

This is a Fresenius Medical Care summary of:

Treatment tolerance and patient-reported outcomes favor online hemodiafiltration compared to high-flux hemodialysis in the elderly

Morena M et al. France, *Kidney Int.* 2017;91(6):1495-1509

Introduction

Online haemodiafiltration (HDF) has the potential to reduce morbidity, and mortality. However, few studies have investigated patient-perceived symptomatology and intradialytic tolerance in elderly patients.

Objective

The FRENCHIE (French Convective versus Hemodialysis in Elderly) study aimed to investigate intradialytic tolerance of high-flux HD versus HDF in elderly patients.

Design

In this prospective, controlled study, prevalent haemodialysis patients aged >65 years were randomised to receive HD or HDF (mainly post-dilution HDF). Intradialytic tolerance was assessed over study days 30-120 (primary outcome measure), long-term effects of dialysis were observed over 2-years' follow-up. The primary outcome was analysed at the patient level (proportion of patients with ≥ 1 adverse event [AE]; intent-to-treat analysis), and at the session level (exploratory analysis).

Results

A total of 381 patients with a mean age of 76 years were randomised. Due to insufficient patient recruitment, the main analysis at the patient level is underpowered.

At patient level, over days 30-120, 85% of HD and 84% of HDF patients experienced ≥ 1 AE ($P=0.85$). At session level, ≥ 1 AEs occurred during 2,935 of the 11,981 sessions.

Significantly fewer AEs were reported in HDF sessions ($P=0.0004$).

The table below shows between-group significant differences in AEs. While arrhythmia was very rare and more frequent in HDF, arrhythmia-related hospitalisation was not different between the groups. Fewer asymptomatic hypotension and cramps were reported in HDF sessions than HD sessions.

Cause	HD %	HDF %	P value
≥ 1 adverse event	25.9	23.1	0.0004
Asymptomatic hypotension	20.6	18.4	0.002
Muscle cramps	2.2	1.6	0.03
Arrhythmia	0.05	0.24	0.01

Analysis at session level, based on data from Morena et al. *Kidney Int.* 2017;91(6):1495-1509

Over 2-years' follow up:

- No between-group difference in all-cause hospital admission; the HDF group showed a risk reduction of 47% in admission rate for vascular access dysfunction
- At 24 months no between-group statistical differences in all-cause mortality, but a trend in favour of HDF.

Conclusion

Referencing the conclusion from the FRENCHIE study: "It confirms the safety and efficacy of HDF in a multicenter approach and tends to generalize these benefits to an elderly and more fragile population". However, adequately powered studies would be helpful to confirm these results.