

# Atrial Fibrillation: Primary Treatment with Medication Versus Ablation

Wazni OM, Marrouche NF, Martin DO, et al. Radiofrequency ablation vs antiarrhythmic drugs as first-line treatment of symptomatic atrial fibrillation: a randomized trial. *JAMA* 2005;293:2634–40.

## Study Overview

**Objective.** To determine whether pulmonary vein isolation (PVI) is feasible as first-line therapy for treating patients with symptomatic atrial fibrillation (AF).

**Design.** Multicenter, prospective randomized trial.

**Setting and participants.** 70 patients (aged 18 to 75 years) from Italy and Germany who experienced monthly symptomatic AF episodes for at least 3 months and who had not been treated with antiarrhythmic drugs were randomized to receive either PVI using radiofrequency ablation ( $n = 33$ ) or antiarrhythmic drug treatment ( $n = 37$ ). The study occurred from 31 December 2001 to 1 July 2002.

**Main outcome measures.** Recurrence of AF, hospitalization, and quality of life.

**Main results.** Two patients in the antiarrhythmic drug group and 1 patient in the PVI group were lost to follow-up. At 1 year, 22 patients (63%) who received antiarrhythmic drugs had at least 1 recurrence of symptomatic AF as compared with 4 patients (13%) who received PVI ( $P < 0.001$ ). Hospitalization during 1-year follow-up occurred in 19 patients (54%) in the antiarrhythmic drug group compared with 3 patients (9%) in the PVI group ( $P < 0.001$ ). Of the 22 patients in the antiarrhythmic drug group who experienced recurrence, the mean (SD) number of AF episodes decreased from 12 (7) to 6 (4) after initiating therapy; of the 4 PVI group patients, the mean (SD) number of episodes decreased from 13 (6) to 1 (2). Asymptomatic mild or moderate pulmonary vein stenosis was documented in 2 patients in the PVI group.

**Conclusion.** PVI appears to be a feasible first-line approach for treating patients with symptomatic AF. Larger studies are needed to confirm its safety and efficacy.

## Commentary

AF affects more than 2 million Americans, and approximately 15% of strokes occur in people with AF. The likeli-

hood of developing AF increases with age; almost 5% of people aged 65 years and older have AF [1]. Treatment with antiarrhythmic drugs and anticoagulation is considered first-line therapy for AF; catheter-based ablative (PVI) therapy often is only considered after drug therapy has failed because of its invasive nature.

The study by Wazni et al showed that the use of PVI is effective for controlling symptomatic AF in patients who had not previously been treated with medications. At 1-year follow-up, the group who received PVI had only 4 AF recurrences compared with 22 recurrences in the antiarrhythmic group.

The study has a few limitations that should be noted. This study was small and was conducted at highly specialized centers that may have more experience performing this procedure, yielding a lower complication rate than what may be typical in practice. Also, many of the patients were younger (mean age, 53 years) and symptomatic. Older patients with AF may be less symptomatic and may not tolerate PVI without a significant complication (eg, stroke). Finally, given the small number of patients, researchers were not able to assess for important but infrequent outcomes (eg, stroke) from the procedure [2].

## Applications for Clinical Practice

A large clinical trial on first-line use of PVI for symptomatic patients with AF with sufficient long-term follow-up is necessary. Until such a study is performed, PVI as first-line therapy should not be considered the standard of care for patients with AF.

—Review by Christianne L. Roumie, MD, MPH

## References

1. Facts about high blood pressure, stroke, and heart profilers. Available at [www.americanheart.org/presenter.jhtml?identifier=3011372](http://www.americanheart.org/presenter.jhtml?identifier=3011372). Accessed 3 June 2005.
2. Cappato R, Calkins H, Chen SA, et al. Worldwide survey on the methods, efficacy, and safety of catheter ablation for human atrial fibrillation. *Circulation* 2005;111:1100–5.