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EMBARGOED FOR RELEASE UNTIL 5:00 PM ET ON DECEMBER 17

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KIDNEY INJURY IN HOSPITAL INCREASES LONG-TERM RISK OF DEATH

Mortality Rises Even if Dialysis is Not Required and Kidney Function Returns to Normal

Washington, DC (December 14, 2009) — Patients with sudden loss of kidney function, called acute kidney injury (AKI), are more likely to die prematurely after leaving the hospital—even if their kidney function has apparently recovered, according to an upcoming study in *Journal of the American Society of Nephrology* (JASN). "Our study found that risk of death remains elevated long after the acute kidney injury," comments Jean-Phillipe Lafrance, MD (Center for Health Quality, Outcomes, and Economic Research, Bedford, MA).

Lafrance, along with Donald R. Miller, ScD (also of Center for Health Quality, Outcomes, and Economic Research), used a Veterans Affairs health database to analyze long-term outcomes in about 83,000 veterans with AKI (previously called *acute renal failure*). Patients with AKI have rapid deterioration in kidney function, resulting from many possible causes. More than half of patients with AKI need dialysis at least temporarily, and many die prior to leaving the hospital. The new study focused on AKI patients who did not need dialysis and who survived at least three months after leaving the hospital.

During an average two year follow-up, 30 percent of the AKI patients died compared to 16 percent of a group of patients without AKI. Researchers determined risk of death to be about 40 percent higher in the AKI group, even after adjusting for other factors including impaired kidney function following hospital discharge.

The risk was even higher for patients with more severe AKI, as defined by severe declines in kidney function. Mortality risk was elevated even for patients whose kidney function returned to normal after AKI, as it did in more than half of cases. "Impaired kidney function following hospital discharge explained only part of the increased long-term mortality risk associated with AKI," said Lafrance.

The study had several limitations: it used data collected for another purpose, did not include complete information on the serum creatinine test used to diagnose AKI, was mostly limited to men, and

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did not include information on causes of death. It also lacked data on the long-term risk of chronic kidney disease, a potential late complication of AKI.

Nephrologists have known that AKI is associated with a high risk of death in the hospital, but it has been unclear if this risk persists after the patient goes home. "Better understanding of the long-term outcomes after AKI may inform further studies and improve patient care after those events," Lafrance added.

The study was supported by a VA research grant. Dr. Lafrance was supported by a KRESCENT Fellowship award. Dr. Miller has received research grant funds from Sanofi-Aventis.

The study entitled, “Acute Kidney Injury Associates with Increased Long-Term Mortality,” will appear in an upcoming print issue of JASN and online at http://jasn.asnjournals.org/ on December 17, 2009, doi 10.1681/ASN.2009060636.

Founded in 1966, ASN is the world’s largest professional society devoted to the study of kidney disease. Comprised of 11,000 physicians and scientists, ASN continues to promote expert patient care, to advance medical research, and to educate the renal community. ASN also informs policymakers about issues of importance to kidney doctors and their patients. ASN funds research, and through its world-renowned meetings and first-class publications, disseminates information and educational tools that empower physicians.

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