

## **Creatinine increase in elderly means increased renal disease, mortality**

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Even small increases in serum creatinine levels during hospitalization raise the risk of end stage renal disease and mortality of elderly patients over the long term, according to a University of Alabama at Birmingham (UAB) study in the *Archives of Internal Medicine*.

The 10-year retrospective study, led by UAB nephrologist Britt Newsome, M.D, is the first systematic description of creatinine increase and longer-term end stage renal disease and mortality risk. Previous studies showed a relationship between reductions in kidney function during hospitalization and higher mortality rates.

“Previous studies have shown that a rise in serum creatinine level of 0.3 milligrams per deciliter or more during hospitalization is associated with higher in-hospital mortality, longer stays and higher costs,” Newsome said. “However, little was known about the long-term risks of subsequent end-stage renal disease and mortality in this population. The long-term risks we observed suggest that even the least severe category of kidney injury may indicate a worse prognosis.”

The study looked at 87,094 Medicare beneficiaries admitted to 4,473 hospitals across the country suffering from a heart attack, or acute myocardial infarction. They studied changes in creatinine levels of those patients from 0.1 to 3.0 milligrams per deciliter. The mean age of the patients was 77.1 years old.

Incidences of end stage renal disease and death were greatest among

patients with larger changes in creatinine level, and all levels of serum creatinine increase were associated with a greater risk of end stage renal disease and death.

“We chose to examine a population of Medicare beneficiaries because the incidence of acute kidney injury has been increasing in this population for the past 10 years,” Newsome said. “Further, patients with cardiovascular disease are at a particularly high risk of chronic kidney disease as well as acute kidney injury. In future studies we will want to determine if this relationship exists in patients admitted to the hospital for other conditions.”

With these findings, the study calls for clinicians to closely monitor and aggressively treat patients experiencing increases in creatinine levels.

“The study also shows that giving patients beta blockers and aspirin can help treat these patients and possibly prevent death in the long term, regardless of creatinine change during hospitalization,” Newsome said.

Source: University of Alabama at Birmingham

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