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ACUTE KIDNEY INJURY DURING HOSPITALIZATION LINKED WITH HIGHER RISK OF HEART FAILURE AFTER DISCHARGE

Highlight

- Among hospitalized adults, those who experienced acute kidney injury were 44% more likely to be hospitalized for heart failure in the year after discharge.

Acute kidney injury is one of the most common and serious complications of hospitalized patients.

Washington, DC (May 17, 2018) — Acute kidney injury (AKI), an abrupt or rapid decline in kidney function, is an increasingly prevalent and potentially serious condition that often arises due to medical conditions or treatments that may deprive the kidneys of a normal blood flow or damage kidney tissue. A new study appearing in an upcoming issue of the *Clinical Journal of the American Society of Nephrology* (CJASN) reveals that AKI is linked with a higher risk of cardiovascular events, especially heart failure, in patients even after they are discharged from the hospital.

AKI frequently complicates hospitalizations and can have effects on the cardiovascular system. To examine the heart-related impacts of AKI in patients during the year after they leave the hospital, Alan S. Go, MD (Kaiser Permanente and the University of California, San Francisco) and his colleagues examined data on all adults admitted from 2006–2013 to 21 hospitals within Kaiser Permanente Northern California who had one or more in-hospital kidney tests and survived to hospital discharge.

Among 146,931 hospitalized adults, 31,245 experienced AKI. At 365 days post-discharge, AKI was associated with an 18% higher risk of the composite outcome of hospitalization for heart failure and atherosclerotic events, after adjusting for demographics, comorbidities, preadmission kidney function, heart failure and sepsis complicating the hospitalization, intensive care unit admission, length of stay, and predicted in-hospital mortality. The increased risk was driven by a 44% elevated risk of subsequent heart failure, whereas there was no significant association with hospitalization for atherosclerotic events.

“Our results highlight subsequent heart failure as a key risk for patients who experienced acute kidney injury in the hospital,” said Dr. Go. “Earlier detection of heart failure symptoms in these patients could potentially save lives.”

An accompanying editorial by Steven Coca, DO, MS (Icahn School of Medicine at Mount Sinai) notes that while the authors should be commended for their rigorous analyses, the absolute difference in the risk for congestive heart failure associated with AKI was very small (2%), there was still high probability of residual confounding that could explain the results, and recent studies are not fully supportive of the paradigm that AKI is the actual driver or mediator of adverse outcomes seen in large epidemiologic studies.

Study co-authors include Chi-yuan Hsu, Jingrong Yang, Thida Tan, Sijie Zheng, Juan Ordonez, and Kathleen Liu.

Disclosures: Dr. Go has received a research grant through his institution from Astra-Zeneca. None of the other authors have any relevant financial disclosures.

The article, entitled “Acute Kidney Injury and Risk of Heart Failure and Atherosclerotic Events,” will appear online at <http://cjasn.asnjournals.org/> on May 17, 2018, doi: 10.2215/CJN.112591117.

The editorial, entitled “Ptolemy and Copernicus Revisited: The Complex Interplay Between the Kidneys and Heart Failure,” will appear online at <http://cjasn.asnjournals.org/> on May 17, 2018.

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