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만성 투석 환자에서 frailty와 임상경과

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Frailty as an Independent Predictor for Hospitalization-free Survival Even in Relatively Healthy Patients Receiving Chronic Dialysis

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Background/Aims: Frailty is a distinct clinical syndrome beyond just being old and ultimately results in increased risk for disability, hospitalization, and death. Interestingly, it has been reported that frailty was more common in chronic kidney disease (CKD) patients and even in the earlier stages of young CKD patients than general population. We investigated the prevalence and correlates of frailty among patients undergoing maintenance hemodialysis (MHD) and chronic peritoneal dialysis (CPD) and explored the association of frailty with hospitalization-free survival.

Methods: In this prospective study, total 1,658 patients undergoing chronic dialysis more than 6 months enrolled between July 2012 and December 2012 from 27 dialysis centers and followed through August 2014 (MHD=1,255 and CPD=403). Trained interviewers asked study participants about frailty phenotypes using RAND 36-itme Short Form (SF-36). Modified definition of frailty is comprised of self reported muscle weakness/impaired walking, exhaustion, low physical activity, and unintended weight loss. The aggregate frailty score was calculated as the sum of the component scores (range 0-5) and categorized as non-frail (0), pre-frail (1-2), and frail (3-5).

Results: Overall, 577 (34.8 %) patients of the enrolled patients were frail and 757 (45.7%) were pre-frail. Multivariate logistic regression analysis suggested that female sex, unemployed status, older age, higher BMI, lower education level, lower TIBC and comorbid conditions were independently associates with frailty. During the 86 weeks follow-up period, 608 patients were hospitalized. The proportion with hospitalizations was 24.4% for non-frail, 33.0% for pre-frail and 48.4% for frail ($p<0.001$). On univariate analysis, pre-frail and frail patients were as 1.4 (95% confidence interval [CI] 1.07 to 1.78) and 2.4 (95% confidence interval [CI] 1.86 to 3.07) times as more likely to be hospitalized, respectively. Frail phenotype remained strongly associated with hospitalization (adjusted hazard ratio [HR] 1.80; 95 % CI 1.4 to 2.3) in multivariate Cox proportional hazards models.

Conclusion: pre-frail or frail phenotypes were extremely common and frailty was predictive of hospitalization-free survival in a relatively healthy patients receiving chronic dialysis. More studies are necessary for preventing or attenuating frailty in the chronic dialysis patients.

Key Words: 프렐티, 입원율, 투석
Frailty, Hospitalization, Dialysis