What Determines Whether a Patient Initiates Chronic Renal Replacement Therapy?

Michael J. Germain* and Lewis M. Cohen†


Are there some people who should receive renal replacement therapy (RRT) and do not? Are there other people receiving RRT who should never have initiated dialysis or transplantation? These are stimulating questions facing today’s nephrologists, and in this issue of CJASN, Faruque and associates present data from a cohort study that set the scene for other researchers to further explore the issues (1).

The authors retrospectively analyzed a unique database from Alberta, Canada. It includes clinical and laboratory information on almost 4 million residents, 8000 of whom had a sustained estimated GFR (eGFR) <15 and 3600 had a sustained eGFR <10 ml/min per 1.73 mm². This meticulously performed study showed that age, male sex, residence in a remote location, dementia, and metastatic cancer are associated with not receiving RRT. Aboriginal background, diabetes, and heavy proteinuria are associated with increased use of RRT.

Faruque and colleagues acknowledge that the database does not offer specific information on why a patient received or did not receive dialysis. Because the patients are included only if serial serum creatinine values are available, we know they received medical care but not whether they saw a nephrologist. The authors explain that no policies in Alberta health care restrict dialysis services, and it is freely available across the province because of universal health insurance.

We cannot draw firm conclusions from this research as to why some patient groups receive more or less RRT. The circumstances are complex, and the study is a treasure trove for hypothesis generation. But it is fair to assume that the reason patients with metastatic cancer, dementia, or the frailty of advanced age did not begin dialysis was based on appropriate shared decision-making that is supported by national guidelines (2). Likewise, it is known that the eGFR rapidly deteriorates in patients with diabetes and heavy proteinuria, so it would make sense that they are more likely to receive RRT (3).

Far less clear is why some variables continue to influence the likelihood of patients successfully receiving and doing well with dialysis and transplantation. More than three decades ago, Kjellstrand raised concerns about sexism, ageism, and racism in nephrology, and he focused attention specifically on the demographics of transplantation (4). These factors may still play a role because the new data found that compared with participants who died, patients who initiated chronic RRT were younger and were more often male and Aboriginal (other races and ethnic backgrounds were not identified in the data set). These findings leave us open to speculation until another research investigation further examines this question.

The criteria for initiating RRT are controversial (5). The eGFR may not be a reliable marker of clinical uremia or uremic toxins (6,7), and starting RRT at a given eGFR is probably not appropriate (8). The practice of “early” initiation of dialysis has not proven to provide a survival or quality-of-life benefit (9) and in fact may cause harm (10). Many elderly patients have a stable (albeit low) eGFR and will die without uremic symptoms if treated conservatively (11). Survival on RRT for patients >75 years of age with comorbid conditions may not be better than that with conservative management (12)—that is, refraining from starting dialysis and instead focusing on symptom management and the provision of renal palliative care.

Lately, several researchers have begun to write about how dialysis may offer more risks than benefits for frail and elderly patients (13). Few of the patients have discussed with their physician terminal care preferences or prognoses; many who are started on dialysis survive for less than a year, and during that time they report exceedingly poor quality of life (14,15). Patients often reside in a nursing facility, are frequently hospitalized, and undergo multiple invasive procedures with little or no improvement in function (16). Rather that dying at home—the preferred site for most people—they die without hospice services in a medical institution (17).

Recently, there have been advances in our knowledge of prognostic factors for progression of CKD and short-term mortality. A simple prognostic tool has been validated for dialysis patients that relies on five variables: age, a modified nephrologist “surprise” question (“Would you be surprised if your patient, Mr. Brown, died within the next 6 months?”), serum albumin, comorbid peripheral vascular disease, and comorbid dementia (18). The tool is available as a smartphone app and online (19). Currently, studies are underway in Canada and the United States to modify the instrument for use in CKD stages 4 and 5. Research is ongoing to develop additional predictive tools that will facilitate end-of-life communication among staff, patients, and family members.

Interestingly, southern Alberta has a history of developing palliative care services at the grassroots level.
Building on that, the nephrology programs throughout the province have created CKD clinics with multidisciplinary teams that offer palliative care treatments in place of dialysis and that focus on improving patient quality of life and quality of dying. They attend to the common symptoms associated with CKD and work closely with the local community palliative care resources. Faruque and colleagues have refrained from discussing this subgroup of patients because the data set was not constructed to identify them. Nevertheless, the topic is of considerable potential importance for nephrologists in the United States. Table 1 identifies some thoughts about conservative management.

The hope is that this study will stimulate further research to answer some critical questions:

1. Why do patients receive or not receive RRT?
2. Who makes those decisions? (26) Is it the patient, family, clinician? Or is it a true shared decision?
3. What is the effect of age? Research has consistently shown that elderly dialysis patients do not generally make a clear decision to begin dialysis treatment, and they remain unclear as to the reasons that they are on dialysis or the potential benefits of dialysis.
4. Are certain populations disadvantaged in receiving appropriate access to RRT? If so, what are those obstacles?

The answers will allow for improved evidence-based guidelines for the initiation or withholding of RRT.

Disclosures
None.

References

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See related article, “Factors Associated with Initiation of Chronic Renal Replacement Therapy for Patients with Kidney Failure,” on pages 1327–1335.