-care declines and falls increase further when the frail are initiated on dialysis [19-21]. Both symptom burden increases and quality of life decreases when the frail are started on dialysis. Individuals who are frail and value quality are therefore less likely to choose dialysis with this information in hand.

The development of frailty in a patient on dialysis should trigger open discussions about the goals of care, prognosis and symptom benefits or lack of symptom to ongoing dialysis [1]. Progression of frailty on dialysis suggests that dialysis is not palliative; the option of dialysis withdrawal should be discussed with patients in this situation. For those who elect not to be on dialysis, uremic symptoms can be managed with few medications [Table 1].

Table 1: Pharmacologic and Non-Pharmacologic Management of Uremic Symptoms.

Pain	Transdermal buprenorphine 5mcg/h in opioid naïve
	Gabapentin 50-100mg/d up to 300mg/d
Restless leg syndrome	Gabapentin 50-100mg at night
	Ropinirole 0.25-3mg/day
Sleepdisorder/ insomnia	Sleep hygiene
	Cognitive behavior therapy
	Melatonin 1-6mg 2 hours before sleep
	Gabapentin 50-100mg at bedtime
Pruritus	Doxepin 5-10mg at bedtime
	Peppermint oil emollient
	Moisturizers
	Gamma-linolenic acid 2.2% cream
	Gabapentin 50-100mg/day
Nausea,vomiting	Doxepin 10mg at bedtime
	Metoclopramide 2.5mg q4hour as needed
	Haloperidol 0.5mg q12hours increased to 1mg q8h
	Olanzapine 2.5mg q4-6 hours as needed

Conclusion

The prognostic indicators that Thamer and colleagues used in their prognostic model are similar indicators of the frailty syndrome. Individuals who are frail prior to dialysis do not improve on dialysis and have a predictably poorer survival. Open discussions about the lack of benefits to dialysis for these individuals are important. Uremic symptoms can be managed without the need for renal replacement therapy.

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