

STOP-VT: A multi-center trial to evaluate catheter RF ablation with magnetic navigation for ischemic ventricular tachycardia

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Results from the STOP-VT Study (Study to Obliterate Persistent Ventricular Tachycardia) were presented at the ESC Congress 2011 today. This is the first ever multi-center, global, prospective trial to evaluate a Remote Magnetic Navigation (RMN) system 1 for the treatment of ischemic Ventricular Tachycardia. The multi-center study was conducted at Na Holmoce Hospital (Prague), Hospital of University of Pennsylvania (Philadelphia, USA), Methodist Hospital (Indianapolis, USA), and Herzentrum Leipzig GmbH (Germany).

Ventricular tachycardia (VT) is a potentially life-threatening arrhythmia because it may lead to ventricular fibrillation, asystole, and sudden death. Ischemic VT is one of the most challenging arrhythmias facing electrophysiologists due to complex anatomy, the sensitive nature of ventricular tissue, and the potential for lethal outcomes. [Catheter ablation](#) of VT, one of the fastest growing EP procedures globally, requires precise delivery of robust lesions for clinical success. It is believed that remote magnetic navigation (RMN) provides additional benefits during mapping since its flexibility allows the operator to reach difficult areas without creating excessive ectopy.

The key eligibility criterion was presentation with ischemic VT indicated for treatment with an irrigated magnetic catheter. The primary endpoint was elimination of VT recurrence. Thirty-three patients have been enrolled into the study. The average age was 67.8 years, predominately

male (91%) with a LVEF of 32.8%. Medical treatment pre-procedure included beta-blockers (90.9%) and amiodarone (72.7%).

Average procedure time was 250 minutes (135 – 525). Total procedure fluoro time was 14.2 minutes. Average VT morphologies induced was 2.2 with a cycle length of 352 msec. Average RF time required to ablate the VT was 32.6 minutes with a power of 43.3 W. For all RF applications 30 mL/min of normal saline was used to ablate with no steam pops. Crossover to a manual catheter occurred in only 1 subject (3%); however, the target arrhythmia could not be ablated in that patient. Ability to ablate the target VT and remain non-inducible was 90.9% for the entire series of patients. Patients were discharged on beta-blockers (84.8%) and amiodarone (69.7%). Major adverse events were categorized as death, prolonged hospitalization, permanent or transient impairment in body function, or need for additional intervention or surgery. There were no major adverse events associated with the procedures

The preliminary results for RMN mapping and ablation are promising in this very difficult-to-treat [arrhythmia](#). Additional follow-up of the remaining patients should provide a clearer understanding of the long-term effects of treating ventricular tachycardia with magnetic navigation.

Provided by European Society of Cardiology

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