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Intensive uric acid-lowering improved renal outcomes in type 2 DM with chronic kidney disease: a multicenter, retrospective, real-world cohort study

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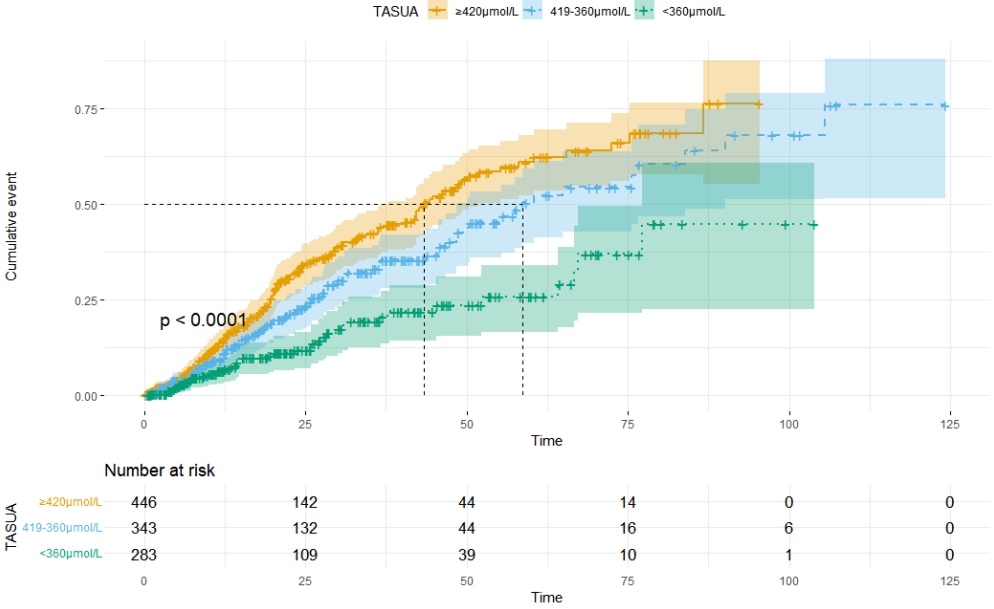
Objectives : To explorer the effects of intensive uric acid-lowering therapy on the renal outcomes in type 2 DM with chronic kidney disease (CKD).
Methods : Patients diagnosed of type 2 DM with CKD were enrolled in the nephrology department of 7 hospitals. The patients were followed up to the end of the follow-up period (October 2023).Primary outcomes encompass a 40%-decline in eGFR, or progression to end-stage renal disease, or all-cause mortality. The risk factors and the relationship with prognosis were analyzed. To further explore the influence of baseline SUA (B-SUA) and time average SUA (TA-SUA) level fluctuation on the prognosis of DKD patients in the DKD population, logistic and Cox proportional risk regression models were used to analyze the influence of SUA on the progression of patients.Propensity score matching was used to analyze the risk of renal prognosis by SUA.
Results : 1651 patients were screened, 1072 patients with a median age of 56.5±10.4 years old, and 700 males (65.3%) were enrolled. The median of follow-up was 60.4±5.6 months. The overall prevalence of hyperuricemia incurrent cohort was 46.1%, which was higher in males than in females. The SUA level increased with age and was negatively correlated with renal function. After adjusting for confounding factors, we found that B-SUA and TA-SUA were independent risk factors for renal prognosis. In subgroup analysis, TA-SUA 6mg/dL was consistent among subgroups of age, sex, hemoglobin, glycosylated hemoglobin and lipid-lowering, glucose-lowering, blood-pressure lowering, and urico-lowering drug use.The spline curves demonstrated a U-shaped pattern after propensity score matching at B-SUA 6mg/dL, suggesting a potential threshold effect of SUA on renal prognostic risk.
Conclusions : In this multicenter, retrospective, real-world cohort study, we found that hyperuricemia was an independent risk factor for renal outcomes. Intensive uric acid-lowering therapy especially maintaining SUA levels around 6mg/dL, delays renal end-point events in type 2 DM with CKD.

Kaplan-Meier curves of renal prognosis according to the diffrent time average serum uric acid levels levels.png



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