Restarting the Engine: Cardiac Arrest Outcomes in the Hospital

Survival to hospital discharge for patients with in-hospital cardiac arrests improved during the last decade.

Although patients who experience out-of-hospital cardiac arrests are more likely to survive now than they were 2 decades ago, limited data on in-hospital cardiac arrests had not shown improved outcomes as of 2005 (JW Gen Med Jul 1 2009 [Link to: http://general-medicine.jwatch.org/cgi/content/full/2009/701/1]). Using the Get with the Guidelines — Resuscitation registry, which prospectively tracks in-hospital cardiac arrests (excluding patients with do-not-resuscitate orders) in participating hospitals in the U.S., researchers evaluated outcomes among 84,625 hospitalized adult patients with cardiac arrest (on general wards or intensive care units) at 374 hospitals.

From 2000 to 2009, adjusted survival to hospital discharge significantly increased from 14% to 22%. This outcome improvement occurred despite a significant increase in cardiac arrests due to asystole or pulseless electrical activity (PEA; from 69% in 2000 to 82% in 2009) and a concomitant significant decrease in the percentage of patients with cardiac arrest due to ventricular fibrillation or pulseless ventricular tachycardia (from 31% in 2000 to 18% in 2009). Additionally, rates of clinically relevant neurological disability (cerebral performance category scores >1) significantly decreased over time (from 33% in 2000 to 28% in 2009). By 2009, approximately one half of patients with asystole or PEA survived cardiac arrest (compared with one third in 2000), and nearly 15% survived to hospital discharge — double the rate from a decade prior.

Comment: Due to improvements in resuscitation efforts in U.S. hospitals during the last decade, an estimated 17,000 additional patients survived, and an estimated 13,000 cases of neurological disability were avoided in 2009 compared with 2000. Likely, the better outcomes are related to quality improvement efforts that target early recognition of cardiac arrest, quality of acute resuscitation (i.e., fewer pauses of chest compressions and better chest compression rate and depth), and postresuscitation care (e.g., therapeutic hypothermia and early cardiac catheterization).

— Daniel D. Dressler, MD, MSc, SFHM, FACP (Link to: http://hospital-medicine.jwatch.org/misc/board_about.dtl#adressler)

Dr. Harlan M. Krumholz, one of the study authors, serves on the Journal Watch Cardiology editorial board but was not involved with selection of this article for summarization and comment.

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