

Acute kidney injury may be a risk factor for later heart problems

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Patients who experience abrupt kidney injury following surgery have an increased risk of later developing heart problems, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN). The findings suggest that properly treating and monitoring patients with acute kidney injury (AKI) could help protect their heart health.

AKI, an sudden decline in [kidney function](#), is an increasingly prevalent and potentially serious condition in hospitalized [patients](#). Sometimes [acute kidney injury](#) arises after major surgery because the kidneys can be deprived of normal blood flow during the procedure.

Relatively little attention has been paid to potential links between AKI and later [heart problems](#). To investigate, Vin-Cent Wu, MD, PhD (National Taiwan University Hospital) and his colleagues analyzed information from hospitalized patients who recovered from AKI that required dialysis. Data were collected from inpatient claims of the Taiwan National Health Insurance from 1999 to 2008.

Among the 17,106 acute dialysis patients who were discharged, 4869 recovered from dialysis-requiring AKI and were matched with 4869 patients without AKI.

- The incidence rate of coronary events was 19.8 per 1000 person-years in the AKI-recovery group, compared with 10.3 per 1000 person-years in the non-AKI group. (A person-year is the number

of years of follow-up multiplied by the number of people in the study.)

- Patients who recovered from AKI had a 67% increased risk of experiencing coronary events or dying during the study period, regardless of whether or not they developed chronic kidney disease.
- AKI's harmful effects on heart health were comparable to those attributed to diabetes.

"These findings indicate that dialysis-requiring AKI with subsequent recovery should be deemed as a risk category for cardiovascular disease, and they shed light on the importance of adequate care for affected patients," said Dr. Wu.

In an accompanying editorial, Chi-yuan Hsu, MD and Kathleen Liu, MD, PhD (University of California, San Francisco) wrote that the work is "very provocative and interesting." They added that more studies are needed to replicate and expand the results, examining cardiovascular disease outcomes other than coronary disease, such as [heart](#) failure, cardiac arrhythmias, cerebrovascular disease, and peripheral arterial disease. Drs. Hsu and Liu also noted that because the incidence of nondialysis-requiring AKI is much higher than the incidence of dialysis-requiring AKI, it will be important to examine the impact of more mild degrees of AKI on subsequent cardiovascular events. "Hopefully, this study is the first of many in the field to examine the impact of AKI on [cardiovascular disease](#), an exciting new dimension," they wrote.

More information: The article, entitled "Long-Term Risk of Coronary Events after AKI," will appear online at jasn.asnjournals.org/ on February 6, 2014.

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