



The Journal of the American Medical Association

Vol. 300 No. 12, September 24, 2008

Original Contribution

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Prehospital Termination of Resuscitation in Cases of Refractory Out-of-Hospital Cardiac Arrest

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JAMA. 2008;300(12):1432-1438.

Context Identifying patients in the out-of-hospital setting who have no realistic hope of surviving an out-of-hospital cardiac arrest could enhance utilization of scarce health care resources.

Objective To validate 2 out-of-hospital termination-of-resuscitation rules developed by the Ontario Prehospital Life Support (OPALS) study group, one for use by responders providing basic life support (BLS) and the other for those providing advanced life support (ALS).

Design, Setting, and Patients Retrospective cohort study using surveillance data prospectively submitted by emergency medical systems and hospitals in 8 US cities to the Cardiac Arrest Registry to Enhance Survival (CARES) between October 1, 2005, and April 30, 2008. Case patients were 7235 adults with out-of-hospital cardiac arrest; of these, 5505 met inclusion criteria.

Main Outcome Measures Specificity and positive predictive value of each termination-of-resuscitation rule for identifying patients who likely will not survive to hospital discharge.

Results The overall rate of survival to hospital discharge was 7.1% (n = 392). Of 2592 patients (47.1%) who met BLS criteria for termination of resuscitation efforts, only 5 (0.2%) patients survived to hospital discharge. Of 1192 patients (21.7%) who met ALS criteria, none survived to hospital discharge. The BLS rule had a specificity of 0.987 (95% confidence interval [CI], 0.970-0.996) and a positive predictive value of 0.998 (95% CI, 0.996-0.999) for predicting lack of survival. The ALS rule had a specificity of 1.000 (95% CI, 0.991-1.000) and positive predictive value of 1.000 (95% CI, 0.997-1.000) for predicting lack of survival.

Conclusion In this validation study, the BLS and ALS termination-of-resuscitation rules performed well in identifying patients with out-of-hospital cardiac arrest who have little or no chance of survival.

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