

복막투석 환자에서 혈중 요산 수치가 잔여 신기능에 미치는 영향

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Uric Acid is Associated with the Rate of Residual Renal Function Decline in Peritoneal Dialysis Patients

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Background : Uric acid (UA) is known to play a pathogenic role in hypertension and kidney disease. Although hyperuricemia is a common finding among chronic kidney disease patients, its effect in end-stage renal disease (ESRD) has not been elucidated.

Purpose : We therefore explored the prevalence of hyperuricemia and the relationship between UA and residual renal function (RRF) in peritoneal dialysis (PD) patients.

Methods : The subjects of this study were 134 incidental PD patients who started dialysis between January 2000 and December 2005. Timed urine collections were performed within 1 month of PD commencement and at 6-month intervals thereafter. Patients were followed up for 24 months or until their measured urine volume was less than 200 ml/day. The slope of decline of RRF over time was calculated by linear regression analysis of serial urinary urea and creatinine clearances for each patient. Biochemical and clinical data at the time of initial urine collection were considered as baseline.

Results : At baseline, 32.8% of the PD patients had hyperuricemia (UA \geq 7.0 mg/dL) and the mean UA level was 6.6 \pm 1.5 mg/dL. A significant majority of patients with hyperuricemia were diabetic (27.8 versus 47.7%, p=0.02). Hypertensive patients had a higher UA level (6.8 \pm 1.6 versus 5.7 \pm 0.9 mg/dL, p=0.002) compared to normotensive patients. The overall reduction rate of RRF in hyperuricemic patients was significantly higher than in the normouricemic group (-0.20 \pm 0.17 versus -0.08 \pm 0.20 ml/min/month/1.73m², p=0.001). In the multiple linear regression analysis, baseline UA level (β =-0.24, p=0.01) and history of DM (β =-0.26, p=0.02) showed a significant negative correlation with the reduction rate of RRF after adjusting for demographic data, comorbid conditions, body mass index, and baseline RRF. However, there was no significant correlation between the reduction rate of RRF and body mass index (β =-0.16, p=0.07), diuretic use (β =-0.04, p=0.67), use of angiotensin-converting enzyme inhibitors or angiotensin II receptor blockers (β =-0.03, p=0.76), and the use of biocompatible solutions (β =0.01, p=0.91).

Conclusion : Hyperuricemia is a common finding in patients treated with CAPD, and the rate of RRF loss was significantly related to baseline UA level in CAPD patients.

Key Words : 복막투석, 잔여 신기능, 요산

Peritoneal dialysis, Residual renal function, Uric acid