CARDIAC RESUSCITATION

Intravenous medical therapy during CPR—do we need better drugs to realize long-term benefits?

Researchers from Norway have reported that the use of intravenous epinephrine during cardiopulmonary resuscitation (CPR) for out-of-hospital cardiac arrest does not improve long-term survival when compared with CPR alone.

International guidelines for CPR include the use of intravenous medication, although this recommendation is based on preclinical studies, rather than on randomized clinical data. There is also evidence that intravenous drug therapy during CPR could be associated with poor outcomes. "Researchers in our group ... noted that paramedics spent much time placing intravenous needles, possibly at the expense of good quality CPR" explains investigator Theresa Olasveengen.

In this prospective, randomized trial, patients with nontraumatic out-of-hospital cardiac arrest were randomly assigned to CPR with intravenous therapy ($n = 418$) or CPR alone ($n = 433$). The use of intravenous drugs did not seem to affect the quality of CPR, which was similar between the two groups. There was no significant difference between the two treatment strategies in survival to hospital discharge or survival with favorable neurological outcome. However, in the short term, more patients in the intravenous-therapy group experienced return of spontaneous circulation and survived to be admitted to hospital than those who received CPR alone.

These findings of improved short-term outcome without any long-term benefit tell us that "it is possible to include advanced procedures ... in cardiovascular arrest protocols without causing detrimental decay in chest compression quality" says Dr Olasveengen, "but we do not seem to have the optimal drugs." Future research could, therefore, be targeted toward investigating the effects of alternative intravenous medications on long-term outcomes in this population.

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