AF Repair During Valve Surgery Boosts Survival

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OJAI, CALIF. — The presence of atrial fibrillation tends to decrease survival time following valve surgery, and some studies have shown that medical treatment of AF does not improve survival.

But a new retrospective analysis by Dr. Richard Lee of Northwestern University, Evanston, Ill., suggests that when AF is treated with the maze procedure during valve repair, patients survive just as long as do those without AF.

"We think the effect, if reproducible, may be due to the higher rate of sinus restoration from the surgical treatment as opposed to medical treatment," Dr. Lee said at the annual meeting of the Western Thoracic Surgical Association. "Concomitant AF treatment should be strongly considered in all patients with a history of AF undergoing cardiac surgery."

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Major Finding: Five-year survival of patients whose atrial fibrillation is repaired during heart valve surgery was 89%, compared with 85% in patients without atrial fibrillation.

Data Source: Retrospective analysis of 3,337 patients undergoing valve surgery.

Disclosures: Dr. Lee disclosed that he has served as a consultant to, and has received research funding from, Medtronic Inc.

The study involved 3,337 patients who underwent valve surgery at a single institution between April 2004 and April 2009. Of those, 17% had the maze procedure for AF at the same time as their valve repair.

Dr. Lee followed the patients for up to 6 years using the Social Security death index and registry. As expected, initial Kaplan-Meier analysis confirmed that survival after valve repair was shorter for patients with AF than for those without it.

Patients with AF on average were significantly older, more likely to be female, and more likely to have heart failure or severe pulmonary hypertension compared with their non-AF counterparts.

Dr. Lee next compared two groups of patients with AF. The group that underwent the maze procedure at the time of valve surgery had significantly longer survival than did those who did not undergo the procedure.

Once again, however, the two groups differed significantly in several demographic characteristics. For example, the AF patients who underwent the maze procedure were significantly more likely to be female, and less likely to have heart failure or diabetes than were those who did not have the procedure. These differences made it difficult to conclude that the maze procedure had led to the longer survival.

To overcome that obstacle, Dr. Lee conducted a propensity-matched analysis comparing 378 patients with AF who underwent the maze procedure with 378 patients who did not have AF. There were no significant demographic differences between those two groups. Importantly, there also were no differences in survival time according to Kaplan-Meier analysis. The 5-year survival rate for patients with AF who underwent the maze procedure was 89%, compared with 85% among patients without AF.

There also were no significant differences between groups in a number of other characteristics, including length of hospital stay, 30-day mortality, overall mortality, and cardiac death.

The lack of significant differences between the two groups persisted when Dr. Lee looked at subgroups of patients who had mitral valve repair, aortic valve repair, or coronary artery bypass grafting in addition to valve repair.

Dr. Lee acknowledged several limitations of the study. It involved a relatively small sample at a single institution, and selection bias might have eliminated the highest-risk AF patients. In addition, he was unable to compare successful AF treatment with unsuccessful treatment.

Nevertheless, Dr. Lee strongly suggests surgical repair of AF, especially since it adds just 10-20 minutes to valve repair surgery. ■