Commentary

Rationing renal replacement therapy to older patients—agreed guidelines are needed

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It has been predicted that the requirement for renal replacement therapy in the U.K. will increase by 50–100% within 15 years.¹ This therapy is an expensive resource² and unlimited access to treatment will prove difficult to fund. The number of persons aged >65 years is increasing in all developed countries, and this trend is projected to continue into the future.³ There is a steep rise in the incidence of end-stage renal failure with age,⁴,⁵ and much of the aforementioned rise in the requirement for renal replacement therapy relates to these demographic changes. Increased acceptance of older patients for replacement therapy in the UK is evidenced by a rise in the proportion of older persons (>65 years) from 11% to 41% between 1982 and 1995.⁶

Nonetheless, a huge disparity in overall acceptance rates persists between the UK, Canada and the US. In England and Wales, the annual acceptance rates rose from 67 per million population (pmp) in 1982 to 82 in 1995.⁶ This compares poorly with 98 and 212 pmp in Canada⁷ and the US,⁸ respectively. Some (but not all) of this disparity is explained by a higher true incidence of end-stage renal disease in the US and Canada.⁷,⁸ Whether optimal access to renal replacement therapy is available to older patients in any of these jurisdictions is unclear. It could be that such therapy is excessively or inappropriately available to older patients in the US, without consideration of the likelihood of health or social gain to the individual patient. Alternatively, are older patients with renal failure being denied access to worthwhile treatment in the UK solely on the basis of their chronological age?

A recent survey of the criteria of nephrologists in the UK, Canada and the US for accepting patients for dialysis is somewhat revealing in this regard.⁹ American nephrologists indicated that they would offer dialysis more often to cases with comorbid conditions such as dementia or complicated diabetes mellitus than their colleagues elsewhere. When asked to rank the factors which influenced the above decisions, US nephrologists identified fear of lawsuit and patient/family wishes significantly higher than their counterparts. Meanwhile, 10 and 12% of British and Canadian nephrologists, respectively, (versus 2% of Americans) prioritized lack of resources as a reason for withholding treatment. They cited adequate quality of life as a reason for offering dialysis (and poor quality of life for withholding treatment) significantly more often than US nephrologists. Despite these notable differences, the striking finding of this study was the fact that the mean ranking of seven of the nine factors proposed to decide which patient should receive dialysis was identical for all three groups. On the basis of these findings, differences in patient selection criteria used by nephrologists do not adequately explain the huge discrepancy in acceptance rates between the three regions.

Could there be a reluctance on the part of non-specialists to refer appropriate patients for replacement therapy to nephrologists? Indeed, some evidence of under-referral of such patients in both Canada¹⁰ and Britain¹¹ exists. However, some of the recent increases in acceptance rates in the UK⁶ have been attributed to lowering of the threshold for referral to nephrologists. A change in attitude has become apparent in this regard during the past decade.¹²,¹³

The potential benefits of intervening with renal replacement therapy in older patients have been studied. The outcomes of patients over 75 years old accepted onto a dialysis programme by Williams and Antao were impressive.¹⁴ Survivors demonstrated apparently well-preserved quality of life, and only 33% died during a 3-year treatment period. Renal transplantation has also been proven to be beneficial.
in older patients. Hirschl and colleagues have examined the impact of renal transplantation on the survival rates of type II diabetics aged 58–80 (median 61 years). The intervention greatly increased their probability of survival compared to that of a group of similar age treated by haemodialysis (0.58 versus 0.02). Meanwhile, an actual reduction in graft losses due to rejection in older patients (>60 years) has been demonstrated when compared with a younger group following renal transplantation. No difference in graft survival rates was noted between the two groups in the study. Moreover, there is evidence that survival rates of ‘healthy’ older (>75 years) dialysis patients compare favourably with that of younger (<40 years) counterparts. The mean survival rates were 16% and 10% of age-matched life expectancy, respectively.

While the nephrologists who were surveyed by McKenzie and colleagues indicated that age per se was relatively insignificant in terms of their decisions to commence dialysis on their patients, the apparent life expectancy of a given patient was identified as a particularly important determinant of who received such treatment. Since older subjects have, by definition, a tendency towards poorer life expectancy than younger ones, these responses may betray an inherent degree of ageism in the practitioners involved, although this may be a subconscious bias. Previous research in relation to other aspects of patient care suggests that treatment decisions may be made on the basis of a patient’s age, irrespective of the medical appropriateness of an intervention or patients’ preferences.

A recently published study provides the clearest indication that, while age per se is a predictor of survival and morbidity after commencement of dialysis, it is not as important in this regard as the presence of (and severity of) comorbid conditions. The functional status of the patient 3 months prior to presentation and at presentation (and the difference between the two) was also shown to be a very useful predictor of morbidity and mortality in the same study. Thus the use of age alone as a proxy for a negative outcome from renal replacement therapy would be unlikely to select those patients who would most benefit from such treatment.

Nonetheless, a recently published American study by Hamel and colleagues provides evidence that the chances of a given patient receiving dialysis decreases with increasing age, even after adjustment for conditions such as dementia and/or dependency in performing activities of daily living. This prospective cohort study based in five university teaching hospitals demonstrated that the rate of decisions to withhold dialysis to patients increased by 12% per decade of age. The reduction was even more marked in relation to ventilator support (15%) and surgery (19%) (Figure 1). The fact that physicians often underestimate the preferences of older patients for life-sustaining interventions was also highlighted in the study. It should be noted that even when adjustment was made for such underestimations, the age-related increase in withholding of life-extending care persisted.

In their 1993 review, Piccoli and colleagues suggested that increased use of renal replacement therapy may result in a rise in the incidence of cachexia-related deaths. This emphasizes the requirement for careful selection of patients for such long-term treatment. However, Williams and Antao highlighted the fact that responses to acute dialysis by older patients are very unpredictable. Ponticelli supports this view, and it may be that acute dialysis should be accessible to most older patients, with the decision to commence long-term renal replacement therapy dependent on the perceived outcome of acute treatment. In this context, the findings of Hamel et al. which are outlined above are a source of some concern, especially when age alone appears to be a poor predictor of benefit from dialysis.

In summary, the anticipated demographic changes in Western societies will lead to an increase in the requirement for expensive renal replacement therapy. Access to such therapy appears to be limited, particularly in the UK, for reasons which remain somewhat unclear. Under-referral of appropriate cases and a (perhaps subconscious) reluctance to offer treatments to older patients may be significant factors. There is a clear requirement for internationally agreed guidelines so that those older patients who may benefit from renal replacement therapy have the opportunity

![Figure 1. Relation between patient age and the adjusted probability of a decision to withhold each life-sustaining treatment by study day 30 (from Hamel et al., Ann Intern Med 1999; 130:116–25). Reprinted by kind permission of Annals of Internal Medicine.](image-url)
of appropriate access to same. Recent evidence of similar selection criteria for treatment among nephrologists in different countries suggests that such guidelines may be possible soon.

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