How Do We Improve the Quality of Life of Haemodialysis Patients? Now That's a Good Question

Hugh C. Rayner

Consultant Nephrologist, Department of Renal Medicine, Heart of England NHS Foundation Trust, Birmingham Heartlands Hospital, Birmingham, UK

Wise clinicians know the value of asking the right questions. A good one to ask haemodialysis (HD) patients is: “how long does it take for you to recover from a dialysis session?” Dr. Robert Lindsay and others demonstrated the remarkable power of this question in a study of 45 Canadian patients taking part in a frequent HD trial [1]. Subsequent data from the much larger DOPPS confirmed their finding that patient-reported recovery time correlates strongly with quality of life (QOL) scores from validated questionnaires. The DOPPS went on to show that it is also predictive of mortality, patients reporting a recovery time greater than 12 h having a 22% higher rate of hospitalization and a 47% higher mortality rate than patients needing between 2 and 6 h to recover.

The recovery time question is valuable because of its simplicity. In a routine consultation, patients can much more easily report their symptoms after dialysis than complete a QOL questionnaire. It is also highly relevant to patients' lives and may trigger a more detailed conversation about the impact that HD has on patients and their families.

Prolonged recovery time is common; 27% of patients in the DOPPS reported taking more than 6 h to recover. Reporting their experience of recording recovery time in 2,689 patients from 46 dialysis facilities in 3 US states in

this issue of the AJN, Hussein et al. [2] found that 20% of patients took more than 12 h to recover.

Our understanding of the pathophysiology of recovery after dialysis is poor. Patients describe feeling fatigued and tired rather than dizzy or faint and wish to rest or sleep, suggesting that the symptoms originate predominantly in the brain. The dialysis disequilibrium syndrome, with seizures and coma, is now rare but was a serious problem when treatment times were reduced from 8 h to 4 h or less in the 1970s. To counteract this syndrome, dialysate sodium concentration was increased [3]. The finding in the DOPPS that a dialysate sodium concentration of 140 mEq/L is associated with shorter recovery times suggests that cerebral disequilibrium plays a role.

Some patients exhibit a measurable decline in cognitive function during an HD session, which takes time to recover [4]. This effect is only weakly associated with treatment-related factors [5]. It would be interesting to study whether change in cognitive function is correlated with recovery time, as this would further validate its use as an outcome measure in future investigations.

In their study, Hussein et al. [2] showed an association between a fast ultrafiltration (UF) rate and longer recovery time. This finding is consistent with symptoms becoming worse after HD treatments that cause more severe

disequilibrium. Interestingly, the association with UF differs from that found in the DOPPS in which, surprisingly, the fastest UF rate was associated with a shorter recovery time. According to the new study, the difference in results may be explained by the generally shorter treatment times employed in the US population. If patients who have severe post-dialysis symptoms increase their treatment time and so reduce their UF rate, this treatment bias would explain the paradoxical finding in the DOPPS.

What can be done to help patients with a long recovery time? The associations revealed by observational studies do not imply causation and there is a need for intervention studies that use recovery time as an outcome measure to inform practice. However, in the meantime, attention should be given to reducing the severity of dialysis disequilibrium. Increasing the frequency of HD to between 5 and 7 times per week has been shown to reduce the total weekly reported recovery time to near zero, as well as to increase QOL and reduce depression [6]. However, this may not be practical or desirable to the patient.

Scheduling dialysis to the evening may allow recovery to take place during the night while the patient is asleep. This may be a reason to move dialysis from the centre to the patient's home.

Prolonged recovery symptoms may make life on HD intolerable because of the little time left in the week when the patient feels well. This should prompt a discussion about changing to peritoneal dialysis (PD), which may need to be automated PD with assistance if the patient is frail. Alternatively, the stage may be reached when a wider discussion about the end of life is needed. If HD treatment has become a cause of more symptoms than it relieves, particularly worsening cognitive impairment or dementia, withdrawal from dialysis may be the most appropriate option.

Disclosure Statement

The author has no conflicts of interest to declare.

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