

Certain medical diagnoses may increase hospitalized patients' risk of kidney injury

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This image shows a cross section of a kidney. Credit: Holly Fischer/Wikipedia

A new study has uncovered various medical diagnoses that may elevate an individual's risk of developing acute kidney injury (AKI) while in the hospital. The study, which appears in an upcoming issue of the *Clinical Journal of the American Society of Nephrology (CJASN)*, also found that

hospital-acquired AKI may be largely underestimated.

AKI, an abrupt decline in kidney function, is an increasingly prevalent and potentially serious condition that often arises due to medical or surgical conditions that deprive the kidneys of a normal blood flow. Previous studies have identified certain risk factors of hospital-acquired AKI, but a comprehensive exploration of all possible diagnoses associated with AKI has never been performed.

A team led by Nicolas Pallet, MD, PhD and Anne-Sophie Jannot, MD, PHD (Paris Descartes University in France) set out to do this in a French urban tertiary academic hospital over a period of 10 years. The investigators extracted all diagnoses from a clinical data warehouse for patients who were admitted to this hospital between 2006 and 2015 and had at least 2 plasma creatinine measurements (which are used to diagnose AKI) performed during the first week of their stay. The researchers then analyzed the association between hospital-acquired AKI and other medical diagnoses. After examining hospital stays for 126,736 unique individuals, the team found that 5 clusters of diagnoses put patients at high risk for developing AKI: sepsis, heart diseases, polytrauma, liver disease, and cardiovascular surgery.

Also, only 30% of patients with hospital-acquired AKI (as determined by plasma creatinine measurements) had a corresponding diagnostic AKI code entered into their medical record. This indicates that in most cases, either AKI was not identified and diagnosed by the physician and, consequently, not coded, or AKI was diagnosed but considered a medical issue of minor importance and, therefore, not relevant enough to be encoded.

"Our findings highlight the frequency and the severity of the medical situations associated with hospital-acquired AKI," said Dr. Pallet. "Our results also support the urgent need for efforts to ensure more accurate

identification of hospital-acquired AKI."

More information: "The Diagnosis-wide Landscape of Hospital-acquired Acute Kidney Injury," *Clinical Journal of the American Society of Nephrology*, [DOI: 10.2215/CJN.10981016](https://doi.org/10.2215/CJN.10981016)

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