Remote ischemic preconditioning cuts kidney injury risk

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(HealthDay)—Remote ischemic preconditioning can reduce the rate of acute kidney injury among high-risk patients undergoing cardiac surgery, according to a study published online May 29 in the *Journal of the American Medical Association*. The research was published to coincide with the European Renal Association-European Dialysis and Transplant Association Congress, held from May 28 to 31 in London.

Alexander Zarbock, M.D., from the University Hospital Münster in Germany, and colleagues conducted a randomized trial involving 240 patients at high risk for acute kidney injury who were undergoing cardiac surgery at four hospitals in Germany. Patients were randomized in a 1:1 ratio to receive remote ischemic preconditioning or sham remote ischemic preconditioning (control).

The researchers observed a significant reduction in acute kidney injury with remote ischemic preconditioning versus control (37.5 versus 52.5 percent; P = 0.02). Renal replacement therapy was received by fewer patients receiving remote ischemic preconditioning (5.8 versus 15.8 percent; P = 0.01). Furthermore, remote ischemic preconditioning correlated with a reduction in intensive care unit stay (three versus four days; P = 0.04). Remote ischemic preconditioning had no significant effect on myocardial infarction, stroke, or mortality, but correlated with a significant attenuation in the release of urinary insulin-like growth factor-binding protein 7 and tissue inhibitor of metalloproteinase 2 after surgery (P

"The observed reduction in the rate of acute kidney injury and the need for renal replacement warrants further investigation," the authors write.

Two authors disclosed financial ties to the biotechnology industry; two authors reported filing a patent application on the use of biomarkers together with remote ischemic preconditioning.

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