FROM THE EDITOR

Strengthening the Case for Professional Assistance to Support a Choice of Dialysis Location in Older Dialysis Patients

In Western countries the renal replacement population predominantly comprises older people who have multiple comorbidities. It is common for patients who are more dependent and older to receive in-center hemodialysis (HD). Transportation to attend HD centers adds significantly to patient treatment times and is disruptive—whereas remaining in the comfort of their own homes to receive treatment has clear attractions. Assisted peritoneal dialysis (aPD) plays an important role in this group of patients by providing an alternative to in-center HD (1).

In France, as a consequence of regulations governing the provision of dialysis modalities, patients are offered a choice between 9 modalities characterized by technique, the extent of professional assistance, and treatment location, with nurse-assisted PD being fully covered by public health-care insurance. A study in this issue of *Peritoneal Dialysis International* (Couchoud and colleagues) utilizes 2012 data from the Epidemiology and Information Network Registry (REIN) to explore dialysis modalities in France and the patient characteristics associated with them. All adults (older than 18 years) starting PD in France between 1 January 2003 and 31 December 2010 were included, providing an analysis of 37,421 patients, of whom 94% were on HD. The cost attributed to each of the modalities is reported in the paper as ranging between 1,002 Euros per week for fully assisted in-center HD to 537 Euros per week for non-assisted continuous ambulatory peritoneal dialysis (CAPD), with the other modalities coming in between.

The demographic of the utilization of the 9 modalities of dialysis is notable—the prevalence of PD is low in comparison with many other countries at 6.3%, half of which includes assistance, with assisted CAPD being 4 times as common as assisted automated PD (APD). The prevalence of home HD is 0.6% and of self-care in a satellite HD facility 1.1%. Thus 95% of the dialysis population receive some form of assistance in their treatment but only 3% receive this assistance at home. Perhaps counterintuitively, assisted CAPD is more commonly used than assisted APD, which is the reverse of the situation in Denmark and the UK.

The paper explored the regional variation in case mix and dialysis usage, noting that aPD was mainly used in north-eastern, and self-care HD in southwestern France. Surprising trends included a greater likelihood for women to receive

assisted therapy than men. The data-set included information on mobility status as well as comorbidity and confirmed that more severely ill and dependent patients were most commonly treated with in-center HD or aPD with a continuum between autonomous and supervised therapies that was related to levels of dependence, comorbidity and age. However, there were exceptions: the comorbidity of home HD patients was slightly higher than that of non-assisted HD patients in self-care centers; having considered other factors, hepatitis C-positive patients were more likely to receive HD at home than in self-care facilities; assisted PD patients were more likely than other groups to have a diagnosis of congestive cardiac failure. Non-medical factors probably accounted for some of the regional variation, including travel time to dialysis units. Overall, the authors confirmed an association between case mix and modality selection but, given the large inter-regional variations and underuse of home therapies, suggested that there was the potential for more effective healthcare utilization.

Important to this consideration is the impact of the dialysis therapy itself on the experience of older and more dependent patients. A recent study from the UK compared older assisted APD patients to in-center HD patients who required hospital transport, matched by age, sex, diabetes, dialysis vintage, ethnicity, and index of deprivation (2). A range of instruments were utilized to measure quality of life, physical function, frailty, and cognitive ability. Although no differences were demonstrated in quality of life or physical functioning between the 2 groups of patients, treatment satisfaction was higher in people who received aPD at home.

The most serious complication that dialysis patients are at risk of is infection. The interaction between age and peritoneal infection is multifaceted—impacted by comorbidity, frailty, and cognitive impairment (CI) (3). Studies are divided as to whether older age is itself a risk factor for peritonitis. A retrospective study using data from the French Peritoneal Dialysis Registry (RDPLF) published in this issue of *Peritoneal Dialysis International*, explores the relationship between older age and peritonitis (Béchéde *et al.*). The authors examined 8,396 patients of whom 3,173 were older than 75 years of age. Diabetes and the use of CAPD rather than APD conferred increased risk—but age greater than 75 did not, in line with previous reports from this group (4). The 2-year actuarial survival free of peritonitis was 62% in the older and 59% in the younger group (not significantly different). Importantly, nurse-assisted PD was associated with a lower risk of infection, hazard ratio 0.85 (0.78 – 0.94). This observation is further underlined by the possibility that the consequences of infection are more serious for older patients.

Does CI increase the risk of peritonitis? A group from Hong Kong utilizing Montreal Cognitive Assessment in a cohort of 114 incident PD patients (Shea *et al.*, this issue) found, worryingly, that CI was present in 54% of those aged 65 or older and in 13% of those under 65. Although, in contrast to the much larger French study reported above, older age was found to be a risk factor for peritonitis, CI was not a risk factor in self-care patients once adjustment had been made for age. Clearly, the relationship between the nursing staff, the patient, and their family, as well as the extent of training support, is central to the assessment of peritonitis risk. Peritoneal dialysis nursing teams are experienced in adjusting their level of support to take account of incipient patient changes, both physical and mental. This may provide an explanation as to why CI did not have an impact on peritonitis rates as part of a well-supported service and makes this question extremely difficult to study.

The data from France demonstrate that although there are wide regional variations in uptake of aPD, it is utilized in a population that is older and has a significant burden of comorbidity. Added to this is the possibility that utilization of nurse assistance may help to reduce the risk of peritonitis in elderly PD patients. When evidence of better treatment satisfaction compared with traveling for in-center dialysis is considered

alongside the possibility of lower treatment costs (1), there is a clear case that, where possible, older, more highly comorbid people should be offered a genuine choice of whether to have their treatment at home. In support of this goal, an argument is building for greater access to professional dialysis assistance in the community.

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