

# Urinary [TIMP-2]\*[IGFBP7] may predict AKI after heart surgery

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(HealthDay)—Elevated urinary levels of the proteins TIMP-2 and

IGFBP7 are a potentially useful biomarker predicting moderate to severe acute kidney injury (AKI) in the early postoperative period after open heart surgery, according to a study presented Oct. 5 at the 14th Annual Multidisciplinary Cardiovascular and Thoracic Critical Care Conference from The Society of Thoracic Surgeons, being held Oct. 5 to 7 in Washington, D.C.

Brittany Laviano, R.N., of Lee Health in Fort Myers, Florida, and colleagues evaluated the sensitivity and specificity of a new urinary biomarker test and its impact on patient management in 1,116 open heart surgery patients treated between Sept. 10, 2015, and Oct. 31, 2016. Urine samples were collected at four and 12 hours after arrival to the [intensive care unit](#) and analyzed to determine the [TIMP-2]\*[IGFBP7] value.

The researchers found that 15 percent of patients developed moderate to severe AKI within 24 hours postoperatively (sensitivity 62.2 percent; specificity, 55 percent). The vast majority of patients (98 percent) with AKI were diagnosed by oliguria. Sensitivity was 79 percent and specificity was 46 percent at 12 hours postoperatively. The positive predictive value of the test was 21 percent, while the negative predictive value was 93 percent. With a cutoff value of  $\geq 2$ , the [positive predictive value](#) increased to 36 percent.

"This represents the largest published sample of urinary [TIMP-2]\*[IGFBP7] as a predictor of AKI in cardiac surgical patients," the authors write. "Urinary [TIMP-2]\*[IGFBP7] is a potentially useful biomarker predicting moderate to severe AKI in the early postoperative period following [open heart surgery](#). Understanding its strengths and weaknesses is critical in creating successful clinical algorithms."

**More information:** [More Information](#)

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