**Background:** Home haemodialysis (HHD) is growing in prevalence. Retrospective studies have suggested HHD is associated with improved patient survival, reduced rates of hospitalisation and an improved quality of life [1,2]. At our centre, conventional home high flux haemodialysis/ haemodiafiltration and NxStage HHD machines are offered as a choice. To date, no study has analysed long term outcomes of HHD patients using different dialysis machines.

**Method:** Retrospective case-record review of all HHD patients at our centre 1/02/09- 01/05/17.

**Results:** 79 patients were identified. Median length of follow up was 24months (IQR 9.5-41.5). 54 patients dialysed using a conventional dialysis machine (38M, 16F) and 25 dialysed using a NxStage dialysis machine (16M, 9F). Baseline characteristics of both groups were similar and there was no statistical difference in terms of age at start of dialysis (p= 0.412) or dialysis vintage (p= 0.208) between the two groups.

Once treatment had been established (≥3 months), there was no significant difference in the proportion of patients with conventional treatment versus NxStage treatment failing to achieve a minimum standard Kt/V target of 2.0 at any time point (p from 0.08 to 0.37) and at each time point between 7.3 and 13.3% of patients failed to meet this target.Mean standard Kt/V was lower in patients dialysed with NxStage machines at all time points except 48m, though this difference was only significant at the 0m, 3m, 6m and 12m time point.

Average dialysis time was 181 min for conventional HD/HDF and 182min for NxStage HD (p=0.8). Average sessions per week were lower for conventional HD/HDF compared to NxStage HD (mean 4.4 v 4.7, p=0.04) and weekly hours dialysing were longer with NxStage HD, though this did not reach statistical significance (13.2 v 14.6 h/week, p=0.11).

3 months after establishment on home HD, patients dialysing using an NxStage machine had a statistically significant higher albumin level at 3months (40.7 v 42.3g/L, p= 0.04) and lower serum potassium (4.9 v 4.5mmol/L, p=0.02) but we found no other significant difference in other clinical parameters (haemoglobin, phosphate, bicarbonate, C-reactive protein and erythropoietin resistance index).

We found no significant difference in survival between both groups with median survival 72 v 86 months for conventional HD/HDF compared to NxStage HD (p=0.87)

**Conclusion:** Dialysis with the NxStage system reached minimum adequacy targets in a similar proportion of patients to a conventional system, but this required more frequent dialysis to achieve this. Dialysis with the NxStage portable HD system appears at least as safe as conventional HD without evidence of clinical disadvantage.

Figure 1:

**References:**

1. Johansen KL, Zhang R, Huang Y, et al. Survival and hospitalization among patients using nocturnal and short daily compared to conventional hemodialysis: a USRDS study. Kidney Int. 2009;76:984–990.

2. Hall YN, Larive B, Painter P, et al. Effects of six versus three times per week hemodialysis on physical performance, health, and functioning: Frequent Hemodialysis Network (FHN) randomized trials. Clin J Am Soc Nephrol 2012; 7: 782–794.