

IMPACT OF HEMODIALYSIS PERMANENT AND TEMPORARY SWITCH TO PERITONEAL DIALYSIS ON PATIENT SURVIVAL: A COHORT STUDY

Boris Bikbov, Natalia Tomilina

¹Chair of Nephrology, A.I.Evdokimov Moscow State University of Medicine and Dentistry, ²Department of Nephrology Issues of Transplanted Kidney, Academician V.I.Shumakov Federal Research Center of Transplantology and Artificial Organs,

³Moscow City Nephrology Center, Moscow City Hospital 52, Moscow, Russian Federation

INTRODUCTION

Survival of hemodialysis (HD) patients could vary based on availability to switch to peritoneal dialysis (PD) in case of vascular access problems. We studied how permanent and temporary switch from HD to PD influence patients survival.

METHODS

We performed an analysis of the Moscow City Nephrology Registry with inclusion of 9,379 incident HD patients initiated treatment from 1/1/1995 to 31/12/2012. We identified 4 groups according to presence of permanent (duration ≥ 31 days) and temporary (duration < 30 days) switch to PD: HD only, HD with permanent switch to PD, HD with temporary switch to PD, HD with both temporary and permanent switch to PD (the last group had a history of several modality switches with duration both more and less than 30 days). Survival was calculated by Kaplan-Meier method with intent-to-treat approach (censoring at end study period, kidney transplantation, or lost of follow-up). Deaths occurred in the first 30 days after modality switch were attributed to the initial dialysis modality. P values

RESULTS

Survival rates were the lowest in patients that had a possibility of only temporary switch from HD to PD ($P < 0.00005$) in comparison to all other groups (table 1 and 2, figure). Survival didn't differ between patients switched to PD only permanently or both permanently and temporary. Survival in patients permanently switched to PD was significantly higher that in patients treated only by HD in the first 3 years of treatment, but no differences observed after 4 years of follow-up.

