

Urine test predicts heart failure patients' risk of kidney injury

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Levels of a protein in the urine may help clinicians predict which patients with acute heart failure are at increased risk of developing kidney injury during hospitalization, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN).

Acute [heart failure](#) is the leading cause of hospitalizations worldwide. In patients with [acute decompensated heart failure](#) (ADHF), which occurs when symptoms in people with previous or existing heart problems get worse, 25% to 51% develop acute [kidney injury](#) (AKI) due to connections between the heart and kidneys. Unfortunately, there are no reliable clinical markers to help [clinicians](#) predict which patients are at high risk of developing AKI.

Xiaobing Yang, MD, Fan Fan Hou, MD, PhD (Southern Medical University, in Guangzhou, China) and their colleagues conducted a study in 436 patients with ADHF to validate a new marker, urinary angiotensinogen (uAGT), for predicting patients' risk of developing AKI. uAGT plays an important role in blood pressure regulation and kidney health.

The team demonstrated that uAGT levels at the time of hospital admission predicted AKI risk with considerable accuracy. The highest quartile of uAGT on admission was linked with a 50-times increased risk of AKI compared with the lowest quartile. Patients' uAGT level at the time of admission also helped clinicians predict patients' risk of being

rehospitalized or dying within one year.

"Our results raise the possibility that by using sensitive and specific biomarkers such as uAGT, clinicians may be able to identify ADHF patients at high risk of developing AKI as early as on the first day of admission," said Dr. Hou. "If confirmed, uAGT levels on the first day of admission may improve clinicians' ability to assess ADHF patients' risk of developing AKI and to predict their 1-year prognosis, which in turn would help clinicians to plan and initiate the most appropriate management strategies during hospitalization and post discharge."

Provided by American Society of Nephrology

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