

# ACC: Afib and Mitral Surgeries Better Together

— Atrial fibrillation resolves more often, but combined surgery led to more pacemakers.

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SAN DIEGO -- Adding surgical ablation of atrial fibrillation during mitral valve surgery durably relieved the arrhythmia for about two-thirds of patients but also increased the likelihood of requiring a pacemaker, a randomized trial showed.

The rate of [freedom from atrial fibrillation](#) at both 6 and 12 months without subsequent procedures was 63.2% with the dual procedure compared with 29.4% after mitral valve surgery alone ( $P<0.001$ ), [Marc Gillinov, MD](#), of the Cleveland Clinic, and colleagues found.

Ablation, though, led to more implantations of a permanent pacemaker (21.5 versus 8.1 cases per 100 patient-years,  $P=0.01$ ), the researchers reported here at the American College of Cardiology meeting and simultaneously online in the *New England Journal of Medicine*.

"Having the ablation gave you far superior control of your heart rhythm," Gillinov told reporters at a press conference.

Up to half of patients getting mitral valve surgery also have atrial fibrillation.

"The issue arises in that situation fairly frequently because mitral valve disease is often related to atrial fibrillation," noted [John Jarcho MD](#), a cardiologist at Brigham and Women's Hospital in Boston and deputy editor for *NEJM*.

Atrial fibrillation is also common in patients needing a range of other cardiac surgeries, and the findings could lend some conceptual support to adding atrial fibrillation procedures to those as well, he suggested.

"You would anticipate that, based on what we think about why this works, those patients would also benefit," Jarcho told *MedPage Today*.

## **Simple vs. Complex**

Another message from the Cardiothoracic Surgical Trials Network study was that a simple pulmonary vein isolation appeared as good as the more complex biatrial maze procedure.

The study, which randomized its 260 patients with persistent or long-standing persistent atrial fibrillation requiring mitral valve surgery to surgical ablation or none, included a second randomization within the ablation group to those two types of ablation.

There was no significant difference in the rate of freedom from atrial fibrillation

at both 6 and 12 months as assessed by 3-day Holter monitoring between patients who underwent pulmonary-vein isolation and those who underwent the biatrial maze procedure (61.0% and 66.0%,  $P=0.60$ ).

While the trial wasn't powered to give a definitive answer on that point, "if there is a difference, it's not very big," Gillinov noted.

"For people who want to do this procedure, it's somewhat encouraging because it means you don't have to do the elaborate procedure, you can do the simple procedure and you can get the same level of benefit," Jarcho suggested.

The trial also wasn't powered for clinical endpoints, but did support at least no harm.

One-year mortality rates were 6.8% with the combined surgery and 8.7% with only mitral valve surgery (hazard ratio 0.76,  $P=0.55$ ). Major cardiac or cerebrovascular adverse events, overall serious adverse events, and hospital readmissions all came out similar between groups.

"We shouldn't take it as evidence that there is no such benefit, just that such a benefit couldn't be shown here," Jarcho said.

The lack of a difference in stroke might have been, in part, because both groups got closure of the left atrial appendage to reduce stroke risk, he added.

Limitations included that one in five trial participants did not complete the primary end-point assessment at both 6 months and 12 months, although that rate was similar between the groups, and that the findings from this mostly older population are of unknown generalizability to younger patients and those with paroxysmal atrial fibrillation.

The trial also included only surgical mitral valve procedures and surgical ablation, so the results might not generalize to transcatheter procedures.

## Real Life Experience

A second study presented at the conference, from the Society of Thoracic Surgeons/American College of Cardiology Transcatheter Valve Therapy Registry, suggested that the procedural success, clinical outcomes, and adverse event risks with transcatheter mitral valve repair using the MitraClip device are at least as good as in the pivotal studies.

[Paul Sorajja, MD](#), director of the Minneapolis Heart Institute's Center for Valve and Structural Heart Disease, and colleagues reported on all 564 patients at prohibitive surgical risk who got the procedure through Aug. 31, 2014.

Outcomes were:

- 91.8% procedure success
- 7.8% complication rate
- 1.8% stroke rate
- 2.7% device-related adverse events
- 5.8% 30-day mortality
- 81.9% discharged to home

In-hospital mortality came out at 2.3%, and 93% had grade 2 or less residual mitral regurgitation after the procedure.

By comparison, the EVEREST series of trials showed 0.9% to 2.6% in-hospital mortality and 74% to 86% grade 2 or less mitral regurgitation in populations that averaged much younger than treated in the initial commercial experience (67 to 76 versus 83 years)

The population treated also looked fairly close to the label indications, with 86% having degenerative mitral regurgitation.

The CTSN study was supported by a cooperative agreement with the National Heart, Lung and Blood Institute, including funding by the National Institute of Neurological Disorders and Stroke and the Canadian Institutes of Health Research.

Gillinov disclosed relationships with AtriCure, Medtronic, Edwards Lifesciences, On-X, Abbott Vascular, Tendyne, and Clear Catheter.

Sorajja disclosed relationships with Abbott Vascular, Medtronic, Lake Regions, and Boston Scientific.

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#### **Primary Source**

*New England Journal of Medicine*

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#### **Secondary Source**

*New England Journal of Medicine*

Source Reference: [Schaff HV "Surgical ablation of atrial fibrillation -- When, why, and how?" \*N Engl J Med\* 2015; DOI: 10.1056/NEJMe1501493.](#)

#### **Additional Source**

*American College of Cardiology*

Source Reference: [Sorajja P, et al "Outcomes of the initial experience with commercial transcatheter mitral valve repair in the United States" \*ACC\* 2015; Abstract 404-18.](#)

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