Medical Xpress

Ablation during mitral valve surgery reduces atrial fibrillation

March 16 2015

Patients with atrial fibrillation who received ablation while they were already undergoing surgery to correct a leaky heart valve had fewer episodes of atrial fibrillation a year later compared to patients who had the valve surgery alone, according to a study presented at the American College of Cardiology's 64th Annual Scientific Session.

The patients who received ablation along with mitral valve surgery had no more deaths, adverse cardiac events or hospitalizations than patients who only received the valve surgery alone, but they were more likely to require a pacemaker.

The study, which included 260 patients within the Cardiothoracic Surgical Trials Network, a clinical research network involving 20 U.S. and Canadian hospitals, is the first appropriately powered randomized clinical trial to assess the use of ablation in patients already undergoing mitral valve surgery. Half of the patients were randomly assigned to receive mitral valve surgery alone, while the other half also received surgical ablation. All of the study participants had persistent or long-standing persistent atrial fibrillation and were undergoing surgery to repair or replace the heart's mitral valve, which controls movement of blood from the left atrium to the left ventricle.

Of the patients who received ablation and mitral valve surgery, 63 percent were free from atrial fibrillation at six and 12 months after surgery, while 29 percent of patients who received mitral valve surgery alone were free from atrial fibrillation at those time points. Mitral valve

surgery is typically performed to correct a leaking or narrowed valve. Although the procedure is unrelated to atrial fibrillation, many patients in need of valve repair also have atrial fibrillation, so surgeons have begun combining the two procedures in order to address both cardiac issues at the same time.

"Although surgeons are widely performing ablation at the time of mitral valve surgery, there is a great deal of variation with regard to when it is done, how it is done and which patients receive it," said Marc Gillinov, M.D., the Judith Dion Pyle Chair in Heart Valve Research at Cleveland Clinic and the study's lead author. "We sought to conduct a well-designed randomized controlled trial to answer fundamental questions about whether this procedure is successful and how it is best done."

In the absence of strong clinical guidance regarding the use of ablation with mitral valve surgery, the decision is left largely up to physician preference, Gillinov said. About two-thirds of surgeons currently perform ablation during mitral valve surgery for patients with persistent atrial fibrillation, while one-third do not.

The National Institutes of Health and Canadian Institutes for Health Research supported the design and conduct of the trial.

While the patients receiving ablation were significantly more likely to be free of atrial fibrillation six and 12 months after surgery, the study showed no significant differences in rates of death, adverse cardiac events or hospitalization. Patients receiving the mitral valve surgery alone reported a slightly lower quality of life because more of these patients said they still experienced daily atrial fibrillation a year after the surgery.

"I think what this shows is that, in the mitral valve surgery patient who has persistent atrial fibrillation, you will achieve better rhythm control by

performing ablation, without any increase in mortality or other adverse cardiac events," Gillinov said.

However, the analysis also revealed one potential downside to including ablation with mitral valve surgery. Patients receiving the ablation along with the mitral valve surgery were 2.5 times more likely to require the implantation of a pacemaker in the year following their surgery. The reason for this difference is unknown and warrants further study, Gillinov said.

Because there are several tools and techniques physicians can choose when performing surgical ablation, researchers decided to randomly assign patients receiving the ablation to either pulmonary vein isolation, in which the surgeon uses heat or cryothermy energy to destroy a small area of tissue in the heart, or a biatrial Maze lesion, in which the surgeon makes a complex series of lesions to correct abnormal electrical impulses. The analysis showed no significant differences in the outcomes for patients undergoing the two procedure types, though a larger study would help to elucidate any differences, Gillinov said.

Because patients have only been tracked for one year, the results do not yet provide a clear picture of the full spectrum of potential differences in cardiovascular outcomes. The researchers will continue to track patients to assess any long-term differences in survival, hospitalization, stroke and other outcomes.

Provided by American College of Cardiology