

Results in a large short daily home hemodialysis program

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We present results on 36 patients established on maintenance short daily home hemodialysis for 0.9 - 40.2 months (mean 14.0 months), providing a total of 506 patient months of experience.

Methods and Results: There were 24 males and 12 females, with a median age of 55 years (range 26 – 84 years). 27 patients were on NxStage System One (NxStage, Lawrence, MA), 5 patients were on the Aksys Personal Hemodialysis machine (PHD, Aksys, Lincolnville, IL), and 3 patients were on the Fresenius 2008K@HOME machine (Fresenius USA, Walnut Creek, CA); 1 patient changed from Aksys PHD to NxStage System One. All patients transferred from either conventional in-center HD or from PD (1 patient). Patients dialyzed for 90 - 300 minutes (mean 180 minutes). All patients initially dialyzed 6 days per week; 7 patients on NxStage converted to 5 days per week after variable periods. The vascular access was an AV fistula in 23 patients, AV graft in 8, central venous catheter in 4, and LifeSite in 1. All patients with AV fistulas used the buttonhole technique with blunt needles (Medisystems, Seattle, WA).

Laboratory indices, including serum albumin and serum phosphate, did not change significantly. The need for antihypertensive therapy was greatly reduced: the mean number of antihypertensive medications per patient fell from 2.1 to 1.0 ($p = 0.0001$ by paired t test) while the mean number of antihypertensive pills per patient per day fell from 2.9 to 1.3 ($p = 0.0007$). Erythropoietin and phosphate binder requirements did not change.

All patients reported greatly improved energy and quality of life, and notably lost their symptoms of post-dialysis “washout”. No patient has chosen to return to center hemodialysis.

There were 5 deaths: 1 myocardial infarction and 2 sudden cardiac deaths (including 1 patient with NYHA Stage 4 heart failure), 1 multiple myeloma, and 1 patient with terminal liver failure.

Conclusions: Patients established on short daily home hemodialysis have an excellent quality of life and a clear preference over conventional center hemodialysis.

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