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Invited Commentary

A Commentary on "Efficacy and safety of active abdominal compression decompression versus standard CPR for cardiac arrests: A systematic review and meta-analysis of 17 RCTs" (Int J Surg 2019, Epub ahead of print)

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Due to the lack of good survival rates with reduced blood flow of less than 25% to the heart and brain, standard cardiopulmonary resuscitation (CPR) with manual chest compression and ventilation has recently been reviewed [1]. Different recommendations were proposed to improve this lack of adequate blood flow. Wang et al. evaluated the efficacy and safety of active abdominal compression-decompression versus standard CPR for cardiac arrests [2]. In their study, the results of 1647 patients in 17 RCTs were included. They found a significant improvement in survival and restoration of spontaneous circulation with the use of active abdominal compression-decompression-CPR as compared with the standard CPR. Significant improvements in the incidence of fracture, long-term survival, pressure of end-tidal carbon dioxide and coronary perfusion pressure were found with active abdominal compression-decompression-CPR in comparison with the standard CPR. They recommended clinical application of active abdominal compression-decompression-CPR to be used.

A critical issue in CPR is to maintain a continuous supply of oxygenated blood to main organs. Otherwise the survival rate following CPR is low [3]. This blood supply can be compromised by inadequate chest compression with reduction in blood flow [4]. As active abdominal compression-decompression reduces the airway pressure in the decompression phase, it gives better entrance of air to lungs after each chest compression. It also gives a more effective continous blood supply than the standart CPR [1,4]. We have a few criticisms on this study. First, the comorbidities of patients were not properly presented, which can affect the CPR outcomes [5]. Second, the time between the cardiac arrest and the start of resuscitation was not mentioned. This time period is important to evaluate any temporary or permanent neurological damage in patients who survived. Finally, as the way and force of chest compression were not standardized, they could be applied differently.

Meta-analyses are done though published data. However, there are important points in resuscitation which need to be standardized before it becomes possible to carry out studies in large prospective series with meaningful outcomes.

Provenance and peer review

Invited Commentary, internally reviewed.

Ethical approval

None.

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Author contribution

Design:AKC.
Analysis:AKC.
Writing:AKC.

Trial registry number

1. Name of the registry:
2. Unique Identifying number or registration ID:
3. Hyperlink to the registration (must be publicly accessible):

Guarantor

None.

Declaration of competing interest

None.

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