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Catheter Ablation for Ventricular Tachycardia

A Research Summary based on Sapp JL et al. | 10.1056/NEJMoa2409501 | Published on November 16, 2024

WHY WAS THE TRIAL DONE?

Antiarrhythmic drug therapy and catheter ablation are both used to suppress recurrent ventricular tachycardia but have different risks and efficacies; comparative studies of these approaches for first-line treatment are limited.

HOW WAS THE TRIAL CONDUCTED?

Patients with previous myocardial infarction and clinically significant ventricular tachycardia who had an implantable cardioverter–defibrillator (ICD) were assigned to undergo catheter ablation within 14 days or to receive antiarrhythmic drug therapy. The primary end point was a composite of death from any cause during follow-up or (more than 14 days after randomization) appropriate ICD shock, ventricular tachycardia storm, or treated sustained ventricular tachycardia below the detection limit of the ICD.

TRIAL DESIGN

- Open-label
- Randomized
- Blinded adjudication of end-point events
- Location: 22 centers in Canada, the United States, and France

RESULTS

During a median follow-up of 4.3 years, the risk of a primary end-point event was significantly lower with catheter ablation than with antiarrhythmic drug therapy. In the catheter ablation group, adverse events within 30 days after the procedure included death in 2 patients and nonfatal adverse events in 23. In the drug therapy group, adverse events attributed to antiarrhythmic drug treatment included death from pulmonary toxic effects in 1 patient and nonfatal adverse events in 46.

LIMITATIONS AND REMAINING QUESTIONS

- The trial was not designed to detect the effect of treatment on components of the primary end point.
- The effectiveness of catheter ablation and the risk of procedural complications may be influenced by the skill and experience of the team performing the procedure.
- Future changes in ablation technology or the development of new antiarrhythmic drugs may influence the interpretation of the findings.

CONCLUSIONS

In patients with clinically significant ventricular tachycardia and ischemic cardiomyopathy who had an ICD, first-line treatment with catheter ablation was more effective than antiarrhythmic drug therapy in reducing the risk of death from any cause during follow-up or (more than 14 days after randomization) a prespecified ventricular tachycardia event.

NEJM QUICK TAKE | EDITORIAL

Patients

- 416 adults
- Mean age, 68 years
- Men: 94%; Women: 6%