

Is Peritoneal Dialysis Safe in Elderly Patients?: Prospective Cohort Study for End-Stage Renal Disease in Korea

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Introduction: The selection of dialysis modality in older End stage Renal Disease (ESRD) is important in both patient and technical survival. However, the outcomes of peritoneal dialysis (PD) in elderly patients are not well evaluated. The purpose of this study is to investigate the clinical outcomes of PD in the elderly and explore risk factors related with the outcomes.

Method: This study is a multicenter, prospective cohort study of patients who started incident dialysis in Korea from April 2009 to March 2013. 824 adult (age >20 years old) ESRD patients were enrolled and divided into 3 groups according to dialysis modality and their age (group 1: PD and below age 65, n=319; group 2: HD and above age 65, n=410; group 3: PD and above age 65, n=95). Group 3 was compared with the other groups in respect of patient and technical survival using Kaplan-Meier curves. The independent factors associated with patient and technical survival of group 3 were investigated using Cox proportional hazards regression models.

Result: The mean age of group 3 was 70±5 and 63 (66%) were male. The median of the Modified Charlson Comorbidity Index (MCCI) was 7 (IQR, [5,8]). Group 3 was younger, had many heart failure patients in comparison to Group 2. Overall patient and technical survival of group 3 was inferior to group 1 (p<0.001). Group 3 had a higher hospitalization rate (p<0.001) as well as higher peritonitis incidence (p<0.001) than Group 1. However, hospitalization due to cardiovascular causes was not different between the two groups. Comparing group 2 and group 3, technical survival and infection related-hospitalization of Group 3 was higher than Group 2. However, overall patient survival and hospitalization related to cardiovascular causes were not different. In spite of poorer outcomes, Group 3 patients showed improved Beck's Depression Inventory (BDI) scores comparing to Group 1 (p=0.017) or Group 2 (p=0.001). In multivariate Cox regression models, 24hr urine volume, serum calcium, MCCI and KPS were independent factors related to composite outcome in group 3.

Conclusion: Despite outcomes of older PD patients showing less favorable results than younger PD patients or older HD patients, cardiovascular mortality and morbidity were not different between the groups. Older PD patients showed greater improvement in 1-year BDI scores than younger PD patients or Older HD patients. Comorbidity and performance status were related to the poor clinical outcomes of PD.

Key Words: 말기신부전, 노인환자, 복막투석
 End-stage renal disease, Geriatric patients, Peritoneal dialysis

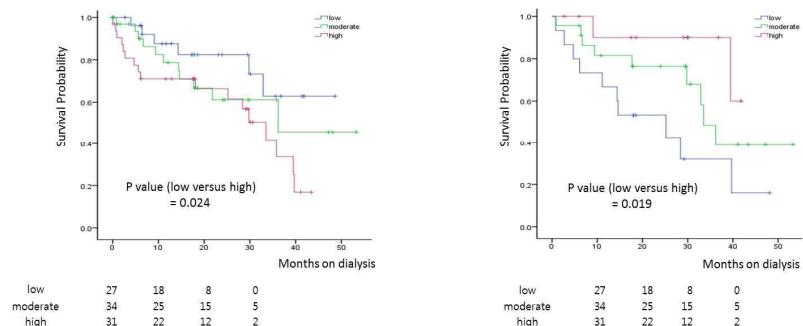


Figure 1. A. Kaplan-Meier survival curve by Modified Charlson Comorbidity Index
 B. Kaplan-Meier survival curve by Karnofsky Performance Score