

Catheter ablation prior to defibrillator shock reduces risk of recurrence of life threatening rapid heartbeat

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Patients with episodes of ventricular tachycardia (VT—a rapid heartbeat that originates in the ventricles) are at high risk of repeat VT, ventricular fibrillation, and death. Use of an implantable cardioverter defibrillator (ICD), reduces mortality compared with drug treatment for VT. The VTACH study, published in this week's edition of *The Lancet*, shows that use of catheter ablation prior to ICD implantation reduces the risk of VT recurrence at two years. The study is by Professor Karl-Heinz Kuck, Asklepios Klinik St Georg, Hamburg, Germany, and colleagues.

Patients who receive ICD shocks have a decreased quality of life (especially if five or more shocks per year are delivered) and increased [mortality](#) compared with patients who do not receive shocks.

Furthermore, ICDs do not prevent [sudden cardiac death](#) in 32% of patients. Drug treatment—especially amiodarone in combination with β blockers—can reduce the number of ICD interventions, but lifetime intake is necessary and it is associated with serious adverse events. The VTACH study was designed to assess prophylactic VT ablation followed by implantation of a cardioverter defibrillator in patients with previous heart attack, first episode of stable VT, and reduced left-ventricular function.

The randomised controlled trial was done in 16 centres in four European countries (Germany, Switzerland, Czech Republic, Denmark) and assessed 107 eligible patients aged 18—80 years: 52 were assigned to

ablation plus ICD, and 55 to ICD only. Mean follow-up was 22.5 months. The researchers found that time to recurrence of VT or VF was longer in the ablation group (median 19 months) than in the control group (6 months). At two years, estimates for survival free from VT or VF were 47% in the ablation group and 29% in the control group—meaning that patients given ablation plus ICD were around 40% less likely to experience repeat VT or VF than those given ICD only. Complications related to the ablation procedure occurred in two patients; no deaths occurred within 30 days after ablation. A total of 15 device-related complications requiring surgical intervention occurred in 13 patients (ablation group, four; control group, nine). Nine patients died during the study (ablation group, five; control group, four).

The authors conclude: "Prophylactic VT ablation before defibrillator implantation seemed to prolong time to recurrence of VT in patients with stable VT, previous myocardial infarction, and reduced LVEF. Prophylactic [catheter ablation](#) should therefore be considered before implantation of a cardioverter defibrillator in such patients."

In an accompanying Comment, Dr William G Stevenson and Dr Usha Tedrow, Cardiovascular Division, Brigham and Women's Hospital, Boston, MA, USA, say: "Implantable defibrillators are a life-saving safety-net for patients with sustained ventricular tachycardia late after myocardial infarction. The VTACH trial suggests that ablation be considered early, in selected patients who are receiving an implantable cardioverter defibrillator for stable ventricular tachycardia, in whom recurrences of a ventricular tachycardia are likely. Evidence of a positive effect on survival, subsequent hospital admissions, or quality of life is needed before this strategy can be recommended for routine use. We believe that today's trial is further evidence to support early use of catheter ablation, as an alternative to antiarrhythmic drug therapy, for symptomatic recurrent ventricular tachycardia after implantation of an [implantable cardioverter](#) defibrillator, provided that the expertise to

safely perform the procedure is available."

Provided by Lancet

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