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EVIDENCE-BASED CARE MAY IMPROVE OUTCOMES FOR PATIENTS WITH ACUTE KIDNEY INJURY

Highlights

- A set of interventions designed to improve care for patients with acute kidney injury (AKI) was associated with reductions in length of hospital stay, shorter duration of AKI episodes, and an increase in AKI incidence that likely reflected improved recognition.
- The intervention also led to improvements in several metrics related to AKI care, including AKI recognition, medication optimization, and fluid assessment by clinicians.

Washington, DC (February 21, 2019) — 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 certain health problems or medical treatments that deprive the kidneys of normal blood flow or damage kidney tissue. A new study appearing in an upcoming issue of the *Journal of the American Society of Nephrology (JASN)* may help improve the diagnosis and treatment AKI.

AKI frequently complicates hospitalizations and it is linked to elevated mortality risks, longer-term kidney damage, longer hospital stays, and increased healthcare costs. Because AKI often occurs with few symptoms it can go unrecognized, leading to differences in the delivery of standard AKI treatment as recommended in national and international guidelines.

In an effort to improve the delivery of AKI care across organizations, Nicholas Selby, MD (University of Nottingham and Royal Derby Hospital) and his colleagues performed a pragmatic trial to test the effectiveness of a package of interventions—an electronic alert within hospital IT systems, an AKI care bundle, and an educational program (A care bundle is a small, straightforward set of evidence-based practices aiming to improve the process of care). “For the first time, we did this in a large, multi-centre randomised clinical research study, and we measured the impact of this intervention on the delivery of AKI care and on patient outcomes,” said Dr. Selby. “Importantly, the intervention is readily scalable, meaning that it can be implemented in other hospitals if shown to be effective.”

In 5 hospitals in the United Kingdom, the intervention was introduced sequentially according to a randomly determined schedule across 3-month periods. The team studied 24,059 AKI episodes and found that although the intervention did not alter 30-day mortality rates, it was associated with reductions in length of hospital stay, shorter duration of AKI episodes, and an increase in AKI incidence that likely reflected improved recognition. The intervention led to improvements in several metrics related to AKI care, including AKI recognition, medication optimization, and fluid assessment by clinicians.

“We have shown that AKI recovers more quickly and that some people can go home from hospital earlier, albeit that this approach didn’t have any effect on survival rates,” said Dr. Selby. “Together with previous studies, these results show that strategies to improve the systematic delivery of supportive AKI care can lead to improvements in patient outcomes.” He noted that the reduction in hospital length of stay seen in this study could translate into a significant health economic benefit, given the large numbers of people who develop AKI.

Study co-authors include Anna Casula, Laura Lamming, John Stoves, Yohan Samarasinghe, Andrew J. Lewington, Russell Roberts, Nikunj Shah, Melanie Johnson, Natalie Jackson, Carol Jones, Erik Lenguerrand, Eileen McDonach, Richard J. Fluck, Mohammed A. Mohammed, and Fergus J. Caskey.

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The article, entitled “An Organizational-Level Program of Intervention for AKI: A Pragmatic Stepped-Wedge Cluster Randomized Trial,” will appear online at <http://jasn.asnjournals.org/> on February 21, 2019, doi: 10.1681/ASN.2018090886.

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