

合併尿酸與左心室質量指數來探討慢性腎臟病病人腎功能下降速度及進展至腎臟替代療法的相關性

Association of uric acid and left ventricular mass index with renal outcomes in chronic kidney disease

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Background. Hyperuricemia and left ventricular hypertrophy are prevalent in chronic kidney disease (CKD), but the association of uric acid (UA) and left ventricular mass index (LVMI) with renal outcomes in patients with CKD is unclear. This study is designed to assess whether the combination of UA and LVMI is associated with renal outcomes in patients with CKD stages 3-5.

Materials and Methods. This longitudinal study enrolled 540 patients, who were classified into four groups according to sex-specific median values of UA and LVMI. The association of study groups with progression to dialysis, rapid renal progression (eGFR decline > 3 ml/min/1.73 m²/year), and change of eGFR was investigated using Cox proportional hazards model, logistic regression analysis, and linear mixed effect model, respectively.

Results. The follow-up period was 33.4 (19.8-39.6) months. The number of serum creatinine measurements during the follow-up period was 8 (5-12) times. Multivariate analyses demonstrated the group with higher UA and LVMI was associated with an increased rate of progression to dialysis (hazard ratio, 1.830; 95% confidence interval [CI], 1.007 to 3.326; $P = 0.048$) and rapid renal progression (odds ratio, 2.231; 95% CI, 1.058 to 4.705; $P = 0.04$). Besides, the linear mixed effect model showed the decrease in eGFR over time was rapider in the group with higher UA and LVMI than in the other groups ($P \leq 0.04$).

Conclusions. Our findings show that the combination of higher UA and LVMI is a risk factor for progression to dialysis and rapid renal progression in patients with CKD stages 3-5.

Key words: uric acid, left ventricular mass index, chronic kidney disease, renal function progression