

# EFFECT OF HEMODIALYSIS MODALITY ON PARAMETERS OF ADEQUACY AND ALL-CAUSE MORTALITY-24 MONTHS FOLLOW UP

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**INTRODUCTION AND AIMS:** Retrospective studies showed that HDF was associated with a risk reduction of mortality over standard hemodialysis in patients with end-stage renal disease. Recently, a few prospective randomized clinical trials (except the “ESHOL study”), found no advantage in survival with HDF vs. high-flux HD (HFHD) and low-flux HD (LFHD).

The aim of this study was to compare the parameters of anemia, malnutrition, inflammation, mineral metabolism and survival rate, depending on the type of hemodialysis treatment.

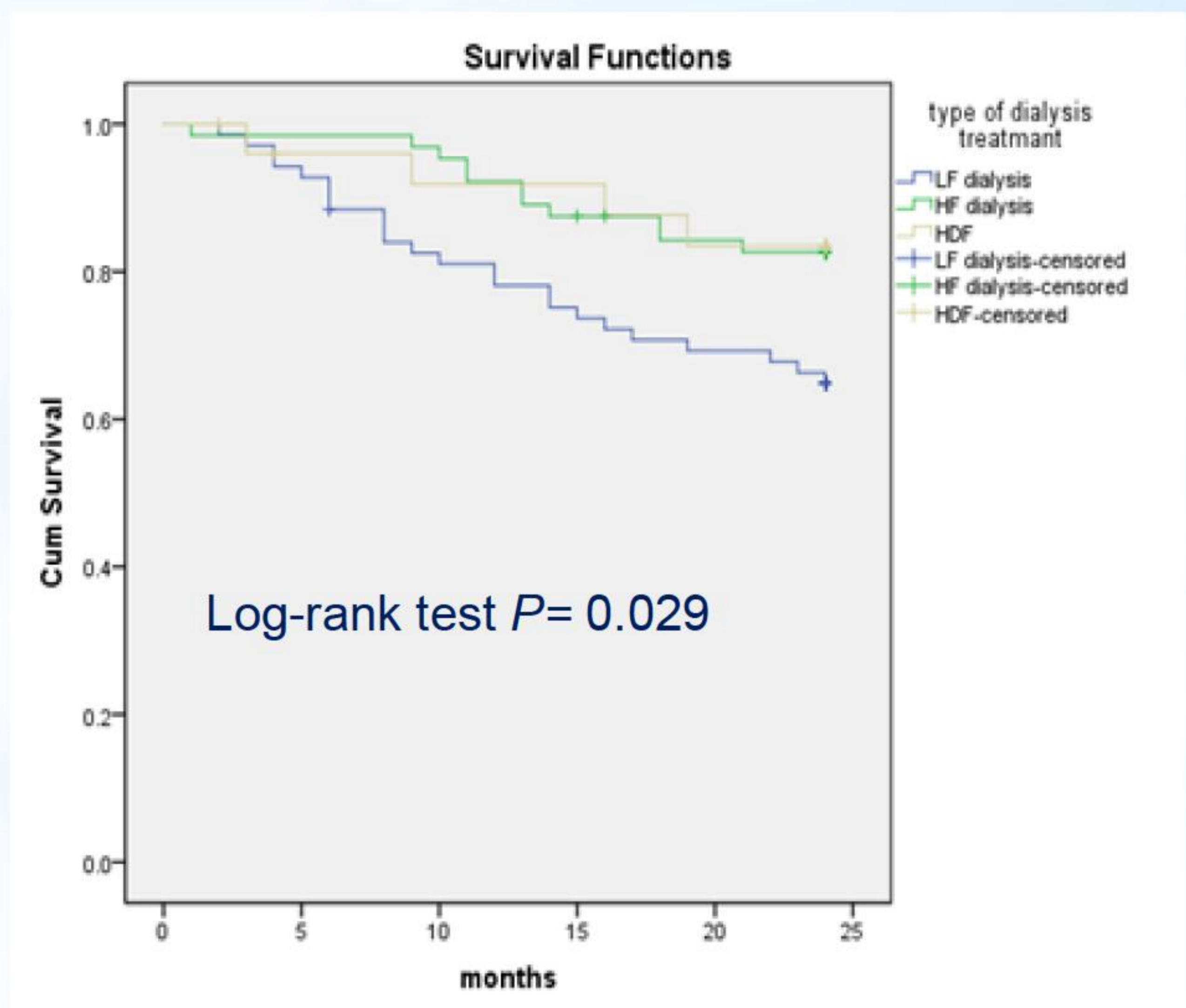
**METHODS:** A total of 159 hemodialysis patients were divided into 3 groups according to the type of hemodialysis treatment: group I -low flux membranes, group II -high flux membranes, and group III -hemodiafiltration. We analyzed one-year average biochemical parameters, and 24 months patients' survival.

**RESULTS:** Patients on HDF were significantly younger and they had longer dialysis vintage as compared with patients on LFHD and HFHD. Compared to patients on LFHD, patients on HDF and HFHD had significantly higher hemoglobin value despite the less frequent ESA use (Table 1). Patient on HDF had significantly higher Kt/V than patients on LFHD and HFHD without difference between two later groups.

Table 1. Data on patients regarding to the type of hemodialysis treatment

	group I LF-dialysis n=69		group II HF-dialysis n=64		group III HDF n=26		p
Male g. (%)	50.7 %		68.8 %		53.8 %		>0.05
Age (years)	67.2	10.8	59.9	11.8	57.4	10.3	<0.001
Time on HD (months)	44.6	36.5	96.1	67.2	117.9	39.1	<0.001
HgB (g/dL)	10.2	0.7	10.7	1.2	10.6	0.7	0.006
ESA use (%)	97.1 %		76.6 %		80.8 %		<0.001
ESA weekly, (I.U.)	5194	3190	5700	4940	7071	5800	>0.05
ERI (U/kg/week)	8.2	5.0	9.0	8.2	10.4	10.0	>0.05
BMI (kg/m <sup>2</sup> )	24.1	4.6	24.4	4.0	23.6	4.8	>0.05
S- albumin (g/L)	37.9	2.7	38.6	2.8	38.0	3.1	>0.05
CRP (mg/L)	10.3	11.4	9.0	9.0	9.0	9.6	>0.05
iPTH (pg/ml)	345.0	356	554.7	638	451.0	402	>0.05
S-Ca (mmol/L)	2.29	0.19	2.55	0.15	2.31	0.12	>0.05
S-P (mmol/L)	1.48	0.36	1.71	0.44	1.64	0.41	0.003
P binders use (%)	84.1 %		82.8 %		92.3 %		>0.05
Vit. D use (%)	47.8 %		51.6 %		53.8 %		>0.05
Kt/V value	1.32	0.23	1.25	0.24	1.50	0.29	<0.001

Figure 1. Kaplan-Meier survival curves



• According to Kaplan-Meier survival analysis patients on HDF and HFHD had significantly better two-year survival than patients on LFHD (Figure 1). Cox proportional hazards model confirmed that HFHD caused a significant, 56 % RR reduction of mortality compared to LFHD (HR 0.44; 95% CI 0.22 - 0,905; P=0.026), and HDF caused a 58 % RR reduction of mortality compared to LF dialysis (HR 0.42; 95% CI 0.15 to 0,202; P=0.105).

**CONCLUSION:** This study demonstrates 2-year survival benefit with use of HFHD and HDF compared with LFHD. There was no difference in survival between HFHD and HDF groups. Dialysis adequacy is not sufficient explanation for this HDF/HFHD benefit.

