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Presentation Abstract

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Abstract Title: Microvolt T-wave Alternans As A Predictor Of Mortality And Severe Arrhythmias In Patients With Implantable Cardioverter-defibrillator

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Abstract: **Background:** Implantable cardioverter-defibrillators (ICDs) have been shown to prevent mortality in patients with left ventricular dysfunction. Microvolt T-wave alternans (MTWA) testing has been shown to be an accurate predictor of ventricular tachyarrhythmic events. We conducted a meta-analysis of the predictive value of MTWA testing for mortality and severe arrhythmic events in patients with ICD. **Methods:** Prospective studies of the predictive value of exercise-induced MTWA published between January 1990 and December 2011 were retrieved. At least half patients of the patients had implanted ICDs. Summary estimates of the predictive value of MTWA were derived with a random-effects model. **Results:** Data were accumulated from 6 studies involving a total of 2,551 patients, including 725 positive, 766 negative, 349 indeterminate, and 711 non-negative (which includes both positive and indeterminate tests) MTWA test results. The risk of mortality or severe arrhythmic events was higher in patients with an abnormal MTWA compared to a negative test (hazard ratio = 1.862, 95% confidence interval = 1.428 to 2.427). Similar results were obtained in primary or secondary prevention patients. **Conclusions:** This study found that MTWA testing has significant value for the prediction of mortality or severe arrhythmic events in a population of individuals with implanted ICDs.

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