Artificial intelligence-based algorithm predicts major adverse kidney events after hospitalization

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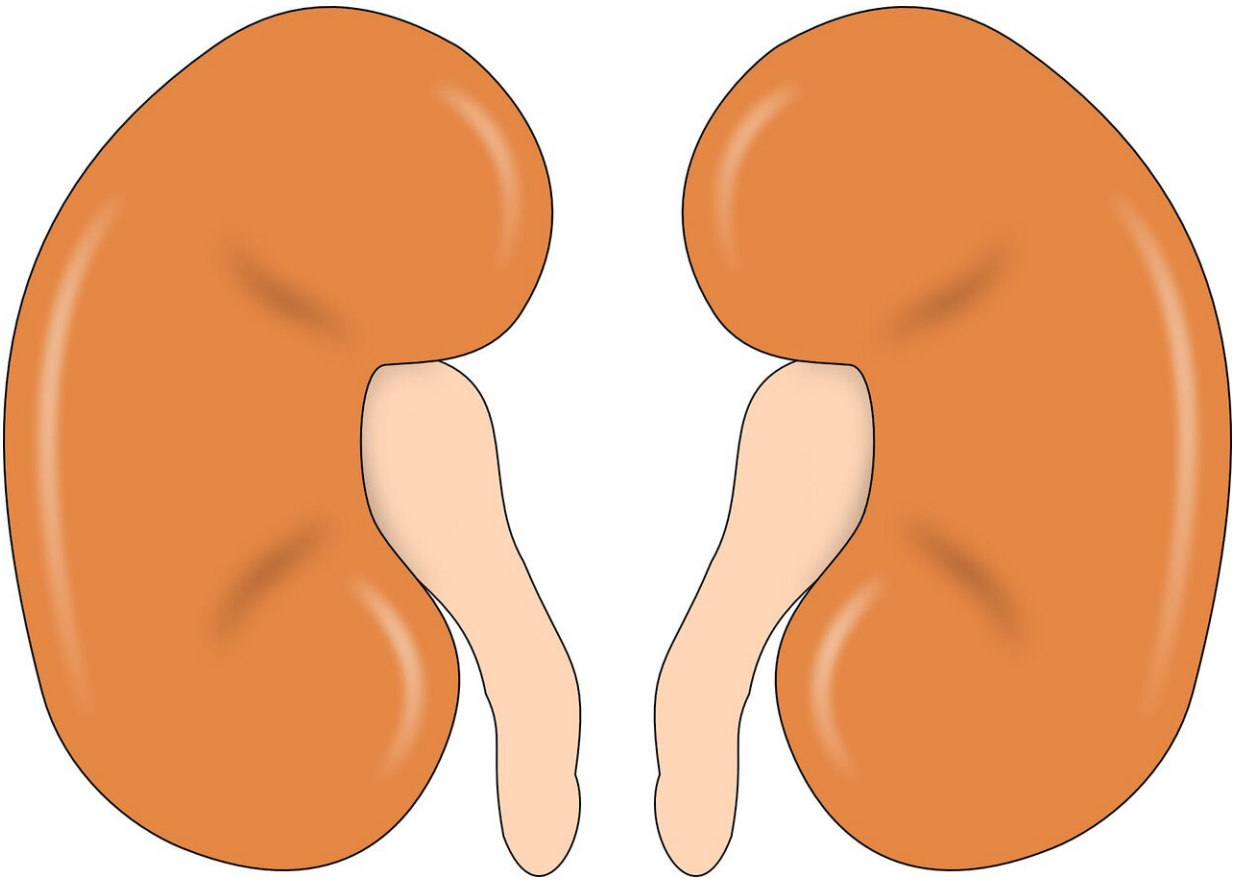

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Serious kidney-related complications—or major adverse kidney

events—are common after hospitalization for various medical problems. Investigators have now developed and validated an artificial intelligence-based algorithm to predict a patient's risk of major adverse kidney events within 90 days of hospital discharge. The research will be presented at ASN Kidney Week 2022 November 3-November 6.

The scientists developed and validated their algorithm in 50,448 patients without baseline severe chronic kidney disease who were admitted to the University of Chicago between November 2008 and June 2020. The algorithm was developed using demographics, inpatient vital signs, and laboratory results. Within 90 days of discharge, 19.7% of patients developed a major adverse kidney event (acute kidney injury, chronic kidney disease, need for dialysis, or kidney-related death), and the algorithm was accurate at predicting these events.

"Our work needs to be validated with outside data but it could be used to help prioritize follow-up with nephrology and primary care as well as to determine which patients should (and should not) be sent for transplant or dialysis access evaluation," said corresponding author Jay Koyner, MD. "Similarly, combining our risk score with existing literature that shows acute kidney injury increases the risk of new congestive heart failure, we could potentially determine which patients should be seen by cardiologists."

More information: Development of a Machine Learning Algorithm to Predict Major Adverse Kidney Events (MAKE) After Hospitalization (2022).

Provided by American Society of Nephrology

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