

ARREST TRIAL

Title

Amiodarone for Resuscitation after Out-of-Hospital Cardiac Arrest Due to Ventricular Fibrillation

Reference

Kudenchuk PJ, Cobb LA, Copass MK, Cummins RO, Doherty AM, Fahrenbruch CE, Hallstrom AP, Murray WA, Olsufka M, Walsh T, Weaver WD. *Amiodarone for resuscitation after out-of-hospital cardiac arrest due to ventricular fibrillation*. *N Engl J Med*. 1999;341(12):871-878. doi:10.1056/NEJM199909163411203. PMID: 10486418.

Background / Rationale

Shock-refractory VF/pulseless VT in out-of-hospital cardiac arrest had poor outcomes, and antiarrhythmics were being used despite limited randomized evidence showing meaningful clinical benefit. ARREST was designed to test whether IV amiodarone improved survival to hospital admission in this setting.

PICOTS

P (Population): Adults with out-of-hospital cardiac arrest and persistent VF or pulseless VT after at least 3 shocks.

I (Intervention): Amiodarone 300 mg IV bolus during ongoing prehospital resuscitation.

C (Comparator): Placebo.

O (Outcome): Primary: survival to hospital admission. Secondary: survival to discharge, functional status among survivors, and post-resuscitation adverse hemodynamic effects.

T (Timing): Drug given during active prehospital resuscitation; primary endpoint assessed at hospital admission.

S (Setting): Prehospital EMS system in Seattle/King County, Washington, with receiving hospitals in that regional system.

Objective / Purpose

To determine whether IV amiodarone improves survival to hospital admission in adults with shock-refractory out-of-hospital VF/pulseless VT.

Study Design & Methods

Design: Randomized, double-blind, placebo-controlled prehospital clinical trial.

Participants: Adults with out-of-hospital cardiac arrest, still in VF/pulseless VT after ≥ 3 shocks, receiving CPR at the time of drug administration.

Intervention: Amiodarone 300 mg IV once versus placebo, in addition to standard ACLS/prehospital resuscitation.

Sample size: 507 treated eligible patients; 504 analyzed after exclusion of 3 with

unknown assignment.

Baseline characteristics: Typical older OHCA population; many arrests were witnessed and many received bystander CPR, though detailed baseline characteristics were limited in the material reviewed.

Outcomes (Endpoints)

Primary:

Survival to hospital admission.

Secondary:

Survival to hospital discharge; functional status among survivors; bradycardia, hypotension/pressor requirement, and arrival hemodynamics after ROSC.

Results / Key Findings

- Survival to hospital admission was higher with amiodarone: 44% (108/246) vs 34% (89/258); OR 1.5, 95% CI 1.04-2.1; P=0.03.
- Survival to hospital discharge was similar: 13.4% vs 13.2%; no meaningful between-group difference reported.
- Functional status among those discharged alive was similar between groups.
- Bradycard