Thoracoscopic surgical ablation versus catheter ablation as first-line treatment for long-standing persistent atrial fibrillation: the CASA-AF RCT

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Plain English summary

The CASA-AF RCT

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Plain English summary

Atrial fibrillation is a complex heart condition that can lead to stroke and heart failure and affects patients' quality of life. Common symptoms are palpitations, tiredness, breathlessness and dizziness.

Patients can have occasional (paroxysmal) episodes of fibrillation that stop within 1 week. Other patients have fibrillation lasting > 1 week (persistent), and some are in continuous fibrillation for > 1 year (long-standing persistent).

Heart rate and rhythm can be corrected with medications and electrical shock therapy (cardioversion), but these treatments are often not satisfactory either because of their side effects or because they are simply not effective. Catheter ablation is a standard-care treatment for symptomatic fibrillation, but some patients need more than one procedure to restore normal heart rhythm.

Keyhole surgical ablation is a newer treatment, and some studies report much greater success with this than with catheter ablation. In this study, we recruited 120 patients with long-standing persistent atrial fibrillation and treated half of them with catheter ablation and the other half with surgical ablation. A small heart rhythm monitoring device, inserted under the skin, collected heart rhythm data following ablation.

Both treatments restored normal heart rhythm in just one-third of patients. Atrial fibrillation returned within 1 year to patients in both groups; however, in over 70% of patients, these episodes were occasional and of shorter duration. Serious complications within 30 days of the procedure occurred in 10 out of 55 patients in the surgical ablation group, compared with 6 out of 60 patients in the catheter ablation group. However, one patient died following surgical ablation and we observed a greater number of late complications in this group.

Patients reported reduced symptoms and better quality of life over the 12 months' follow-up, but those randomised to catheter ablation had larger improvements. Surgical ablation often requires admission to a high-dependency unit after the procedure, is associated with longer hospital stays and more complications during follow-up, and costs more than catheter ablation.

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