



Without a Defibrillator, Chest Compressions Will Suffice

Chest Compressions Are Just As Good As Defibrillators For Out-Of-Hospital Cardiac Arrest, Researchers Say.

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Chest compressions prior to defibrillation are just as good as immediate treatment with an electrical defibrillator for out-of-hospital cardiac arrest, according to a new research study.

In some respects, chest compression may even be better, particularly with regard to one-year survival, Dr. Pascal Meier of the University of Michigan and colleagues reported in BMC.

"Based on our study, current guidelines emphasizing early defibrillation still are important," Meier said in a statement. "However, since the outcomes with the chest compression-first approach were not inferior and might be even better in the long-term, and in case of longer response times, this study may have an impact on future guidelines."

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Still, survival rates for out-of-hospital cardiac arrest are low, hovering at about 7.6 percent over the last 30 years, the researchers noted.

Current guidelines recommend immediate electrical defibrillation for this type of cardiac arrest. But some recent studies have shown an advantage for earlier treatment with chest compressions before defibrillation.

So to compare the effects of compression-first versus defibrillation-first on outcomes for out-of-hospital cardiac arrest, the researchers conducted a review of the literature, and came up with four randomized controlled trials totaling 1,503 patients.

They found no differences between the approaches in terms of the rate of return of spontaneous circulation, survival to hospital discharge or favorable neurologic outcomes.

There was, however, a trend toward an advantage for one-year survival that didn't reach statistical significance.

The proportion of patients able to leave the hospital after cardiac arrest with chest compression first was 11 percent compared with 8.6 percent of those treated with defibrillation first, the researchers wrote.

There was also a trend for better outcomes among patients with a response interval greater than five minutes that pointed to the superiority of chest compression-first approach, but again, the finding was not significant.

But the researchers emphasized that the study was not sufficiently powered to detect this relationship, which should be explored further.

"These signals suggest that optimal treatment of cardiac arrest patients may depend on the duration of the event and the timeliness of the response," they wrote.

The study was limited by the heterogeneity of the assessed randomized controlled trials, and it could not be adjusted for individual patient data.

Still, the researchers concluded that while current guidelines "emphasizing early defibrillation still appear appropriate," their analysis suggested a "possible superiority of predefibrillation chest compressions for patients with a response interval of greater than five minutes."

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