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Changes in Albuminuria and
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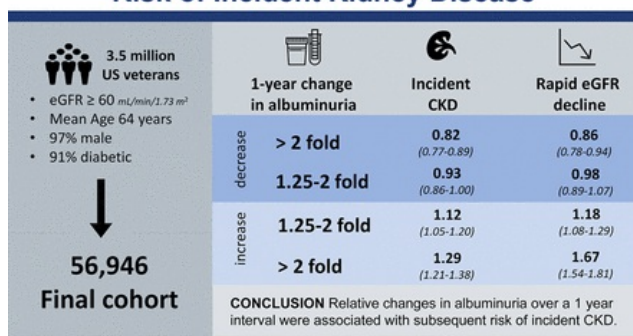
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Visual Overview

Changes in Albuminuria and Subsequent
Risk of Incident Kidney Disease

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Abstract

Background and objectives Albuminuria is a robust predictor of CKD progression. However, little is known about the associations of changes in albuminuria with the risk of kidney events outside the settings of clinical trials.

Design, setting, participants, & measurements In a nationwide cohort of 56,946 United States veterans with an eGFR ≥ 60 mL/min per 1.73 m², we examined the associations of 1-year fold changes in albuminuria with subsequent incident CKD (>25% decrease in eGFR reaching <60 mL/min per 1.73 m²) and rapid eGFR decline (eGFR slope <−5 mL/min per 1.73 m² per year) assessed using Cox models and logistic regression, respectively, with adjustment for confounders.

Results The mean age was 64 (SD, 10) years old; 97% were men, and 91% were diabetic. There was a nearly linear association between 1-year fold changes in albuminuria and incident CKD. The multivariable-adjusted hazard ratios (95% confidence intervals) of incident CKD associated with more than twofold decrease, 1.25- to twofold decrease, 1.25- to twofold increase, and more than twofold increase (versus <1.25-fold decrease to <1.25-fold increase) in albuminuria were 0.82 (95% confidence interval, 0.77 to 0.89), 0.93 (95% confidence interval, 0.86 to 1.00), 1.12 (95% confidence interval, 1.05 to 1.20), and 1.29 (95% confidence interval, 1.21 to 1.38), respectively. Qualitatively similar associations were present for rapid eGFR decline (adjusted odds ratios; 95% confidence intervals for corresponding albuminuria changes: adjusted odds ratio, 0.86; 95% confidence interval, 0.78 to 0.94; adjusted odds ratio, 0.98; 95%

confidence interval, 0.89 to 1.07; adjusted odds ratio, 1.18; 95% confidence interval, 1.08 to 1.29; and adjusted odds ratio, 1.67; 95% confidence interval, 1.54 and 1.81, respectively).

Conclusions Relative changes in albuminuria over a 1-year interval were linearly associated with subsequent risk of kidney outcomes. Additional studies are warranted to elucidate the underlying mechanisms of the observed associations and test whether active interventions to lower elevated albuminuria can improve kidney outcomes.

albuminuria chronic kidney disease microalbuminuria Odds Ratio
Proportional Hazards Models Logistic Models glomerular filtration rate
Veterans Renal Insufficiency, Chronic kidney diabetes mellitus

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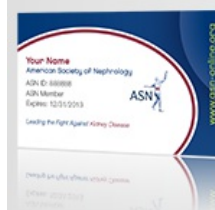
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