EFFECT OF HEMODIALYSIS MODALITY ON ALL CAUSE MORTALITY OF DIABETIC PATIENTS- 36 MONTHS FOLLOW UP

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INTRODUCTION AND AIMS: Diabetes is the most common cause of end stage renal disease (ESRD) and the outcome of treatment of these patients is unfavorable. Some studies suggest that diabetic patients have better survival if treated with high-flux membranes (HFHD) and hemodiafiltration (HDF) compared to patients treated with conventional HD with low-flux membranes (LFHD). The aim of this study was to compare the parameters of HD adequacy of diabetic patients and their three-year survival depending on HD modality.

METHODS: Out of total of 159 patients treated with HD for more than 6 months in our unit, 28 had DM, as underlying renal disease (21) or comorbidity (7). All HD patients with DM were divided into three groups according to HD modalities: group I -low flux membranes, group II -high flux membranes, and group III -hemodiafiltration. We analyzed one-year average biochemical parameters at the start of the study and there after we followed 36 months patients' survival

RESULTS: Diabetic patients on HDF were significantly younger compared to patients on LFHD (without difference between group I and II) and they had longer dialysis vintage in comparison with patients on LFHD (without difference between group II and III). All data about the treatment are presented in Table 1.

Table 1. Diabetic patients' characteristics and one year average biochemical parameters.

	group I LF-dialysis n=13	group II HF-dialysis n=9	group III HDF n=6	p
Male g. (%)	46.2%	11.1%	50.0%	>0.05
Age (y.)	**66.4±6.1**	**58.2±14.7**	**50.3±9.0**	**<0.05**
Statins use (%)	15.4%	11.1%	16.7%	>0.05
Time on HD (m.)	**24.5±21.2**	**76.8±58.7**	**106.7±44.7**	**<0.05**
HgB(g/dL)	10.3±0.9	10.3±0.6	10.4±0.5	>0.05
ESA use (%)	92.3%	88.9%	100%	>0.05
ESA weekly (I.U.)	5250±3519	7937±7002	9416±6020	>0.05
ERI(U/kg/week)	6.9±3.7	10.7±10.4	12.2±6.3	>0.05
Ferritin(ng/ml)	360±131	326±122	411±134	>0.05
BMI(kg/m^2)	26.3±4.7	26.7±5.2	23.4±4.7	>0.05
S.albumin(g/L)	37.8±3.4	38.3±1.5	37.1±4.2	>0.05
Cholesterol(mmol/L)	4.73±1.15	4.55±0.99	4.27±0.20	>0.05
LDL (mmol/L)	2.80±0.96	2.75±0.83	2.49±0.46	>0.05
HDL(mmol/L)	1.71±2.49	1.08±0.63	1.00±0.40	>0.05
Triglycerides (mmol/L)	1.99±0.93	2.37±2.26	1.82±1.02	>0.05
CRP(mg/L)	9.2±10.9	11.1±5.5	8.2±11.2	>0.05
iPTH(pg/ml)	215±183	506±445	276±317	>0.05
Ca (mmol/L)	2.25±0.23	2.27±0.16	2.23±0.1	>0.05
P (mmol/L)	1.49±0.44	1.87±0.36	1.67±0.62	>0.05
P binders use (%)	92.3%	100.0%	83.3 %	>0.05
Vit. D use (%])	53.8%	55.6%	33.3%	>0.05
Kt/V value	1.20±0.24	1.12±0.22	1.43±0.50	>0.05

