

## STROKE

### Stroke prevention in patients with AF

David Holmes and colleagues have shown that exclusion of the left atrial appendage (LAA) from the circulation minimizes the risk of stroke without the need for anticoagulant therapy. Thus, percutaneous closure of the LAA might be an alternative to long-term warfarin therapy for patients with atrial fibrillation (AF).

A major consequence of AF is thrombus formation, often in the LAA, which significantly increases the risk of stroke. "Given that the LAA does not have a critical function in most patients, we theorized that excluding it from the circulation would prevent strokes without the need for anticoagulation," says Holmes. This hypothesis was validated in a multicenter, randomized, noninferiority study, in which patients with nonvalvular AF were randomly assigned to either a control group that received warfarin treatment ( $n = 244$ ) or an intervention group that underwent percutaneous closure of the LAA

( $n = 463$ ). The intervention group also received 45 days of warfarin therapy, followed by echocardiography to assess the completeness of LAA occlusion. At that time, ~90% of patients stopped warfarin. Overall, the intervention group experienced more adverse events than the control group, but these events tended to occur in the early stages and declined later in the trial. Conversely, adverse events in the control group occurred throughout follow-up.

On the basis of their results, Holmes advises that "the risk:benefit ratio of an invasive therapy must be balanced from the standpoint of early procedural events with the continued long-term events in patients treated with warfarin."

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**Original article** Holmes, D. R. et al. Percutaneous closure of the left atrial appendage versus warfarin therapy for prevention of stroke in patients with atrial fibrillation: a randomised non-inferiority trial. *Lancet* 374, 534–542 (2009).