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WHILE INCIDENCE OF ACUTE RENAL FAILURE RISES, RISK OF DEATH DECLINES

New Approaches to Prevention and Treatment "Desperately Needed"

Washington, DC (February 28, 2006) — Although treatment advances have reduced the risk of death for patients with acute renal failure (ARF) since the 1990s, the number of patients hospitalized for ARF continues to increase steadily, suggest a pair of studies in the April *Journal of the American Society of Nephrology*.

A study led by Jay L. Xue, D.V.M., Ph.D., of the United States Renal Data System (USRDS) examined trends in ARF—sudden loss of kidney function, resulting from a variety of causes—in a large sample of hospitalized Medicare beneficiaries. From 1992 to 2001, the incidence of ARF among elderly Medicare patients increased steadily, by about 11 percent per year. Older patients, men, and African-Americans were at particularly high risk.

Patients with ARF were at significantly higher risk of death than those with other diagnoses. Approximately 15 percent of patients with a main diagnosis of ARF died in the hospital, compared to five percent of those with other diagnoses. The mortality rate was even higher—33 percent—for patients with ARF as a secondary diagnosis. Acute renal failure often occurs along with other types of organ failure in patients with sepsis or other severe illnesses.

"The key finding of this study is that the incidence of ARF steadily increased in U.S. elderly patients hospitalized from 1992 to 2001," comments Dr. Xue. "Our study shows that patients with ARF have longer hospital stays and higher mortality than those without ARF. Because the risk of death is so high, it is essential to study the causes of the increased incidence of ARF."

A study led by Dr. Sushrut S. Waikar of Harvard Medical School focused on trends in mortality risk in about 5.6 million hospital discharges of patients with ARF between 1988 and 2002, identified from nationally representative database of hospitalizations. Approximately 600,000 were for severe ARF requiring dialysis to replace lost kidney function.

As in Dr. Xue's study, the results showed a sharp increase in ARF rates. Adjusted for population, the overall incidence of ARF more than quadrupled from 1988 to 2002, while the rate of ARF requiring dialysis increased by more than six times. Although increased awareness and diagnosis might play some role, the researchers believe they cannot entirely explain the trend toward rising rates of ARF.

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Meanwhile, rates of in-hospital death for patients with ARF decreased dramatically: from 40 to 20 percent overall, and from 41 to 28 percent for patients with ARF requiring dialysis. The drop in mortality rates came despite trends toward more severe ARF and more additional diseases among ARF patients.

"There have been numerous advances in the care of critically ill patients in the past 15 years," comments Dr. Waikar. "The improvement in survival among patients with severe kidney failure suggests that doctors are getting better at treating these extremely ill patients. "One possible explanation for this improvement is advances in dialysis technology."

In the future, the rising incidence of ARF is likely to place increasing strain on an already burdened health care system, Dr. Waikar and colleagues believe. They conclude that, "Despite declining mortality rates, outcomes associated with ARF remain unacceptably poor. New strategies for the prevention and treatment of ARF are desperately needed."

The studies are available online at www.asn-online.org and in the April issue of the *Journal of the American Society of Nephrology*.

The ASN is a not-for-profit organization of 9,500 physicians and scientists dedicated to the study of nephrology and committed to providing a forum for the promulgation of information regarding the latest research and clinical findings on kidney diseases.

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