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Conflict of interest None declared.

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Dispatch and triage

277 ABSTRACT WITHDRAWN

Cardiac arrest

278 USING A VENTILATOR DURING CARDIAC ARREST IMPROVES PCO₂. STARTING SYMEVECA STUDY

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Background Ventilation affects the internal environment and intrathoracic pressures. Current recommendations suggest the use of mechanical ventilators in non-traumatic out-of-hospital cardiac arrest (OHCA) but their use is not widespread. We aim to compare gasometric parameters depending on the method for mechanical ventilation during OHCA.

Method Quasi-experimental study including all patients in OHCA attended by an EMS in a 9-month period with persistence of OHCA three minutes after early intubation. Two groups are established according to the method of ventilation during OHCA (ventilator in IPPV 500 ml x 12 rpm or resuscitation balloon). Demographic variables, initial rhythm, blood gas parameters 15 minutes after intubation or upon recovery of spontaneous circulation (ROSC) -whatever occurs first- and hospital complications were recorded. Continuous variables as mean \pm standard deviation. Statistical analysis: comparisons with parametric techniques. Study approved by our ethics committee.

Results 167 PCEH were registered but 91 were excluded due to very early recovery (35) or violation of analysis protocol (56). Women 21%, age 63 \pm 19 years, shockable rhythm 31%. Groups were analyzed according to ventilation: IPPV (32) or resuscitation balloon (44). In patients with an arterial sample: pH 7.99 \pm 0.17 vs 7.99 \pm 0.16 (p=0.99); pCO₂ 67.9 \pm 18.8 vs 100.8 \pm 60.5 mmHg (p=0.13). With a venous sample: pH 7.01 \pm 0.17 vs 6.96 \pm 0.16 (p=0.28); pCO₂ 68.6 \pm 25.5 vs 86.5 \pm 25.0 mmHg (p=0.01), respectively. No direct ventilator-related complications were registered.

Conclusion Ventilation with a mechanical ventilator during OHCA improves ventilatory status compared to the use of a

resuscitation balloon. The target sample size has not yet been reached. There were no direct complications. After completing the first phase, a second one will begin, comparing different ventilatory modes.

Conflict of interest None.

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Cardiac arrest

279 DRONE-DELIVERED AUTOMATED EXTERNAL DEFIBRILLATORS FOR OUT-OF-HOSPITAL CARDIAC ARREST. A SCOPING REVIEW

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Background Drone-delivery of automated external defibrillators (AEDs) to out-of-hospital cardiac arrest (OHCA) is increasingly being investigated for early defibrillation.

To obtain an overview of international status and feasibility, we performed a scoping review of the literature concerning drone-AED delivery.

Method Combining search strings of drone with OHCA OR AED in 'MESH' and 'text-word' searches and with synonyms, Embase and PubMed was searched on 29th of December 2021. Peer-reviewed articles, abstracts, editorials, and letters published in English language were included.

Results After duplicate removal, title/abstract screening, and full-text review, a total of 23/122 records were included. Included studies were either test-flights with drone-AED or virtual flight models calculating drone-AED coverage in different ways.

Fifteen studies (from Sweden, Canada, USA (Washington, Virginia, North Carolina, and Utah) France, Germany, Northern Ireland, South Korea, and Austria) concerned location and quantity of drone bases in a virtual drone-flight simulation model. All studies estimated an overall time gain to AED on scene compared with standard Emergency Medical Service (EMS) arrival, with varying proportions of OHCA covered by drone-AED delivery prior to standard EMS.

Seven studies concerned simulation flights, 4 of these included the human-drone interaction. One study delivered AEDs to real-life suspected OHCA with a delivery success rate of 92%.

All these studies found drone-delivery of AEDs feasible.

Conclusion All 23 investigative studies found drone-delivery of AEDs to suspected OHCA feasible and with an overall estimated time gain compared with standard EMS. Only one study described drone-AED delivery to real-life suspected OHCA.

Conflict of interest None.

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