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The pattern of choosing dialysis modality and related mortality outcomes in Korea: interaction analysis between comorbid conditions and dialysis modality

Donghwan OH[1], Jung tak PARK[2], Seung hyeok HAN[2], Tae-hyun YOO[2], Hyeong cheon PARK[1], Shin-wook KANG[2], Kyoung hoon KIM[3], Dong-ryeol RYU[4], *Hyunwook KIM[1]

[1]Department of Internal medicine, Gangnam Severance Hospital,Yonsei University College of Medicine, Korea,South, [2]Department of Internal Medicine, College of Medicine, Yonsei University, Korea,South, [3]Department of Public Health, Graduate School, Korea University, Korea,South, [4]Department of Internal Medicine, School of Medicine, Ewha Womans University, Korea,South

Objectives : Since comorbidities were the major determinants of modality choice and interacted with dialysis modality for mortality outcomes, we approached the pattern of modality choice according to comorbidities and then evaluated how such choices affected the mortality in incident dialysis patients.

Methods : We analyzed 30,279 incident dialysis patients in Korea. The patterns of initial dialysis choice were assessed by the multivariate logistic regression analyses. The multivariate Poisson regression analyses were performed to evaluate the interactions between the comorbidities and dialysis modality for mortality and to quantify these interactions by the synergy factor.

Results : Although favoring the initiation with peritoneal dialysis (PD), Prior histories of myocardial infarction (P=0.031), diabetes (P=0.001), and congestive heart failure (P=0.003) synergistically increased the mortality with PD; a history of cerebrovascular disease and the 1-year increase in age favored the initiation with hemodialysis (HD) and increased mortality with PD (P<0.001, both). Although favoring the initiation with HD, having Medical Aid (P=0.001) and male gender (P=0.047) was associated with the increased mortality with HD. Furthermore, although we observed that the severity of comorbidities did not influence dialysis modality choice, mortality of the incident PD patients was significantly increased compared to HD patients as the severity of comorbidities increased (P for trend <0.001).

Conclusions : Some comorbidities exerted independent effects on choosing initial dialysis modality, but this choice did not always warrant the best results. Further intensive analyses of the pattern of choosing dialysis modality according to the baseline comorbid conditions and related consequent mortality outcomes will be needed.

Keywords : peritoneal dialysis; hemodialysis; dialysis modality; mortality