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Title: Loss of Prognostic Value of Late Potentials in Post-MI Patients of the Reperfusion Era

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Background: It is accepted that presence of late ventricular potentials signify increased risk for sudden cardiac death and serious arrhythmic events, but advances in treatment of myocardial infarction may have changed the prognostic value of late potentials. Our goal was to test this hypothesis in a large cohort of the modern reperfusion era.

Methods and Results: Survivors of acute myocardial infarction, 1800 patients in sinus rhythm under 76 years of age, were enrolled. Altogether, 99% of the patients received reperfusion/revascularization therapy (91% percutaneous coronary intervention, 6% thrombolysis and 2% coronary artery bypass grafting) and up-to-date pharmacological treatment (99% aspirin, 93% beta-blockers, 90% ACE inhibitors and 85% statins). Ventricular late potentials were calculated in 968 patients and found to be present in 92 (9.3%). The primary endpoint was the composite of cardiac death and serious arrhythmic events. A secondary endpoint was the composite of sudden cardiac death and serious arrhythmic event. During a median follow-up of 34 months, the primary endpoint was reached in 26 patients, with a probability of 5.9% and 2.5% in patients with and without late potentials, respectively. This difference was not significant. Neither was presence of late potentials significantly associated with the primary endpoint in univariate or multivariate analysis. In contrast, low (<30%) left ventricular ejection fraction (hazard ratio 9.6, 95% confidence interval 4.1-22.4), heart rate turbulence category 2 (7.5, CI 2.4 - 23.9) and category 1 (5.3, CI 1.9 - 14.9) were significant predictors in multivariate analysis.

Conclusions: Ventricular late potentials are of limited use for risk stratification in unselected post-infarction patients of the modern reperfusion era.

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