Cardiac arrest

338 CARDIO-PULMONARY-RESUSCITATION QUALITY IN OUT-OF-HOSPITAL CARDIAC ARREST – EFFECT OF REAL-TIME FEEDBACK

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Background Out-of-Hospital Cardiac Arrest (OHCA) is a major health problem with low survival. Cardio-Pulmonary-Resuscitation (CPR) quality is associated with survival, and includes chest compression depth (CCD), rate (CCR), and fraction (CCF) within international guideline recommendations1. In 2020 overall survival in Denmark reached 16% placing Denmark as one of the leading countries for OHCA survival. The aim of this study was to examine the effect on CPR quality with the introduction of real-time CPR feedback in a high OHCA survival area, as well as the effect of adding post-event clinical debriefings.
Method This cohort study collected non-traumatic OHCA data from ambulances within the Capital Region of Denmark using ZOLL X-series defibrillator. Three variables; CCD, CCR and CCF were collected on three consecutive phases: Phase one (no feedback) from October 2018 to May 2019; Phase two (real-time feedback) from May 2019 to February 2020 and phase three (real-time + post-event debriefings) from February 2020 to December 2020. Data were compared against guidelines at each phase.
Results We included 1545 patients. Preliminary results revealed guideline compliant CCD in 21.8% of the compressions (no feedback) compared to 30.9% (real-time feedback) and 33.0% (real-time + post-event feedback). For CCR the results were 60.2%/ 74.6%/ 75.1% respectively. Combination of guideline compliant CCD and CCR simultaneously was 13.6%/ 23.3%/ 25.8% respectively. CCF was 76.8%/ 80.9%/ 81.3% respectively.
Conclusion Real-time feedback and post-event clinical debriefings have the potential to improve EMS CPR quality in a high survival OHCA area.

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Pain and trauma

340 PREHOSPITAL ADMINISTRATION OF WHOLE BLOOD FOR CIVILIAN TRAUMATIC RESUSCITATION

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Background Hemorrhagic shock is the leading cause of survivable death in trauma patients. Recent guidelines recommend initiation of whole blood transfusion within 30 minutes of injury.1 Little is known about this emerging practice in the civilian prehospital environment.
Aim To describe the process of care for patients who received prehospital low-titer O-positive whole blood (LTOWB).
Method This cohort study evaluated injured patients who received prehospital LTOWB in a US city of over 750,000 persons. Criteria for transfusion were systolic blood pressure (SBP)≤70, SBP<90 and heart rate >110, or witnessed traumatic arrest.2
Results Over 22-months, 57 patients received 74 units of LTOWB. 83% were male, and median age was 34 [IQR 26–46]. The mechanism of injury was 42% from guns, 23% from stabbings, and 35% blunt trauma. Median injury severity score was 26 [IQR 17–41]. Transfusion criteria were SBP≤70 in 35%, SBP<90 and heart rate>110 in 37%, witnessed traumatic arrest in 9%, and none in 19%. Time to blood initiation from the 911 call was 24 minutes [IQR 21–31]. 42% received at least 6 units of additional blood products in the first 4 hours after hospital arrival. Of those not meeting criteria, 73% received additional blood products in the first 4 hours. 98% received surgical intervention in the first 24 hours. Survival to discharge was 65%. Limitations include lack of a comparison group.
Conclusion Patients receiving LTOWB were severely injured. The prehospital system succeeded in starting LTOWB within 30 minutes.

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Cardiac arrest

343 SENDING CITIZEN RESPONDERS TO PRIVATE APARTMENTS IS SAFE AND NECESSARY

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Background Alerting citizen responders to Out-of-Hospital-Cardiac Arrest (OHCA) increases the rate of bystander-CPR and improves neurological outcome. There is an ongoing discussion, whether to send lay responders to cardiac arrest calls in patients' residences. The smartphone-based dispatch systems for citizen responders in Berlin (KATRETTER) includes activation of citizen responders to all OHCA with only a few exceptions. This study aims to analyze demographics and