Moss, A., Hall, W., Cannom, D. et al. Improved survival with an implanted defibrillator in patients with coronary disease at high risk for ventricular arrhythmia.

BACKGROUND: Unsustained ventricular tachycardia in patients with previous myocardial infarction and left ventricular dysfunction is associated with a two-year mortality rate of about 30 percent. We studied whether prophylactic therapy with an implanted cardioverter-defibrillator, as compared with conventional medical therapy, would improve survival in this high-risk group of patients.

METHODS: Over the course of five years, 196 patients in New York Heart Association functional class I, II, or III with prior myocardial infarction; a left ventricular ejection fraction ≤0.35; a documented episode of asymptomatic unsustained ventricular tachycardia; and inducible, nonsuppressible ventricular tachyarrhythmia on electrophysiologic study were randomly assigned to receive an implanted defibrillator (n = 95) or conventional medical therapy (n=101). We used a two-sided sequential design with death from any cause as the end point.

RESULTS: The base-line characteristics of the two treatment groups were similar. During an average follow-up of 27 months, there were 15 deaths in the defibrillator group (11 from cardiac causes) and 39 deaths in the conventional-therapy group (27 from cardiac causes) (hazard ratio for overall mortality, 0.46; 95 percent confidence interval, 0.26 to 0.82; P=0.009). There was no evidence that amiodarone, beta-blockers, or any other antiarrhythmic therapy had a significant influence on the observed hazard ratio.

CONCLUSIONS: In patients with a prior myocardial infarction who are at high risk for ventricular tachyarrhythmia, prophylactic therapy with an implanted defibrillator leads to improved survival as compared with conventional medical therapy.