OUTCOMES ASSOCIATED WITH HYPERURICEMIA IN CHRONIC KIDNEY DISEASE.

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Hyperuricemia is common in patients with chronic kidney disease (CKD), but it is unclear if it is associated with clinical outcomes in this patient population.

We examined the association between hyperuricemia and outcomes (all cause mortality, the composite of mortality or dialysis, and the incidence of new onset end stage renal disease [ESRD] separately) in 788 male US veterans (age 67.8 ± 10.9 years, 26% Black) with CKD not yet on dialysis (estimated glomerular filtration rate [eGFR] 37.1 ± 17.1 ml/min/1.73m^2). Association with mortality were examined in a time-dependent unadjusted Cox model and after adjustment for case mix (age, race, co-morbidities, smoking, blood pressure, eGFR, proteinuria, serum calcium, phosphorus, and medication use) and surrogates for malnutrition-inflammation complex (body mass index, serum albumin, cholesterol, white blood cell count, percent of lymphocytes and blood hemoglobin).

There were a total of 289 deaths and 182 patients developed ESRD. Higher uric acid level was associated with a trend toward increased mortality (adjusted hazard ratios [95% CI] for uric acid levels 6.3 -7.8, 7.81- 9.3 and > 9.3, compared to <6.3 mg/dl: 1.93 [1.31- 2.84], 1.40 [0.93- 2.13], and 1.84 [1.23- 2.74]; P = 0.051 for trend). Higher uric acid level was also associated with a higher incidence of ESRD (adjusted hazard ratios [95%CI] for uric acid levels 6.3 -7.8, 7.81- 9.3 and > 9.3, compared to <6.3 mg/dl: 0.91 [0.52-1.59], 1.12 [0.66-1.94] and 1.49 [0.85-2.59]; P = 0.043 for trend). The association between uric acid level and the composite outcome were similar.

Higher serum uric acid level is associated with higher mortality and a higher incidence of ESRD in patients with CKD who are not yet on dialysis, independent of confounders, including eGFR. Clinical trials are needed to determine if lowering of serum uric acid could improve outcomes in CKD.