

INFLUENCE OF PRE-DIALYSIS NEPHROLOGY CARE DURATION ON CLINICAL AND BIOCHEMICAL PARAMETERS AT THE DIALYSIS INITIATION

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INTRODUCTION

Treatment quality indicators sufficiently vary in patients starting dialysis treatment. We investigated how the duration of pre-dialysis nephrology care influences on clinical and biochemical parameters at the dialysis initiation.

METHODS

We performed the analysis of the Moscow City Nephrology Registry with inclusion of 11,021 incident dialysis patients (iDP) started treatment (both hemo- and peritoneal dialysis) from 1/1/1995 to 31/12/2012.

Biochemical parameters were available for 2,118 iDP included in the analysis.

We defined 3 groups of patients based on the duration of pre-dialysis nephrology care (PDNC) measured from the first visit to nephrologist in Moscow to the start of maintenance dialysis: **early (PDNC 1 year)**, **late (PDNC 3-12 months)** and **very late (PDNC 3 months)**. P values were adjusted by Benjamini-Hochberg-Yekutieli procedure for controlling false discovery rate in multiply comparisons.

RESULTS

Patients in early PDNC group were significantly older, with higher percentage of women and diabetic nephropathy (DN). There were statistically significant difference in hemoglobin level (Hb), and a borderline significance for diastolic blood pressure (DBP) between groups with early and very late PDNC, but not for other laboratory parameters (table).

We also performed subgroup analysis stratified by sex and age. In both men and women, the early PDNC in comparison with very late PDNC was also associated with higher Hb (P<0.0005), older age (P<0.0005) and higher proportion of DN (P<0.03). In the subgroup of patients younger 55 years early PDNC was associated with higher Hb (P<0.0005), higher proportion of women (P<0.01) and DN (P<0.0005), as well as higher age at dialysis initiation (P<0.0005). In the subgroup of patients 55 years and older the early PDNC was associated with higher Hb (P<0.05), higher percentage of women (P<0.03), and a tendency to initiate peritoneal dialysis (P=0.08).

Table. Demographic, clinical and biochemical parameters at the dialysis initiation according different duration of pre-dialysis nephrology care

Parameter	Total (n=2118)	Duration of pre-dialysis nephrology care		
		Very late, <3 months (n=1129)	Late, 3-12 months (n=227)	Early, ≥12 months (n=762)
Age, years	52.2±15.8	50.4±16.6 a	51.8±15.6 b	55.0±14.2 a,b
Sex, %male	57.4	61.6 a	57.7	51.0 a
Diabetic nephropathy, %	18.3	15.1 a, c	24.2 c	21.3 a
Hemoglobin, g/l	93.6±17.6	91.7±17.7 a	94.1±17.0	96.2±17.3 a
Albumin, g/l	37.4±5.4	37.3±5.6	38.2±5.6	37.4±5.1
Creatinine clearance, ml/min	9.6±4.0	9.6±4.4	9.8±3.5	9.6±3.7
BP systolic, mm Hg	154.2±24.6	154.9±25.7	154.8±23.2	152.9±23.4
BP diastolic, mm Hg	89.0±12.7	89.5±13.3 z	89.6±12.1	88.0±12.1 z

a P<0.005 between groups with PDNC ≤3 months and ≥12 months

b P<0.05 between groups with PDNC 3-12 months and ≥12 months

c P<0.005 between groups with PDNC ≤3 months and 3-12 months

z P=0.054 between groups with PDNC ≤3 months and ≥12 months

CONCLUSIONS

Early pre-dialysis nephrology care is associated with significantly higher hemoglobin levels at the beginning of dialysis in total and all subgroups. One of the reason why patients in the early PDNC were older and had higher percentage of DN (in total and majority of subgroups) could be the lower mortality rates in pre-dialysis period among elderly persons and diabetics if nephrology care is available.

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