Usefulness of Microvolt T-Wave Alternans for Prediction of Ventricular Tachyarrhythmic Events in Patients With Dilated Cardiomyopathy: Results From a Prospective Observational Study

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OBJECTIVES	This study was designed to evaluate the ability of microvolt-level T-wave alternans (MTWA) to identify prospectively patients with idiopathic dilated cardiomyopathy (DCM) at risk of ventricular tachyarrhythmic events and to compare its predictive accuracy with that of conventional risk stratifiers.
BACKGROUND	Patients with DCM are at increased risk of sudden death from ventricular tachyarrhythmias. At present, there are no established methods of assessing this risk.
METHODS	A total of 137 patients with DCM underwent risk stratification through assessment of MTWA, left ventricular ejection fraction, baroreflex sensitivity (BRS), heart rate variability, presence of nonsustained ventricular tachycardia (VT), signal-averaged electrocardiogram, and presence of intraventricular conduction defect. The study end point was either sudden death, resuscitated ventricular fibrillation, or documented hemodynamically unstable VT.
RESULTS	During an average follow-up of 14 ± 6 months, MTWA and BRS were significant univariate predictors of ventricular tachyarrhythmic events ($p < 0.035$ and $p < 0.015$, respectively). Multivariate Cox regression analysis revealed that only MTWA was a significant predictor.
CONCLUSIONS	Microvolt-level T-wave alternans is a powerful independent predictor of ventricular tachyarrhythmic events in patients with DCM. (J Am Coll Cardiol 2003;41:2220–4) © 2003 by the American College of Cardiology Foundation