
Question
Using individual patient data, what are the benefits and risks of amiodarone for patients who have congestive heart failure (CHF) or a history of myocardial infarction (MI)?

Data sources
Studies were identified through computerized databases and contact with authors and experts by the Amiodarone Trials Meta-Analysis Investigators (ATMAI).

Study selection
Randomized controlled trials comparing amiodarone with placebo or usual care in patients with CHF or a history of MI were selected.

Data extraction
Data were extracted on inclusion criteria, patient and disease characteristics, dose of amiodarone, type of control (placebo or usual care), duration of the study, and side effects. Main outcomes were all-cause mortality and arrhythmic or sudden death. Individual patient data were extracted or provided by trial investigators.

Main results
8 trials studied 5101 patients who had a history of MI, and 5 trials studied 1452 patients with CHF. All trials included a loading dose and a maintenance dose, both of which varied across studies. The combined mean follow-up was 1.4 years. The mean age of the patients was 61 years, 83% were men, 89% had a history of MI, 21% had nonischemic cardiomyopathy, 18% had diabetes, and 42% had ventricular tachycardia. The mean left ventricular ejection fraction was 31%. 29% of patients discontinued amiodarone early.

For all studies using intention-to-treat meta-analysis, the all-cause mortality rate was lower in the amiodarone group than in the control group (P = 0.03), as was the rate of arrhythmic or sudden death (P < 0.001) (Table). Heterogeneity was noted with differences in treatment effect among the individual trials. Subgroup analysis found no differences in benefit with amiodarone therapy among subgroups defined by sex, left ventricular ejection fraction, New York Heart Association class, and ventricular premature depolarizations or ventricular tachycardia.

Amiodarone leads to a modest reduction in all-cause mortality, death from arrhythmia, or sudden death in patients who have congestive heart failure or a history of myocardial infarction.

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Conclusion
Amiodarone reduces mortality after MI and for congestive heart failure.