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Abstract Title: Atrial Turbulence Slope, Beta-Blocker Treatment, and Age Identify Postinfarction Patients Who Might Benefit From Prophylactic Treatment With Amiodarone

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Background: A subgroup analysis of EMIAT trial showed that high-risk patients with depressed heart rate variability (HRV) benefit from treatment with amiodarone. In the same population, we investigated whether low-risk patients might also benefit from the treatment.

Methods: All-cause mortality was compared in the placebo and amiodarone arms (n = 1255) in several subgroups of low-risk patients selected according to clinical and Holter-based predictors with previously established dichotomies (age < 65 yrs, first myocardial infarction (MI), left ventricular ejection fraction > 30%, beta-blocker (BB) treatment, absent diabetes mellitus, thrombolysis for index MI, QRS duration <= 100 ms, HRV index > 20, low-frequency HRV spectral power > 130 ms², high-frequency HRV spectral power > 30 ms², ventricular and atrial turbulence slope (VTS and ATS) > 2.5 ms/RR).

Results: Highly significant benefit from amiodarone treatment with 91% reduction of all-cause mortality was observed in patients who were < 65 yrs of age and who had ATS > 2.5 ms/RR (23% of total population). Normal ATS in younger patients on amiodarone has negative predictive value of 99.3 and 100% for all-cause and arrhythmic mortality, respectively.

Cox regression analysis - association of amiodarone treatment with all-cause mortality reduction

Subgroup	n	relative risk	95% CI	p
Age < 65 yrs	764	0.77	0.49 - 1.21	0.26
BB treatment	559	0.72	0.41 - 1.27	0.25
ATS > 2.5 ms/RR	404	0.46	0.19 - 1.11	0.075
Age < 65 yrs and BB treatment	359	0.34	0.12 - 0.93	0.028
Age < 65 yrs and ATS > 2.5 ms/RR	286	0.09	0.01 - 0.73	0.005
BB treatment and ATS > 2.5 ms/RR	211	0.12	0.02 - 0.94	0.015

Conclusion: Stratification using ATS, BB treatment, and age served to find the low-risk subgroups of postinfarction patients with left ventricular dysfunction who significantly benefit from treatment with amiodarone.

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