FROM THE EDITORS

Integrated Dialysis Care—By Chance or Design?

In this issue of *Peritoneal Dialysis International*, a study from the Canadian Organ Replacement Register conducted between 2001 and 2010 compares technique failure and mortality among the 9,404 who started peritoneal dialysis (PD) as first-line therapy with 3,757 patients who had experienced up to 1 year of hemodialysis (HD) prior to PD treatment (1). There were, of course, many differences between the 2 populations. Eighty-eight percent of patients who started with HD used a catheter; this group were more likely to be late presenters (46 vs 14% in the PD start group), were more highly co-morbid, and were less likely to have polycystic kidney disease as their primary disease. After multivariate adjustment, technique failure was 37% higher among those who had switched to PD from HD than those who had started directly on PD, with peritonitis and inadequate PD being the most common causes. Mortality was also higher in those who transferred from HD to PD than in those who started PD directly, particularly in the first year following the switch. The authors acknowledge that their finding is not novel, but it is important. Differences between the patient groups make it difficult to infer that the modality itself is directly responsible for this adverse outcome. It is likely that many of the switch patients experienced suboptimal dialysis initiation, itself a marker for poorer outcome (2). Most registry studies suggest better survival in the first 2 to 3 years for patients starting PD than HD, both among planned and unplanned starts (3), supporting the increased interest in urgent-start PD (4).

Peritonitis is the most common reason for PD technique failure. But if the infection is successfully treated, what is its impact on the peritoneal membrane? The standard permeability analysis (SPA) is performed to evaluate the peritoneal membrane, measuring small-solute and water movement across the peritoneal membrane, as well as the clearance of a range of proteins. A study from the Amsterdam group (5) reviewed data over 20 years and identified 92 patients who had the SPA test performed within a year before and a year after their first episode of peritonitis. These were compared with SPA results from 45 patients who did not experience peritonitis. Patients who experienced peritonitis remained relatively faster transporters compared with those who did not, as evidenced by a difference in the slope between the data points of the mass transfer coefficients for creatinine. Given the retrospective nature of this study, there were considerable missing data, either because the SPA was not performed, or because the patient transferred to HD, died, or was transplanted. However, these data strengthen the argument for the importance of

peritonitis prevention to protect the peritoneal membrane.

One of the reasons that patients choose PD is the autonomy that it offers. What is the outcome of PD patients who are able to move to home HD once their primary modality is no longer effective? This is the subject of a retrospective cohort study, again from Canada (6). Between 1996 and 2011, 207 patients started home HD (HHD) at their center, 17% of whom had prior exposure to PD. While the study was limited by its small size, prior PD did not appear to impact on technique or patient survival when compared with those who had no previous PD exposure. This is remarkable since dialysis vintage and co-morbidity were higher in the group with prior PD exposure. Although the patients who came to HHD through the PD route had a median of 3.0 years on PD, their renal replacement therapy (RRT) vintage was much longer (median 12.3 years) and included periods of transplantation and in-center HD. This compared with a RRT vintage of 0.9 years in those who went directly to HHD. In a sense, this study really compared people who started HHD directly with those who came to it later, rather than specifically providing information about the impact of HHD following PD. However, the clear message is that HHD can provide an excellent modality for patients later in the clinical course of their RRT, and it should certainly be considered for patients in whom PD is failing. The absolute challenge to clinicians managing patients on PD is to anticipate technique failure and to involve such patients in planning discussions. To paraphrase Benjamin Franklin, “if you fail to plan, you are planning to fail.”

Martin Wilkie
Editor-in-Chief

REFERENCES

1. Nessim SJ, Bargman JM, Jassal SV, Oliver MJ, Na Y, Perl J. The impact of transfer from hemodialysis on peritoneal dialysis technique survival. *Perit Dial Int* 2015; 35(2):297–305.
2. Mendelssohn DC, Curtis B, Yeates K, Langlois S, MacRae JM, Semeniuk LM, et al. Suboptimal initiation of dialysis with and without early referral to a nephrologist. *Nephrol Dial Transplant* 2011; 26(9):2959–65.
3. Heaf JG, Wehberg S. Relative survival of peritoneal dialysis and haemodialysis patients: effect of cohort and mode of dialysis initiation. *PLoS One* 2014; 9(3):e90119.
4. Ghaffari A, Kumar V, Guest S. Infrastructure requirements for an urgent-start peritoneal dialysis program. *Perit Dial Int* 2013; 33(6):611–7.
5. van Diepen ATN, van Esch S, Struijk DG, Krediet RT. The first peritonitis episode alters the natural course of peritoneal membrane characteristics in peritoneal dialysis patients. *Perit Dial Int* 2015; 35(2):324–332.
6. Nadeau-Fredette A-C, Bargman JM, Chan CT. Clinical outcome of home hemodialysis in patients with previous peritoneal dialysis exposure: evaluation of the integrated home dialysis model. *Perit Dial Int* 2015; 35(2):316–323.

doi: 10.3747/pdi.2015.00073