

만성 투석 환자들에서 요산 수치와 사망률과의 관계

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Uric Acid and All-cause mortality in Chronic Dialysis Patients

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Background: Although hyperuricemia as well-known risk factor for hypertension, coronary heart disease and chronic kidney disease, however, a role of uric acid (UA) in chronic dialysis patients is still scarce. We explored the association between UA level and mortality according to dialysis mode.

Method: Among 1,682 prevalent dialysis patient enrolled in Clinical Research Center for End Stage Renal Disease (CRC-ESRD) in Korea, we included patients with available UA level at the time of enrollment. UA levels were categorized as follows: <5.5, 5.5-6.4, 6.5-7.4, 7.5-8.4 (reference group), and ≥ 8.5 mg/dL. Cox regression analysis was used to calculate the hazard ratio (HR) of all-cause mortality according to UA group.

Result: A total of 908 hemodialysis (HD) and 637 peritoneal dialysis (PD) patients were included in final analysis. UA level was significantly higher in HD (median [IQR], 7.2 [6.1-8.3]) than in PD (6.7 [5.8-7.6]) patients ($p < 0.001$). Interestingly, UA level showed different relation with mortality according to dialysis mode. In PD patients, UA was negatively associated with mortality rate ($p < 0.001$), however, it could not showed significant association in HD patients ($p = 0.739$). In the Kaplan-Meire curve, we proved the lowest UA group (UA < 5.5 mg/dL) showed highest mortality rate in PD patients during median 18.7 months of follow up (Log-rank $p < 0.001$). Compared with UA 7.5-8.4 group, UA < 5.5 mg/dL predicted all-cause mortality even after adjusted by age, sex, body mass index, dialysis vintage, systolic blood pressure, diabetes, hemoglobin, hs-CRP, albumin level (HR; 4.408, 95% confidence interval; 1.490-13.042, $p = 0.007$) in PD patients.

Conclusion: In this study, we elucidated that UA level of chronic dialysis patients had a different influence on mortality according to dialysis mode. Interestingly, we found paradoxical associations between UA level and mortality in PD patients, not in HD patients. Further prospective studies are warranted to validate these findings.

Key Words: 만성투석환자, 사망률, 요산

Chronic dialysis patients, Uric acid, Mortality