Figure. Patient survival according temporary and permanent modality switch

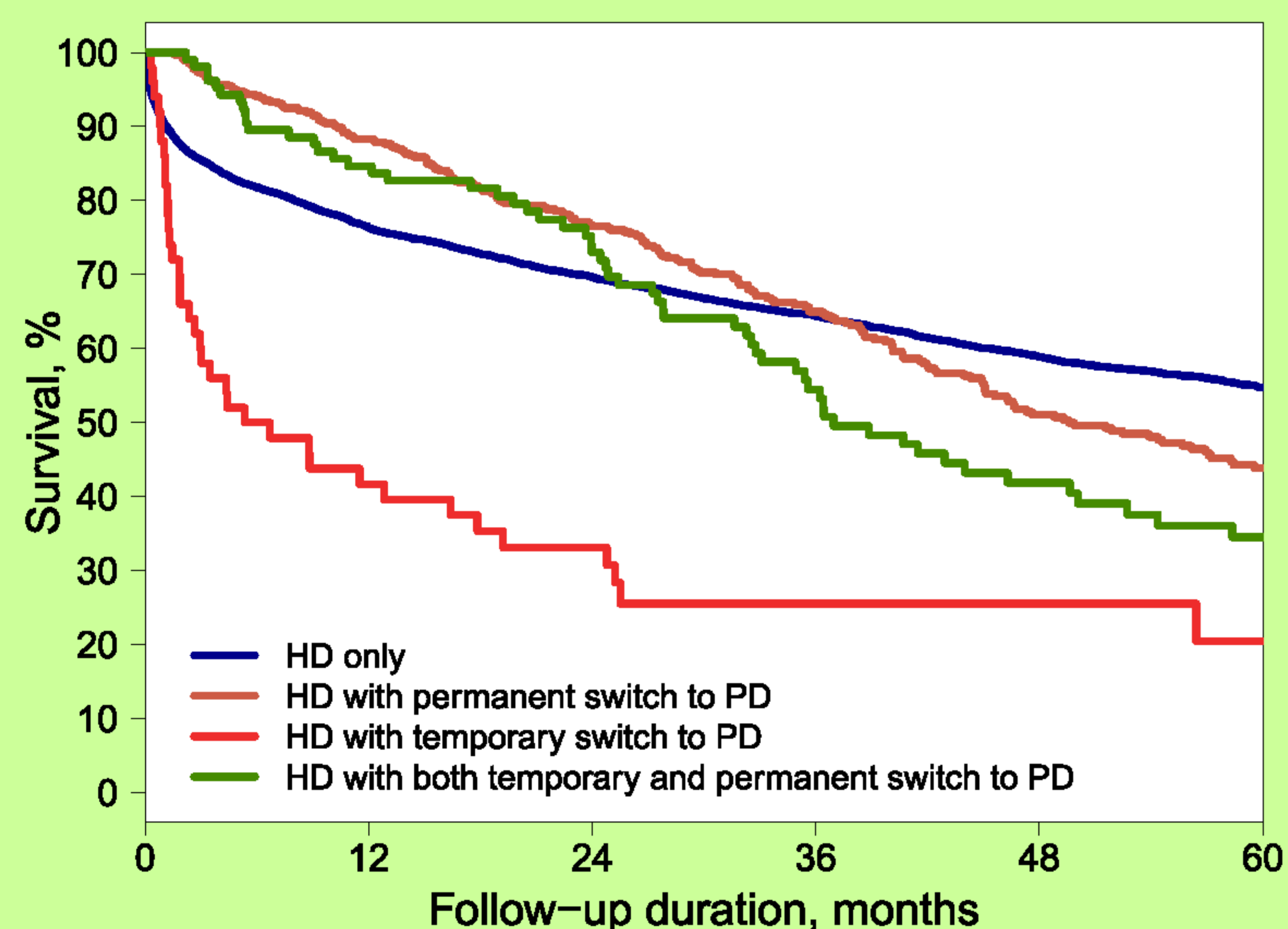


Table 1. Hemodialysis patient survival based on history of temporary or permanent switch to peritoneal dialysis

Group	Survival, % (95% CI)				
	1-year	2-years	3-years	4-years	5-years
HD only (n=8668)	76.3% (75.3-77.3)	69.6% (68.5-70.7)	64.4% (63.2-65.6)	58.9% (57.6-60.2)	54.7% (53.4-56.1)
HD with permanent switch to PD (n=556)	88.3% (85.5-91.2)	76.5% (72.7-80.5)	65% (60.5-69.8)	51.1% (46.1-56.6)	43.8% (38.7-49.6)
HD with temporary switch to PD (n=50)	41.7% (30.0-58.0)	33.1% (22.2-49.4)	25.5% (15.5-42.0)	25.5% (15.5-42.0)	20.4% (10.5-39.7)
HD with both temporary and permanent switches to PD (n=105)	84.6% (78.0-91.9)	73% (64.7-82.3)	54.5% (45.1-65.7)	41.8% (32.6-53.7)	34.5% (25.5-46.6)

95% CI – 95% confidence interval
HD – hemodialysis, PD – peritoneal dialysis

Table 2. Statistical significance of differences in survival rates between groups

Comparison groups	Statistical significance (P)				
	1-year	2-years	3-years	4-years	5-years
HD only vs permanent switch	<0.00005	<0.00005	<0.03	NS	NS
HD only vs temporary switch	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
HD only vs both temporary and permanent switch	NS	NS	NS	NS	NS
Permanent switch vs temporary switch	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Permanent switch vs both temporary and permanent switch	NS	NS	NS	NS	NS
Temporary switch vs both temporary and permanent switch	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005

HD – hemodialysis, PD – peritoneal dialysis, NS – not significant

CONCLUSIONS

Possibility to permanently switch patients from HD to PD was related to better survival in the first 3 years of follow-up. Survival of patients that could be switched to PD only temporary was the lowest, probably indicating the failure of both vascular access and peritoneal access. While patients that were temporary switched to PD, returned to HD, and then transferred to PD permanently had rather high survival rates comparable to permanent switch to PD.

Correspondence: boris.bikbov@gmail.com

Abstract MP567

