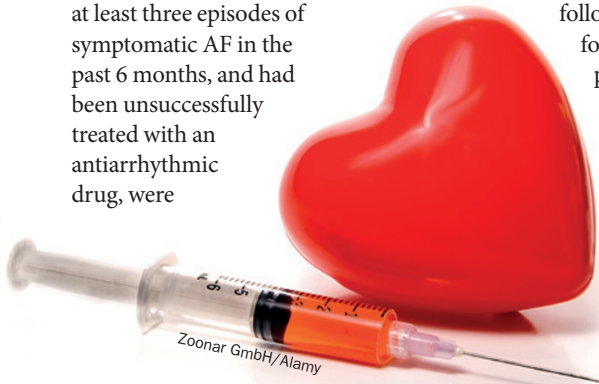


## ATRIAL FIBRILLATION

# Adenosine testing during catheter ablation of AF reduces recurrent atrial tachyarrhythmia

Pulmonary vein isolation is effective for the treatment of paroxysmal atrial fibrillation (AF), but up to 50% of patients experience recurrent arrhythmia after a single procedure. Macle *et al.* evaluated whether intravenous adenosine, which can be used to identify veins at risk of reconnection, could improve the long-term efficacy of pulmonary vein isolation for the treatment of paroxysmal AF.

Patients who had experienced at least three episodes of symptomatic AF in the past 6 months, and had been unsuccessfully treated with an antiarrhythmic drug, were



recruited into the study. After pulmonary vein isolation, patients who exhibited dormant conduction upon administration of intravenous adenosine were randomly assigned to receive additional adenosine-guided ablation to eliminate dormant conduction, or to no further ablation. Patients who did not exhibit dormant conduction in any pulmonary vein after adenosine administration were randomly assigned to a registry group or routine follow-up. All study participants were followed up for 1 year. The primary end point of the study was the time to first recurrence of atrial tachyarrhythmia between 91 and 365 days after an ablation procedure.

In total, 53% of 534 patients exhibited dormant pulmonary vein conduction upon adenosine administration. Out of 147 patients who received additional adenosine-guided ablation, 69.4% remained free from recurrent

atrial tachyarrhythmia during the study period, compared with 42.3% of 137 patients with no further ablation (HR 0.44, 95% CI 0.31–0.64,  $P < 0.0001$ ). In patients who were assigned to the registry group, 55.7% were free from symptomatic atrial tachyarrhythmia after the study period. Recurrent atrial tachyarrhythmia occurred more often in patients with dormant conduction who did not receive further ablation than in patients without dormant conduction. Given these positive findings, the investigators suggest that “physicians should consider routinely incorporating adenosine testing into catheter ablation procedures for paroxysmal [AF] to improve arrhythmia-free survival”.

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**Original article** Macle, L. *et al.* Adenosine-guided pulmonary vein isolation for the treatment of paroxysmal atrial fibrillation: an international, multicentre, randomised superiority trial. *Lancet* doi:10.1016/S0140-6736(15)60026-5