

an appropriate ICD intervention, however, indicating that ICD placement should not be restricted to definite cases of ARVD. A total of 14 (21%) patients received ICD therapy for a life-threatening arrhythmia; the frequency of these events was similar for patients who had received an ICD for primary or secondary prevention. Taken together, these results highlight the importance of ICD therapy for preventing SCD in patients with ARVD.

Claire Braybrook

Original article Piccini JP *et al.* (2005) Predictors of appropriate implantable defibrillator therapies in patients with arrhythmogenic right ventricular dysplasia. *Heart Rhythm* 2: 1188–1194

New electroanatomic mapping to guide catheter ablation

The nonfluoroscopic mapping techniques used to assist catheter ablation by generating three-dimensional electroanatomic models of the heart chambers generally require expensive, specialized catheters and hardware. Moreover, anatomic reconstruction is inaccurate, because it is dependent on unviewed catheter navigation.

In an effort to resolve these problems, Ector *et al.* have developed a system for merging fluoroscopy and three-dimensional models based on MRI. For 39 patients, they constructed anatomical maps of the right atrium before catheter ablation treatment; they did not use gadolinium contrast agent, which can distribute unevenly in tissues, leading to inaccuracies. Contours of endocardial tissue in the heart chambers were delineated manually on the images acquired by use of customized software that enabled contours to be cross-checked against those in other imaging planes. The resulting models were merged with biplane fluoroscopic images during the ablation procedures.

In this pilot study, catheters were reliably positioned in 11 patients, with three-dimensional electroanatomic maps assembled with sufficient anatomical detail to assist ablation. Limitations pointed out by the authors are that real-time catheter tracking is not yet possible and that MRI should also be done at least 1 day before the ablation procedure, which might affect model accuracy. Compared with other

electroanatomic mapping systems, however, this new method provides more-detailed anatomical information, permits use of a regular biplane fluoroscopy setup, exposes patients to less radiation, does not require specialized mapping catheters, is potentially cheaper, and can be applied more universally than dedicated systems.

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Original article Ector J *et al.* (2005) Cardiac three-dimensional magnetic resonance imaging and fluoroscopy merging: a new approach for electroanatomic mapping to assist catheter ablation. *Circulation* 112: 3769–3776

Combined antiplatelet and anticoagulant therapy for patients with mitral stenosis

No consensus exists regarding the appropriate intensity of anticoagulation therapy in patients with mitral stenosis associated with atrial fibrillation (AF). In the National Study for Prevention of Embolism in Atrial Fibrillation (NASPEAF), the effects of antithrombotic therapy were assessed in a high-risk group containing patients with mitral stenosis and patients with nonvalvular AF plus embolism. Pérez-Gómez *et al.* have followed this study with an independent evaluation of antithrombotic therapy in these two subgroups.

From NASPEAF trial participants, the investigators recruited 175 patients with nonvalvular AF and prior embolism, and 311 individuals with mitral stenosis who were then stratified according to whether or not they had a history of prior embolism. Study participants were randomly assigned to receive either antithrombotic therapy—either an anticoagulant—or a combination of antithrombotic therapy and antiplatelet agent.

Outcomes of the study were fatal and nonfatal systemic embolism, stroke and myocardial infarction, death from bleeding, and sudden death (median follow-up 2.9 years). Patients with mitral stenosis who received a combination of anticoagulant and antiplatelet therapy had a lower rate of vascular events than those treated with anticoagulant alone, although this beneficial effect was less evident in patients with prior embolism. Vascular events occurred most frequently in patients with nonvalvular AF who received anticoagulation therapy alone.