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30-Year Experience of Peritoneal Dialysis Treatment in Seoul National University Hospital

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Objectives: Outcomes of peritoneal dialysis (PD) vary depending on the center experience. We analyzed main outcomes of PD patients over the last three decades from a single large-scale PD center.

Methods: Subjects (N=1227) were included who started PD in Seoul National University Hospital from 1990 until 2019. Subjects were followed until death, kidney transplantation, transfer to hemodialysis or transfer to another center, whichever occurred first. Major PD-related outcomes were compared among three 10-year cohorts (1990-1999, 2000-2009, and 2010-2019). Statistical analysis was conducted using Cox proportional hazard model (SAS ver 9.4) after adjustment for age, sex, DM, BMI, and Davies comorbidity score. *P* values < 0.05 were considered statistically significant.

Results: 1,227 subjects (58% male, 47.3±14.3 years old) were analyzed. Median duration of PD treatment was 45 [IQR 19, 77] months. 372 (30%) subjects transferred to hemodialysis, 196 (16%) received kidney transplantation and 224 (18%) died. Overall, 5- and 8-year crude patient survival were 82% and 71%, respectively. Common causes of death were infection (20%), cardiac (19%) and cerebrovascular events (7%). 5- and 8-year technique survival were 68% and 50%, respectively, with common causes of technique failure being patient death (32%), peritonitis (25%) and inadequate dialysis (7%). 5-year patient survival significantly improved over time (62% for 1990-1999 cohort *vs* 94% for 2010-2019 cohort, *P*<0.001). However, 5-year technique survival did not improve over time (68% *vs* 70%, *p* : NS). There were 896 episodes of peritonitis among 55,775 patient-months (62.3 patient-months per episode). Peritonitis rate decreased over time – from 42.8 months/episode (between 2000 and 2004) to 75.4 months/episode (between 2015 and 2019).

Conclusions: PD is an effective treatment option for ESRD patients. In our center, the patient survival and peritonitis-rate significantly improved over time but not the technique survival. Strenuous effort is warranted to improve the technique survival of PD.