AF Ablation Cuts Risk of Alzheimer's, Dementias

BY BRUCE JANCIN

FROM THE ANNUAL MEETING OF THE HEART RHYTHM SOCIETY

DENVER — Catheter ablation of atrial fibrillation may eliminate the increased risks of Alzheimer's disease, other forms of dementia, stroke, and premature death associated with the arrhythmia, a large case-control study suggests.

"That's the really good news for our patients—if we can get rid of this cardiac condition through the ablation procedure, then we can help prevent some of these long-term problems from happening," Dr. John D. Day said at the meeting.

He and his coinvestigators at Intermountain Medical Center in Salt Lake City, where Dr. Day is director of heart rhythm services, previously showed in a 37,000-patient study that atrial fibrillation (AF) is independently associated with a 2.3-fold increased likelihood of being diagnosed with Alzheimer's disease by age 70. The atrial arrhythmia was also associated with increased risks of vascular, senile, and other forms of dementia (Heart Rhythm 2010;7:433-7).

Next, they wondered if eliminating AF through catheter ablation would cut those risks. That was the subject of the study Dr. Day presented at the meeting.

The study involved all 4,212 patients in Intermountain Healthcare, a large not-for-profit health system, who have undergone catheter ablation for AF, along with two separate control groups: 16,848 age- and gender-matched AF patients in the health plan on whatever their physicians felt was best medical therapy, and another 16,848 matched controls with no history of AF. Their mean age was 65 years.

The 3-year ablation success rate, meaning no AF recurrences and no antiarrhythmic drugs, was 64%, with a repeat procedure rate of 28%.

After a mean 3 years of follow-up in this retrospective analysis, the rates of Alzheimer's disease, other forms of dementia, stroke, and all-cause mortality were significantly lower in the AF ablation group than in the medically managed controls with AF, and statistically similar to the controls with no history of AF (see chart).

"It was quite striking and really caught us off guard that the 3-year mortality rate of atrial fibrillation patients on what their physicians felt was best medical therapy was 23.5%," he noted.

The rate of hospitalization for heart failure was 3.8% in the AF ablation cohort, 3.7% in medically managed controls with AF, and 1.8% in the control group with no history of AF. Of note, the baseline prevalence of heart failure was 30% in the AF ablation group, significantly higher than the 24% in the medically managed AF controls and the 15% in the no-AF controls.

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DR. DAY

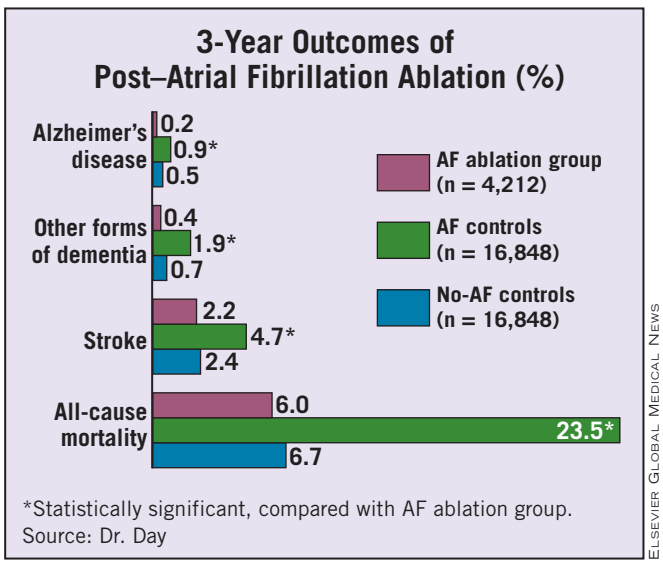
Dr. Elaine M. Hylek, session cochair, remained unconvinced by the large Utah study.

"I think the challenge for any observational study, no matter how well designed, is that without the benefit of randomization it's really tough to control for the confounder of the initial selection bias, or confounding by indication," said Dr. Hylek of Boston University.

If it were possible to stratify the patients based on Charlson Comorbidity Index scores or another reference point, though, that would help neutralize the selection bias limitation, she added.

The mechanism by which AF ablation might eliminate the excess risk of Alzheimer's disease is unknown. Among the theories: AF might predispose to subclinical strokes too small to be visible on brain MRI, which then promote amyloid plaque deposition, or the great fluctuations in heart rate and blood pressure that occur in AF episodes create an environment that predisposes to brain amyloid plaque. Alternatively, perhaps the answer lies in the inflammatory state that's common to both AF and Alzheimer's disease, he said.

Dr. Day disclosed that he serves as a consultant to Boston Scientific and St. Jude Medical. ■



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