

Increased heart attack risk associated with total hip, knee replacement surgeries

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Total hip replacement (THR) and total knee replacement (TKR) surgeries were associated with increased risk of acute myocardial infarction (AMI, heart attack) in the first two weeks after the surgical procedures, according to report published Online First by *Archives of Internal Medicine*, a JAMA Network publication.

THR and TKR are effective for treating patients with moderate to severe osteoarthritis. These surgical procedures are commonly performed, with an estimated 1.8 million procedures performed annually worldwide, according to the study background.

"This study demonstrated an increased risk of AMI during the first two weeks after THR (25-fold) and TKR (31-fold) surgery compared with matched controls. The risk of AMI sharply decreased after this period, although it remained significantly elevated in the first six weeks for THR patients. The association was strongest in patients 80 years or older, whereas we could not detect a significantly increased risk in patients younger than 60 years," Arief Lalmohamed, Pharm.D., of Utrecht University, the Netherlands, and colleagues comment.

Researchers utilized Danish national registries for their study that enrolled patients who underwent THR or TKR (n=95,227) from January 1998 through December 2007 and 286,165 individuals as matched controls. The mean (average) age for THR patients was just less than 72 years and for TKR patients it was just more than 67 years.

The absolute six-week risk of AMI was 0.51 percent in THR patients and 0.21 percent in TKR patients, according to the results.

"Furthermore, a previous AMI in the six months before surgery increased the risk of new AMI during the first six weeks after THR and TKR (4-fold increase) surgery but did not modify the

relationship between THR or TKR and AMI," the authors conclude.

In a commentary, Arthur W. Wallace, M.D., Ph.D., of the University of California, San Francisco, writes: "The perioperative period is stressful to patients … The present study once again confirms that the perioperative period increases cardiac risk. Physicians must go further than establishing risk factors; physicians must actively work to reduce perioperative risk."

"It is important for physicians caring for patients in the perioperative period to recognize the potential for cardiac morbidity and mortality and then appropriately use the armamentarium of medical therapies we now have to reduce cardiac risk, prevent perioperative MIs ([myocardial infarction, heart attack](#)), and prevent cardiac deaths," Wallace continues.

"In their present study, Lalmohamed et al clearly reinforce the importance and significance of the cardiac risk and the need to prevent perioperative cardiac morbidity and mortality," Wallace concludes.

More information:

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