Better Outcomes with HHD versus Peritoneal Dialysis

In comparison with peritoneal dialysis, patients using daily home hemodialysis (HHD) have lower mortality, fewer hospitalizations, and a lower rate of technique failure, reports a study in the American Journal of Kidney Diseases.

Using the US Renal Data System database, the researchers identified matched groups of 4201 patients starting HHD and PD from 2007 through 2010. In both groups, the average mean time from the onset of ESRD to the start of home dialysis therapy was about 44 months.

Throughout follow-up, mortality was significantly lower for patients using daily HHD than for those using PD: hazard ratio (HR) 0.80. Daily HHD was also associated with lower rates of hospitalization: HR 0.92; and technique failure, HR 0.63.

On a subset analysis of 1368 patients starting home dialysis within 6 months of ESRD onset, there was no overall difference in mortality between HHD and PD. The overall hospitalization rate was similar as well: HHD patients were at lower risk of hospitalization for cardiovascular disease and dialysis access infection, whereas PD patients were less likely to be hospitalized for bloodstream infection. The HHD group remained at lower risk of technique failure: HR 0.70.

As more patients in the US begin to use daily HHD, there are few direct comparisons of important clinical outcomes compared with PD. This matched cohort study found lower overall rates of mortality, hospitalization, and technique failure with HHD versus PD. More research is needed to clarify the interaction between home dialysis modality and duration of ESRD [Weinhandl ED, et al. Mortality, hospitalization, and technique failure in daily home hemodialysis and matched peritoneal dialysis patients: a matched cohort study. Am J Kidney Dis. 2015 Aug 26. DOI: [http://dx.doi.org/10.1053/j.ajkd.2015.07.014].

Good Outcomes with SLED in Critically Ill Patients with AKI

Sustained low-efficiency dialysis (SLED) is an “acceptable alternative” for the treatment of critically ill patients with acute kidney injury (AKI), concludes a study in BMC Nephrology.

The retrospective study included patients with AKI treated at four intensive care units at a Canadian academic medical center between 2007 and 2012. Seventy-four patients were treated with SLED, with a target of 8-hour dialysis sessions at a blood flow rate of 200 mL/min, generally without anticoagulation. The 30-day mortality and other outcomes were compared with those of 158 AKI patients beginning continuous renal replacement therapy.

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Finerenone Reduces Albuminuria in Diabetic Nephropathy

Finerenone, a new nonsteroidal mineralocorticoid receptor antagonist, can improve albuminuria in patients with diabetic kidney disease, reports a trial in the Journal of the American Medical Association.

The randomized controlled trial included 823 patients with type 2 diabetes; persistent albuminuria, urinary albumin–creatinine ratio (ACR) 30 mg/g or higher; and current treatment with a renin-angiotensin receptor antagonist, can improve albuminuria in patients with chronic kidney disease, but with a high risk of adverse events. A previous trial found that finerenone decreased albuminuria in patients with CKD and heart failure, with a lower rate of hyperkalemia in comparison with spironolactone.

This placebo-controlled trial shows a reduction in urinary ACR in patients with diabetic nephropathy assigned to finerenone, added to a RAS blocker. Further trials of finerenone are needed, including comparison with other active treatments [Bakris GL, et al. Effect of finerenone on albuminuria in patients with diabetic nephropathy. JAMA 2015; 314:884–894].

Excess Mortality from Type 2 Diabetes: Rates and Risk Factors

Interactions among age, glycemic control, and kidney disease have a major influence on risk of death for patients with type 2 diabetes, according to a study in The New England Journal of Medicine.

The researchers matched 435,369 patients with type 2 diabetes, drawn from the Swedish National Diabetes Register, to 2.1 million population controls without diabetes. Excess mortality associated with type 2 diabetes was analyzed, including the role of glycemic control and renal complications.

At a mean follow-up of nearly five years in both groups, mortality was 17.7 percent in patients with type 2 diabetes versus 14.5 percent in controls. Excess mortality from type 2 diabetes was “historically low”: the adjusted hazard ratio (HR) for all-cause mortality was 1.15. Cardiovascular mortality was 7.9 versus 6.1 percent, respectively: HR 1.14.

For both all-cause and cardiovascular mortality, risk increased with younger age, worse glycemic control, and more severe kidney complications. For diabetic patients under 55 with a glycated hemoglobin level of 6.9 percent or less, the HR for death was 1.92, compared to controls. For patients aged 55 or older, the HR for all-cause mortality was 1.47 compared to controls.

For patients younger than 55 with normal albuminuria and a glycated hemoglobin level of 6.9 percent or less, the HR for death was 1.68 compared to controls. For patients aged 55 or older, the HR 0.87 for those aged 65 to 74.

As more patients in the US begin to use daily HHD, there are few direct comparisons of important clinical outcomes compared with PD. This matched cohort study found lower overall rates of mortality, hospitalization, and technique failure with HHD versus PD. More research is needed to clarify the interaction between home dialysis modality and duration of ESRD [Weinhandl ED, et al. Mortality, hospitalization, and technique failure in daily home hemodialysis and matched peritoneal dialysis patients: a matched cohort study. Am J Kidney Dis. 2015 Aug 26. DOI: [http://dx.doi.org/10.1053/j.ajkd.2015.07.014].