Figure 1. Cox proportional hazard model (adjusted for average weekly ESA, CRP and ERI)- 36 months follow- up .
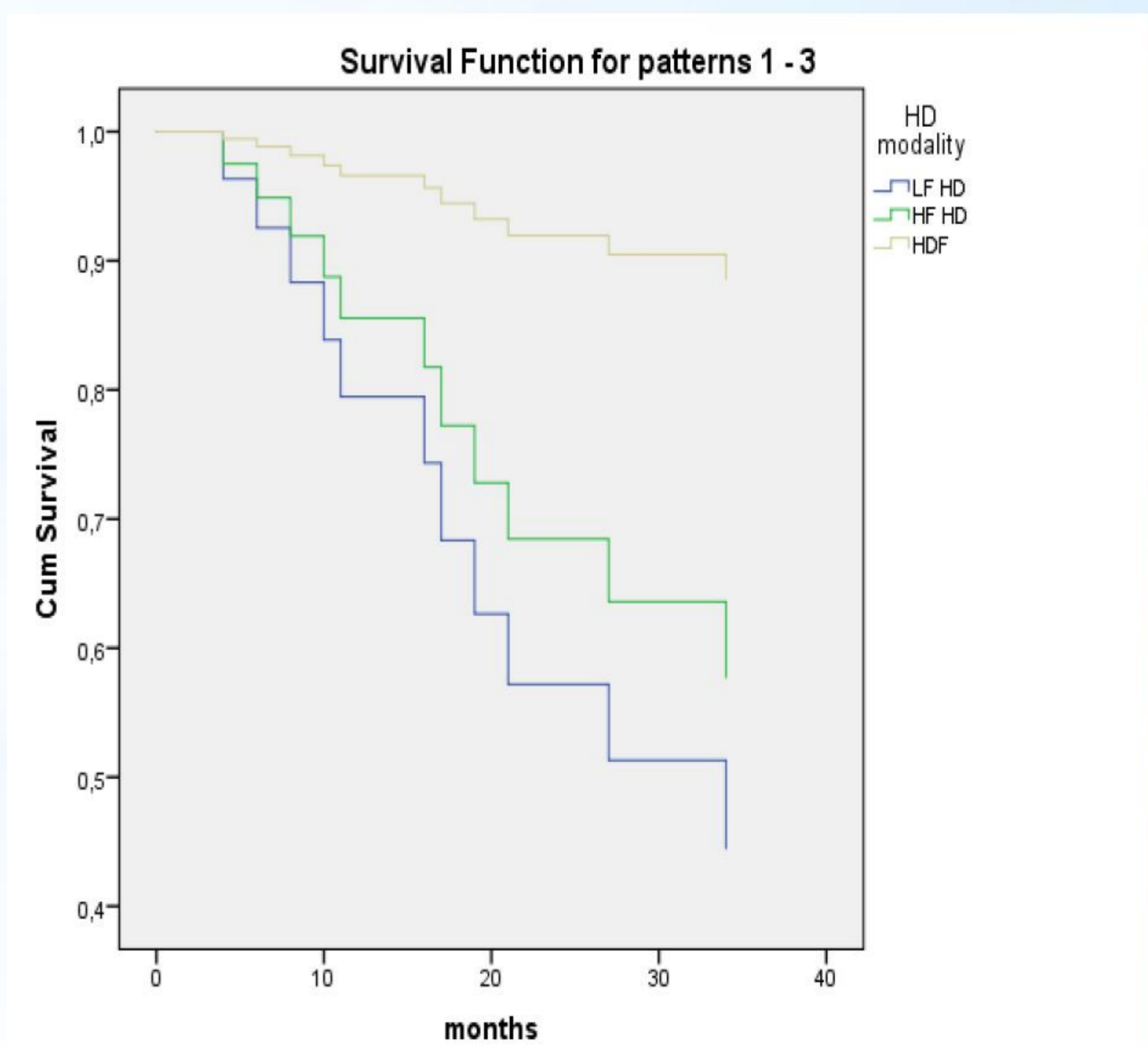
• Cox proportional hazard model (adjusted for average weekly ESA, CRP and ERI) confirmed that HFHD caused a 32% RR reduction of mortality compared to LFHD (HR 0.678; CI 0.129 to 3.560; p = 0.646) and HDF caused 85% RR reduction of mortality compared to LFHD (HR 0.150; CI 0.07 to 3.122; p = 0.221) in the follow-up period of 3 years, but statistical significance was not reached (Figure 1.).

CONCLUSION: Although statistical significance was not achieved probably due to small number of patients, this study demonstrates 3-year survival benefit of diabetic patients with use of HFHD and HDF compared with LFHD. Dialysis adequacy is not sufficient explanation for this HDF/HFHD benefit.