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Letter to the Editor

Letter to the Editor in Response to "Naloxone Cardiac Arrest Decision Instruments (NACARDI) for targeted antidotal therapy in occult opioid overdose precipitated cardiac arrest"

To the Editor,

In "Naloxone Cardiac Arrest Decision Instruments (NACARDI) for targeted antidotal therapy in occult opioid overdose precipitated cardiac arrest," Rodriguez et al. developed a decision tool to ascertain those individuals whose arrest was most likely due to opioid overdose to guide selective administration of naloxone in cardiac arrest.[1] They found that age <60 years, black or non-Latinx white, and arrest in a public place were related to increased likelihood of arrest secondary to opioid overdose.[1] This is valuable information and certainly adds to the body of knowledge surrounding the epidemic of opioid related deaths, however, we are concerned that their underlying premise that naloxone in cardiac arrest is of benefit to patients is unfounded and can lead to distraction from more critical actions.

Naloxone is a non-selective and competitive opioid receptor antagonist that improves outcomes in non-fatal opioid overdose by reversing opioid-induced apnea. While researchers have hypothesized that naloxone reverses myocardial depression,[2] there is no evidence to suggest that it is beneficial in humans whose overdose has already resulted in cardiac arrest.

Saybolt et al. reviewed data on patients that were given naloxone in cardiac arrest, and while they did find a temporal association between naloxone administration and change in rhythm in 15 of 36 patients that received naloxone, only 4 of those patients achieved ROSC with only 1 achieving survival to hospital discharge, rates that are not significantly different from typical cardiac arrest statistics.[3] In fact, several of the patients that had change in rhythm following administration of naloxone arguably had worsening of their cardiac rhythm with PEA to asystole and ventricular fibrillation to PEA among the documented cases.[3]

The initial moments following cardiac arrest are critical to patient outcomes, and extensive research demonstrates that there are multiple time sensitive interventions, including early chest compressions and early defibrillation that save lives.[4] The American Heart Association does not recommend naloxone in cardiac arrest from suspected overdose for ACLS providers, with the most recent guideline update reemphasizing the importance of high-quality CPR regardless of the suspected aetiology of the arrest.[4] While the proposed physiologic mechanisms of naloxone in cardiac arrest are interesting, there is no data to suggest that they are clinically meaningful in humans. We feel that a decision tool for the use of naloxone in cardiac arrest is premature and that cardiac arrest resuscitation should continue to focus on the proven basics until more evidence is uncovered.

Sincerely,

Conflicts of interest

None declared.

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Received 8 February 2021

http://dx.doi.org/10.1016/j.resuscitation.2021.02.044