**Deborah L. Zimmerman, MD**


**Background:** Daily hemodialysis and conventional hemofiltration have been associated with improved cardiovascular stability and quality of life. At the time of our study, no information was available about the potential benefits of daily hemofiltration in the chronic care setting. For this reason we undertook a pilot study comparing conventional hemodialysis to daily post-dilution hemofiltration using the NxStage™ simplified delivery system. **Methods:** Each of 7 patients completed one-week of conventional hemodialysis according to his/her previous prescription. The therapy of these patients was then switched to daily hemofiltration with enough of a lactate-based replacement solution to achieve a single session Kt/V of 0.40 (standard Kt/V of 2.0). During the one-week of hemodialysis and the one-month of hemofiltration, pre-treatment blood pressure, quality of life, nutrition and laboratory parameters were monitored. **Results:** Treatment time on hemodialysis was 232 minutes, 3 days per week, with a single-pool Kt/V of 1.69 (standard Kt/V 2.38) compared to 132 minutes, 6 days per week on hemofiltration, with a single-pool Kt/V of 0.44 (standard Kt/V 1.93). Despite the weekly differences in urea clearance, parameters of potassium, calcium, phosphate and nutrition all remained stable. Blood B2-microglobulin levels tended to decline and the quality of life to improve with daily hemofiltration compared to conventional hemodialysis. Blood pressure improved significantly, allowing the number of antihypertensive medications to be reduced. **Summary:** These preliminary data suggest that daily hemofiltration is safe, feasible and associated with improvements in blood pressure and quality of life. The system may be ideal as a home-based therapy.

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**Comments by Orly Kohn MD, FACP, University of Chicago**

Dr. Zimmerman and her colleagues employed a simple method of “daily” (6 days per week) hemofiltration using a lactate-based replacement fluid prepackaged in plastic bags. The positive results after one month of hemofiltration included a better control of blood pressure and an improved quality of life. Although urea kinetics indicated somewhat inferior results with daily hemofiltration as compared to conventional hemodialysis, all other critical parameters examined remained either stable (serum levels of potassium and phosphorus) or improved (B2-microglobulin). With further progress in methodology, this approach may have a significant role to play in home-based renal replacement therapies.

**References:**