

GLOMERULAR FILTRATION RATE AND INITIATION OF DIALYSIS

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INTRODUCTION

The proportion of patients with advanced chronic kidney disease (CKD) initiating dialysis at higher glomerular filtration rate (GFR) has increased over the past decade. Recent data suggest that higher GFR may be associated with increased mortality.

GOAL

To compare survival outcomes in patients with early and late start dialysis as measured by kidney function at dialysis initiation.

METHODS

Retrospective analysis of haemodialysis (HD) incident patients from 1 January 2010 to 30 September 2014. Patients were classified into groups by estimated GFR (eGFR- EPI) at dialysis initiation. Logistic regression was used to evaluate factors associated with early and late dialysis start, and Kaplan-Meier graphs and Cox regression models in survival analysis.

RESULTS

n total 235	GFR>10 mL/min/1,73m ²	GFR<10 mL/min/1,73m ²
n	42	193
Male: Female	35:7	117:76
Age (years)	69,6 ± 17,1	71 ± 14,4
GFR (mL/min/1,73m ²)	13,55 ± 4,84	6,26 ± 1,7

Table 1- Population characterization

Mortality risk	GFR > 10 versus GFR < 10		
	HR	IC	p
	1,44	1,43-1,45	0,027

Table 3- Comparison of both groups with a Cox model showing an incremental increase in mortality associated with earlier dialysis start

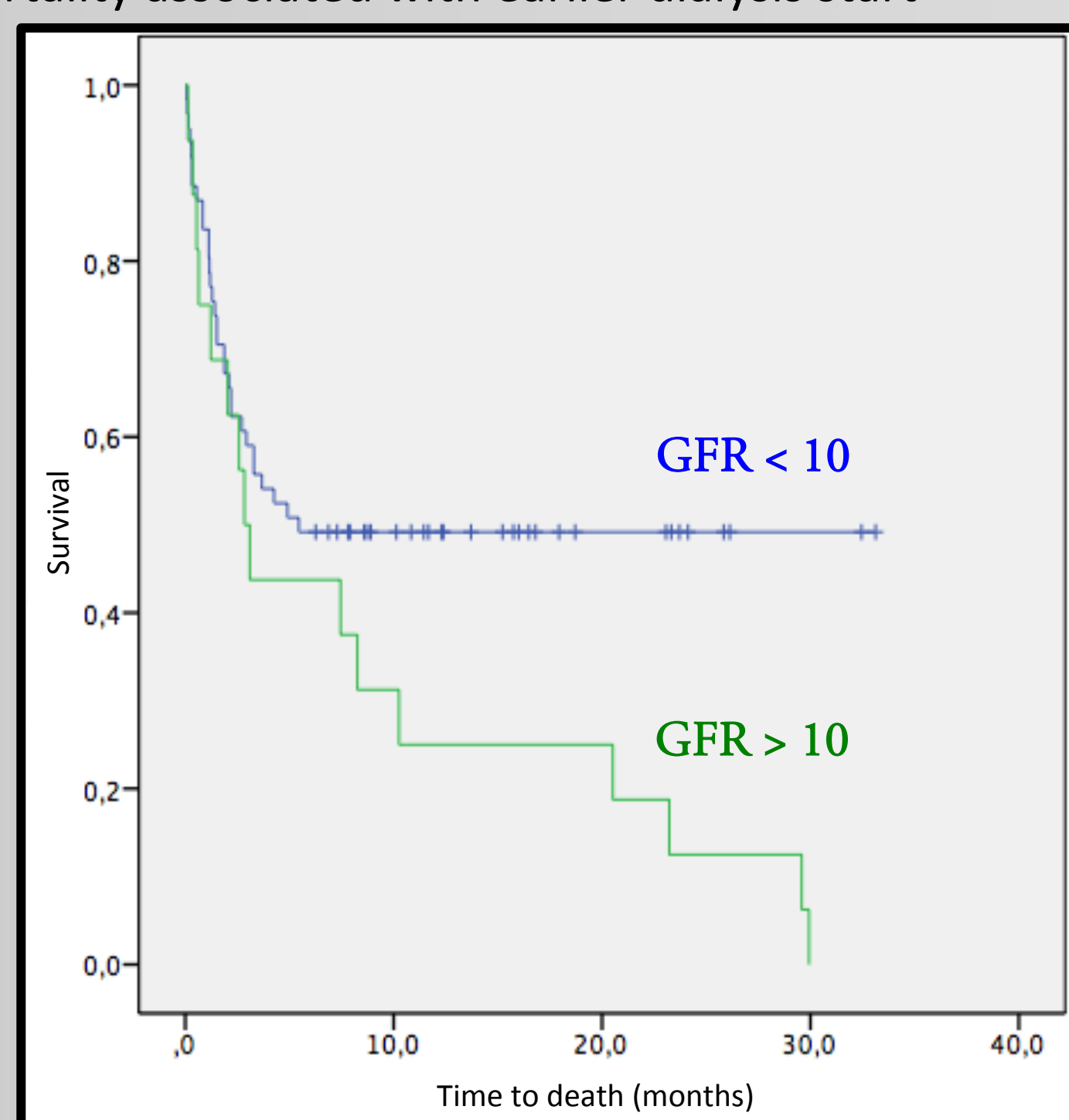


Figure 1- Kaplan-Meier survival curve

Dependent variable	Independent variable	OR	IC	p
GFR > 10 mL/min/1,73m ²	Diabetes mellitus	9,32	1,34-17,87	0,02
	Higher Charlson comorbidity index	1,8	0,4-13,2	0,036
	Albumin < 3,5 g/dL	1,5	0,8-6,2	0,046
	Haemoglobin < 10 g/dL	1,23	0,76-1,67	0,027
	Age > 80 years	6,7	5,4-13,2	0,003
GFR < 10 mL/min/1,73m ²	Male gender	1,1	0,9-2,4	0,043
	Dementia	9,11	1,03-11	0,047
	Nephrology care before dialysis start	15,4	3,32-18,9	0,002

Table 2- Predictors of late and early initiation of dialysis in the multivariate model (Logistic Regression)

Dependent Variable	Independent Variable	HR	IC	p
GFR > 10 mL/min/1,73m ²	Hypertension	9,32	1,34-17,87	0,01
	Diabetes mellitus	1,8	0,4-13,2	0,036
	Albumin < 3,5 g/dL	1,5	0,8-6,2	0,045
	Age > 80 years	0,084	0,008-0,863	0,031
	Phosphate < 3,5 mg/dL	0,02	0,0-0,527	0,043

Table 4- Independent mortality factors for early initiation of dialysis (Cox Regression Model analysis)

CONCLUSION

Late initiation of dialysis is associated with a reduced risk of mortality, which is probably related to the previous follow-up by a nephrologist, arguing against aggressive early dialysis initiation based primarily on eGFR alone. In this cohort, early dialysis start related especially to patients with higher Charlson comorbidity index and low nutritional status.

