Outcomes of patients with arrhythmogenic right ventricular cardiomyopathy/dysplasia after catheter ablation of stable ventricular tachycardia without an implantable cardioverter-defibrillator

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Topic(s):
Ablation of Ventricular Arrhythmias

Citation:

Background
In arrhythmogenic right ventricular cardiomyopathy/dysplasia (ARVC/D), implantable cardioverter-defibrillators (ICD) after an episode of a sustained monomorphic ventricular tachycardia (MVT) are currently recommended in most situations. However, whether stable MVT is a surrogate of sudden cardiac death is debated when other risk factors are lacking and radiofrequency catheter ablation (RCA) is associated with good long-term results.

Purpose
To report the outcomes of patients with ARVC/D who underwent RCA of well-tolerated MVT without an ICD.

Methods
Patients with a definite ARVC/D diagnosis according to the 2010 Task Force revised criteria who underwent RCA of well-tolerated MVA at tertiary centers across 5 countries, without an ICD prior to RCA and in the 3 following months were retrospectively included. Patients presenting with syncope or electrical storm, and patients with left ventricular ejection fraction < 50% were excluded. Follow-up was censored at the time of ICD implantation if any.

Results
65 patients [median age 46.1 years, range (19.5-73.8), male sex 77%] underwent RCA of MVT between 2003 and 2016. Familial history of ARVC/D was found in 11% of patients and 93% were probands. Epsilon-waves were present in 15% and T-waves inversion beyond V2 in 43%. A right ventricular (RV) ejection fraction = 40% or fractional area change = 33% was found in 14 (25%) patients. Median left ventricular ejection fraction was 61% (50-70). Clinical presentation was palpitations in 81% of patients and near-syncope in 14%. Prior to RCA, patients were on beta-blockers alone in 20%, class I drugs in 42% and amiodarone in 10%, while 17% of patients were free any antiarrhythmic medication. Only 1 patient (2%) had > 1 clinical VT morphology. Median VT rate was 180 (110-270). An epicardial approach was used in 20 (31%) patients. The clinical VT was inducible in 52 (84%) patients. The median number of targeted RV site was 1 (1-3) (RV
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During a median follow-up time of 49 month (1.4-162), there was no death, and VT recurred in 17 patients (26%). Survival without VT recurrence was estimated at 82%, 71% and 60%, 12-, 36- and 60-months after RCA. Among patients with VT recurrence, 6 (35%) did not receive an ICD, and 14 (70%) underwent redo RCA. An ICD was implanted in 10 patients, including 5 for VT recurrence.

Conclusions
Despite a significant rate of VT recurrence, selected patients with ARVC/D who underwent RCA for stable MVT without an ICD did not experience any arrhythmic death. Further prospective studies are mandatory to precise the respective places of ICD and RCA in the management of ARVC/D patients with well-tolerated VT.