

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

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INTRODUCTION AND AIMS: Weekly duration of hemodialysis is traditionally 12 hours, and randomized controlled HEMO trial found no advantage in survival with higher dialysis dose or using high-flux dialysis membrane. However, experiences of French authors showed that the length of hemodialysis treatment is associated with benefits concerning Mb and Mt of dialysis patients. The aim of study was to compare the parameters of anemia, malnutrition, inflammation, mineral metabolism and survival rate, depending on the duration of hemodialysis treatment.

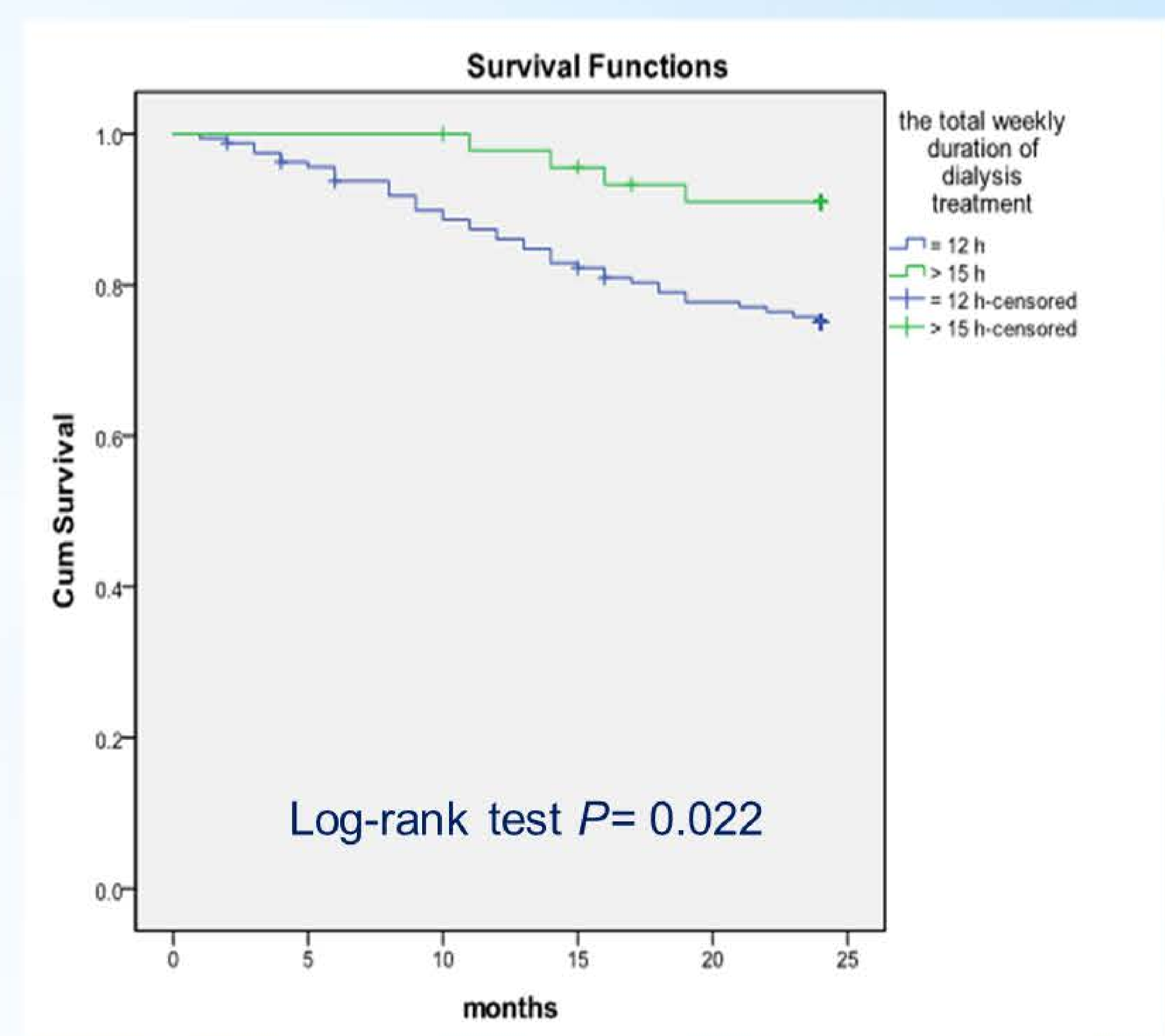
METHODS: A total of 206 hemodialysis patients were divided into 2 groups according to the total weekly duration of dialysis treatment: group I (= 12 h) and group II (≥ 15 h weekly HD). We analyzed one-year average biochemical parameters, and 24 months patients' survival.

RESULTS: Patients with longer duration of dialysis were significantly younger and they had longer dialysis vintage (Table 1). They had significantly higher Hb level (despite of less frequent use of ESA), S-albumin level, S-calcium level and Kt/V and lower iPTH value and less frequent use of P-binders.

Table 1. Data on patients regarding weekly duration of hemodialysis treatment

	group I TT = 12 h n=160	group II TT ≥ 15 h n=46	p
Male g. (%)	58.8 %	73.9 %	>0.05
Age (years)	62.6 \pm 11.8	55.4 \pm 9.8	<0.001
Time on HD (months)	76.9 \pm 59.1	183.4 \pm 96.5	<0.001
HgB (g/dL)	10.5 \pm 0.1	11.8 \pm 1.5	<0.001
ESA use (%)	86.3 %	43.5%	<0.001
ESA weekly, (I.U.)	5636 \pm 4348	5265 \pm 3920	>0.05
ERI (U/kg/week)	8.8 \pm 7.2	6.8 \pm 5.1	>0.05
BMI (kg/m ²)	24.1 \pm 4.4	25.3 \pm 4.7	>0.05
S- albumin (g/L)	38.2 \pm 2.8	41.6 \pm 2.5	<0.001
CRP (mg/L)	9.6 \pm 10.2	7.5 \pm 7.0	>0.05
iPTH (pg/ml)	446.7 \pm 500	348.2 \pm 348	0.024
S-Ca (mmol/L)	2.28 \pm 0.17	2.41 \pm 0.19	<0.001
S-P (mmol/L)	1.60 \pm 0.41	1.54 \pm 0.43	>0.05
P binders use (%)	84.4 %	67.04 %	0.01
Vit. D use (%)	50.6 %	39.1 %	>0.05
Kt/V value	1.32 \pm 0.26	1.49 \pm 0.34	<0.001

Figure 1. Kaplan-Meier survival curves



•According to Kaplan-Meier survival analysis the patients with longer duration of dialysis treatment had significantly better two-year survival than patients with shorter duration of treatment (Figure 1). Cox proportional hazards model confirmed that longer dialysis treatment caused a significant, 68 % RR reduction of mortality compared to shorter dialysis treatment (HR 0.32; 95% CI 0.115 - 0,901; P=0.012).

CONCLUSION: We concluded that longer duration of hemodialysis (≥ 15 h) had beneficial effect of anemia indices and mineral metabolism and on 2-year patients' survival as compared with standard dialysis regimen (12 h).

