

Rapid Training, High Long-Term Retention, and Good Clinical Outcomes in a European Cohort of Home Hemodialysis Patients Using the NxStage System One

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Background

- Home hemodialysis facilitates more flexible and frequent treatment, which may improve clinical outcomes and quality of life.
- Home hemodialysis is an “old” modality, but its utilization declined beginning in the early 1980’s, due to increased availability of facility-based hemodialysis, growth of automated peritoneal dialysis, and success in kidney transplantation.
- Home hemodialysis with the NxStage System One (NxStage Medical, Inc., Lawrence, Massachusetts) is a relatively new treatment option throughout western Europe.
- We assessed training intensity, therapy cessation, and clinical outcomes in a European cohort of home hemodialysis patients using the NxStage System One.

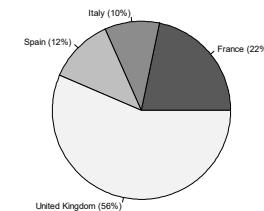
Methods

- We collected baseline and follow-up data about 127 home hemodialysis patients on the NxStage System One at 7 centers in France (Caen, Paris), Italy (Bari, Milan), Spain (Madrid, Pamplona), and the United Kingdom (Portsmouth).
- During the fourth quarter of 2015, each center entered retrospective data about patient demographics, home hemodialysis training, home hemodialysis prescription, and clinical outcomes in an electronic database.
- We followed patients from home hemodialysis initiation until the earlier of therapy cessation (death, return to in-center hemodialysis, kidney transplant) or October 31, 2015.
- We analyzed the subset of patients with complete baseline data and >6 months on home hemodialysis.
- Cumulative percentages of death, return to in-center HD, and kidney transplant were estimated with competing risk methodology.

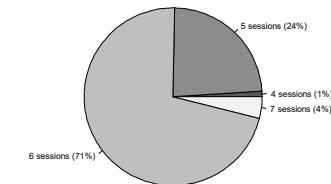
Results

- The study cohort comprised 101 patients.
- Mean age was 49.7 years, 66% were male, mean lifetime dialysis duration was 3.2 years, and 81% had an arteriovenous fistula.
- Most patients (95%) were prescribed 5 or 6 sessions per week and mean treatment duration was 15.1 hours per week.
- Mean training duration was 3.8 weeks and only 7% required >6 weeks
- Mean number of training sessions was 16.7 and only 9% required >30 sessions.
- After 2 years, 6% had died, 7% had returned to in-center hemodialysis, and 21% had received a transplant.
- After 4 years, 79% of those still on dialysis remained on home hemodialysis.
- During all 162.6 follow-up years, rates of death and transplant were 3.7 and 10.5 events per 100 patient-years, respectively.

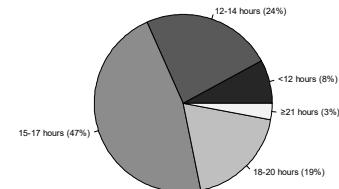
Distribution of country, among 101 patients in study cohort



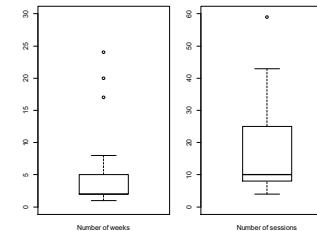
Distribution of prescribed number of hemodialysis sessions per week



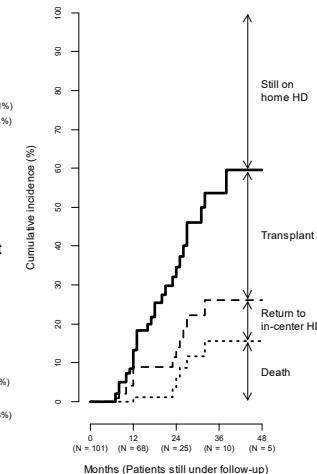
Distribution of cumulative prescribed treatment hours per week



Home hemodialysis training intensity: numbers of weeks (left) and sessions (right)



Cumulative incidence of clinical outcomes after 6 months on home hemodialysis



Conclusions

- Home hemodialysis with the NxStage System One in 4 European countries was associated with:
 - Rapid training
 - Good clinical outcomes, including high incidence of transplant and low incidence of death
 - High long-term therapy retention in patients who remained on dialysis
- The NxStage System One:
 - Improves access to home dialysis
 - Permits the benefits of more frequent hemodialysis to be offered to a larger population of patients
 - Facilitates remarkable growth of home hemodialysis programs