How Primary Renal Disease Influences Survival of Patients in Chronic Dialysis Treatment in the Czech Republic?

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Introduction

Primary renal disease (PRD) is a term defining a dominant type of chronic kidney disease (CKD). Precise and correct determination of PRD is mandatory since it has the essential significance for proper treatment and for the assessment of disease progression.

The aim of our study was to look at the occurrence of individual PRD and its survival implication in the national-wide range of chronic dialysis patients in the Czech Republic.

Methods

Data were collected from the Czech Registry of Dialysis Patients (RDP), which contains individual data of patients (pts) receiving chronic haemodialysis treatment (HD), i.e. >3 months. All pts entering HD between January 2006 and December 2013 were enrolled. PRD were coded using the ICD-10 classification.

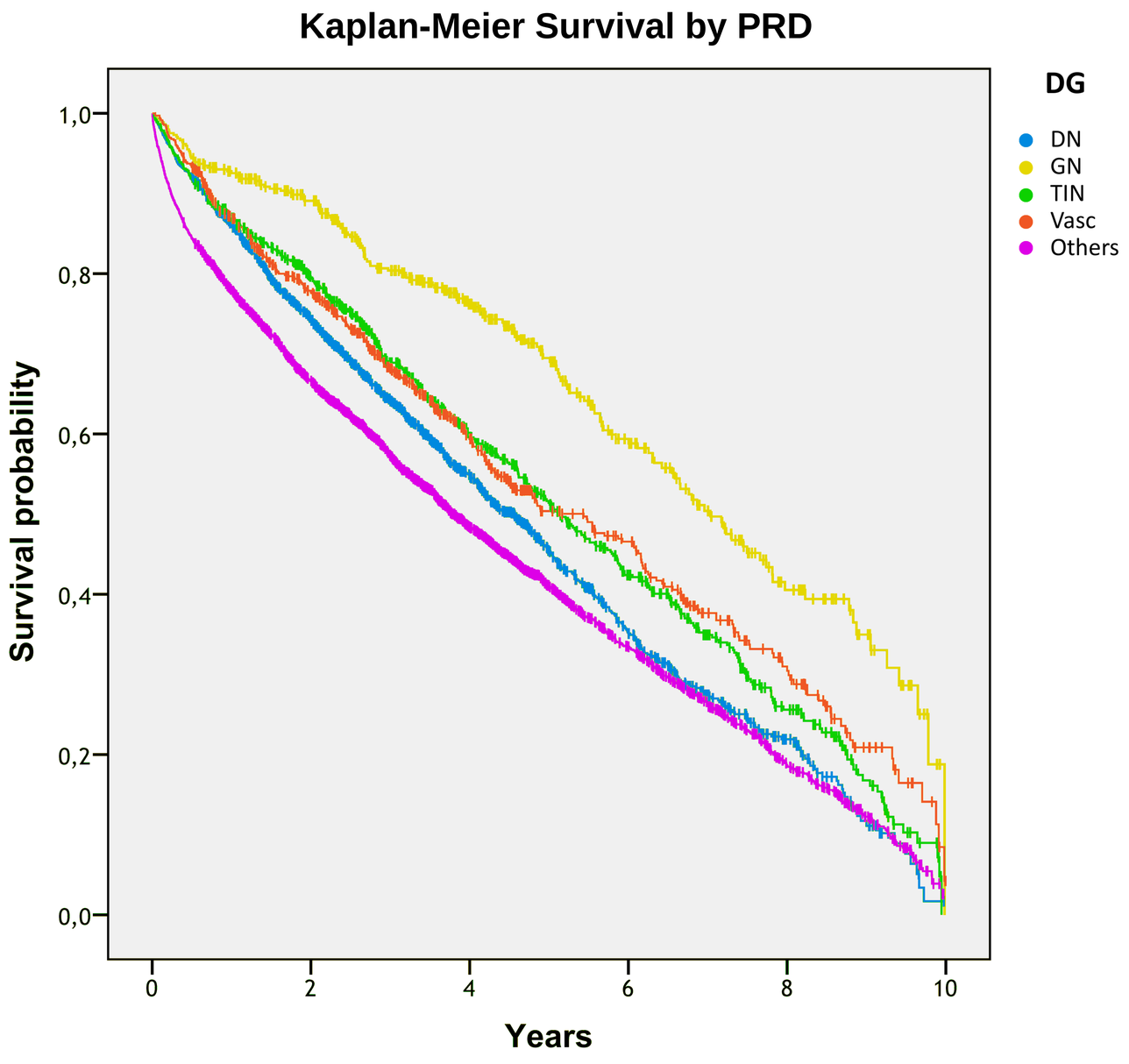
Basic categories of PRD were defined as following: diabetic nephropathy (DN), glomerulonephritis (GN), renal vascular disease (Vasc), tubulointerstitial nephritis (TIN) and the others (Others), which involved less common PRDs, particularly polycystic kidney disease (PKD), other hereditary diseases, rare CKD, acute kidney injury resulting in chronic kidney failure and “unknown” CKD without precise PRD specification.

All statistical analyses were performed on SPSS Statistics 20.0 software and the Kaplan-Meier method was used for the survival analysis.

Results

Altogether 6322 pts were included. Male/female ratio was 58/42, median age was 71 years, pts belonging to age-lowest 25 percentile group were ≤63-year-old while to age-highest 25 percentile were ≥78-year-old. Most frequent PRD were represented by DN (24.2%), TIN (11.7%), Vasc (10.9%), GN (7.9%) and Others (45.3%). Others involve CKD without precise PRD specification (10.8%), PKD (3.5%), AKI (0.4%), and rare CKD (7.5%) while unknown CKD was as high as 23.1%. During the follow-up period 57.5% (3,637) of pts died.

Overall mortality indicates that 50% of patients survived 4.5 years on HD treatment. There were no survival differences between males versus females and between DN and non-diabetic PRD, too. 50% survival for pts with GN was 6.7 years, TIN 5 years, Vasc 5.5 years and DN 4.5 years. The Kaplan-Meier survival analysis according to PRD is displayed in the graph below.



Conclusions

1. Total 50% survival reached 4.5 years and there was no gender difference.

2. Pts with GN showed the best survival rate. Reasons for that may be caused by their younger age and generally better health conditions.

3. Prevalence of TIN and Vasc were equal.

4. Surprisingly, we found no survival difference between DN and non-diabetic PRD. As we know that prevalence of diabetic pts on HD is 42% and 25% PRD are DN, it means that significant number of diabetic pts failed due to non-diabetic nephropathy, i.e. representing 17% of all PRD; thus DN seems to be less frequent that it was referred in the past.

5. A high percentage of PRD was disclosed as unknown, maybe as a consequence of late referral of pts to nephrologists (≤3 months before entering HD), which remains for years as high as 40%.

6. The epidemiology of PRD in the Czech Republic is in accordance with other developed European countries.

References

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