

Cumulative Risk of Death in Propensity-matched Incident Dialysis Patients: A Nationwide Prospective Multicenter Cohort Study in Korea

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Background: Our previous study reported the superior outcome of peritoneal dialysis (PD) than hemodialysis (HD) in the early dialysis period. This study investigated the impact of dialysis modality on survival after the early period of incident dialysis patients.

Methods: Incident dialysis patients were enrolled from Korean nationwide prospective cohort from September 2008 to December 2013. The patients were stratified by modality at day 90 after the first dialysis or the modality at dialysis initiation if death occurred prior. The survival of PD and HD patients were compared by propensity score matching analysis. Relative risk of death was estimated using the cumulative hazard ratio from the stratified Cox proportional hazard model adjusted for residual confounding.

Results: A total of 1348 patients were matched from 2658 incident dialysis patients with mean follow-up of 29.9±14.1 months. All clinical parameters including baseline residual renal function were comparable between PD and HD patients. The cumulative risk of death was significantly lower in PD than HD from 6 months after dialysis initiation. The cumulative hazard ratio for death was 0.70 (95% CI 0.41-0.98) at one year for PD compared with matched HD and 0.92 (95% CI 0.68-1.15) at three years. The cumulative survival probability was higher in PD patients for up to 3.5 years on dialysis, with no difference after the period.

Conclusion: Overall survival in maintenance dialysis patients favored PD in the early period of dialysis and the survival advantage lasted to 3.5 years after initiation of dialysis. However, PD and HD patients had similar survival outcomes thereafter.

Key Words: Cumulative hazard ratio, End-stage renal disease, Survival