Kidney Transplants for the Elderly: Hope or Hype?

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Editorial

The number of elderly ESRD patients are on the rise worldwide, and in the United States nearly half of all prevalent ESRD patients are now over 60 years of age (1). Kidney transplantation offers the potential for improved quality and length of life for elderly patients (2–4), and reasonable outcomes have been reported for selected patients in their 70s and even 80s (3,4). However, the proportion of elderly patients on the transplant waiting list and receiving subsequent transplants remains relatively small: Approximately 9% of prevalent ESRD patients 60 or older were on the transplant waiting list in 2008. Of those 65 and older, the number of active candidates on the waiting list has more than doubled from 3695 in 1999 to 8606 in 2008 (1). In parallel, the number of “inactive” candidates (those placed on the waiting list yet not deemed to be current candidates, usually because of comorbidities) aged 65 and older on the waiting list has increased in the same time period approximately ninefold from 507 to 4584. As the number of patients placed on the waiting list has increased, the disparity between the number of transplant candidates and organ supply has inevitably resulted in increased waiting time and death on waiting list. These issues are more pronounced in elderly patients because of their higher mortality rates on dialysis. Some of the major challenges facing transplant programs relate to the evaluation, education, and list maintenance of elderly transplant candidates. Inescapable questions include those as follows: What is the likelihood that elderly ESRD patients would be deemed acceptable for listing for a transplant? How likely is it that they will eventually be transplanted?

In this issue of CJASN, Schaeffner et al. (5) used the U.S. Renal Data System database to study access to transplantation among incident ESRD patients 60 years and older in the United States as defined by the cumulative probability of transplantation (living, standard criteria, and expanded criteria donor [ECD]) according to year of ESRD onset. Using this definition, the authors reported that access to transplantation at 2 years has increased twofold among the elderly from 1995 to 2006. There are likely two major explanations for the increased transplantation rate. First, there was an increase in elderly candidates wait-listed over the course of the study period; second, there was an increase in preemptive transplantation, living donation, and ECD transplantation. On the basis of these observations, the authors concluded that suitable elderly ESRD patients not should be dissuaded from pursuing transplantation. It is important to note that the absolute probability of transplant in the latter part of the study period remained quite small (only 3.4% at 1 year and 7.3% at 3 years for incident ESRD patients from 2003 to 2006) and the cumulative probability of transplant at 10 years is in the low teens. Additionally, the transplant probability numbers were censored for death, thus overestimating the true probability. Given the high annual mortality rate on dialysis for the elderly, it is likely that censoring for death would lead to overinflation of the transplant rates reported in this study. The probability of transplant in this study is very low, but is this indeed a true representation of transplant access for the elderly?

To better interpret this important study, it is critical to precisely define “access to transplantation” and “population at risk.” In Schaeffner’s study, “access to transplantation” was determined by the proportion of incident ESRD patients transplanted over time. By including all incident ESRD patients, the study cohort includes those who are interested and not interested in transplantation as well as those who are medically unsuitable. By including only those on the waiting list, those who were not referred but would otherwise be suitable for transplantation would be excluded, thus overestimating the probability of transplant. The ideal cohort to study access to transplantation would include all of those who desire a transplant.

A previous study by Schold et al. (6) using the Scientific Registry for Transplant Research data showed that even among wait-listed patients over the age of 60 years, including those willing to get a transplant and deemed to be a suitable candidate, the projected proportion of candidates expected to die before receiving a transplant was 56% overall and 35% when those who were temporarily inactive at the time of placement on the waiting list were excluded. The authors concluded that candidates older than 60 years of age are at significant risk for not surviving to receive a deceased donor transplant. However, this does not necessarily imply that pursuing transplant in the elderly is futile, because roughly 50% of those wait-listed will eventually receive a transplant. One of the most important findings in this study is that the chances of receiving a transplant varied greatly, in part because of recipient factors includ-
ing blood type, the presence of diabetes, high levels of preformed antibodies, and geographic location. Remarkably, the proportion of wait-listed patients expected to die before receiving a deceased donor transplant was approximately 80% in those listed in the United Network for Organ Sharing (UNOS) region 5 (including Arizona, California, Nevada, New Mexico, and Utah) compared with less than 10% among those listed in UNOS region 6 (Alaska, Hawaii, Idaho, Montana, Oregon, and Washington). One of the main limitations of this study is that subjects were censored in the events of living donor transplantation, delisting, and death. Censoring for living donor transplant would underestimate the likelihood that a candidate on the wait list is transplanted, thus overinflating the death rate on the waiting list. On the other hand, censoring for delisting would lead to an underestimate of death on the wait list. How the true death rate on the waiting list was affected by these censoring events is unclear.

Regardless of how we define access to transplantation, the most important question to answer for elderly patients is whether or not they have a realistic chance of obtaining a transplant. There is no one-size-fits-all answer to this question (7–9). It is apparent that the transplant rate has increased among the incident elderly ESRD population in recent years, as has the overall number of transplants performed in the elderly in the United States. We also must be cognizant that the annual mortality rate on dialysis greatly exceeds the transplant rates reported by Schaeffner et al. (5). We need to understand and address the barriers to access to transplant. These may include (1) failure of adequate renal replacement therapy counseling, (2) medical and psychosocial unsuitability, (3) failure to complete the transplant workup, and (4) referral and listing criteria among nephrologists and transplant centers. These issues are more pronounced in elderly candidates. Although it may seem as if the glass is more half empty than full, the transplantation rate among elderly incident ESRD patients has increased in recent years, although it remains quite low. Given the increase in preemptive transplantation, an opportunity exists to promote earlier consideration of transplantation by early referral to transplant centers as well as increased emphasis on living donor transplantation in the elderly.

The elderly are often reluctant to turn to younger family members as potential donors, although over the last decade there has been a fourfold increase in the percentage of living donor transplants to recipients aged 65 and older (1). In 2009, 12% of all living donor transplantations, nearly 800 in all, were performed in recipients in this age group (1). Elderly patients should be counseled regarding the ECD transplant option and must consider the relative benefit of a prolonged wait for a transplant compared with receiving a kidney for which the characteristics may be less than ideal (9). Clearly, practitioners should consider in a careful and compassionate manner whether transplantation is a realistic option for each elderly ESRD candidate. Considering the relatively predictable nature of the UNOS kidney allocation algorithm, each transplant program must carefully consider the most cost-effective and clinically rational manner in which their elderly candidates are evaluated and managed while on the waiting list. Every effort must be made by the transplant program, dialysis staff, nephrologists, and the patients themselves to invest in health maintenance so as to limit mortality and maximize the benefit of the transplant when the patients’ long wait for a transplant comes, at last, to an end.

Disclosures

None.

References
