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OUTCOMES OF ACUTE KIDNEY INJURY ASSOCIATED WITH INHIBITORS OF RENIN-ANGIOTENSIN SYSTEM.

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Acute kidney injury (AKI) is a frequent complication in hospitalized patients. Medications that inhibit the renin-angiotensin system (angiotensin converting enzyme inhibitors [ACEI] and angiotensin receptor blockers [ARB]) are frequently involved in AKI, but it is unclear if long term outcomes are different in patients whose AKI was induced by these medications, compared to other causes.

We examined 707 hospitalized male veterans from a single institution who developed AKI between Jan 1, 03 and Oct 30, 06. Patients were categorized according to whether the AKI was related to ACEI/ARB or not. Outcomes (all cause mortality and the development of end stage renal disease (ESRD) with permanent need for dialysis) were examined using the Kaplan Meier method and the log rank test. The confounding variables were examined in multivariable Cox models.

Mean age was 71±12 years and 17% of patients were black. 58% of patients died (death rate of 417/1000 patient-years [95% CI: 378-459]) and 7% of patients developed ESRD (ESRD rate of 53/1000 patient-years [95% CI: 40-71]). 455 patients (64%) developed AKI from ACE/ARB use. Patients whose AKI was related to ACEI/ARB use showed a trend toward lower mortality and lower incidence of ESRD in unadjusted models (unadjusted hazard ratio [95% CI] for mortality: 0.86 [0.70-1.05] and for ESRD incidence: 0.61 [0.35-1.03]), but the differences became non-significant after multivariable adjustment for potential confounders (multivariable adjusted hazard ratio [95% CI] for mortality: 1.01 [0.79-1.29] and for ESRD incidence: 0.65 [0.33-1.29]).

Outcomes in patients with AKI caused by ACEI/ARB were not significantly different compared with patients whose AKI was not related to such medications. Further studies are needed to determine if development of AKI affects the long term benefits of ACEI/ARB in treating conditions such as heart failure or chronic kidney disease.