Perché rianimiamo nel modo sbagliato. Errori nel nostro approccio alla RCP.

Roma, 25 maggio 2018
XI CONGRESSO NAZIONALE SIMEU

dott.ssa Federica Stella
C.O.P. SUEM 118 Mestre-Venezia
Azienda ULSS 3 Serenissima

PROTOCOLLI

Seguiamo un algoritmo fatto per personale che non gestisce quotidianamente il paziente critico.

Usiamo un approccio pensato per consentire la gestione del critico a chi ha competenze basic anche se abbiamo competenze advanced.


WE ARE
NOT REASSURED

ONE SIZE DOES NOT FIT ALL

Monitoraggio della efficacia della RCP con metodi indiretti o diretti

- EtCO2
- (ETT, ecocardio transesofageo)

PROFONDITA', RITMO, MA ANCHE POSIZIONE.

Posizione convenzionale comprime principalmente la radice aortica, una posizione più bassa e lateralizzata comprime il ventricolo sn.

Shin Rhee Kim et al. "Is the inter-nipple line the correct position?" Resuscitation (2007) 75, 305-310.

Hwang Ge Zhao et al. "Compression of the left ventricular outflow tract during cardiopulmunary resuscitation". Academic emergency medicine 2009. Young investigation award AHA 2006.

PROTOCOLLI

ADRENALINA

PRO:

Vasocostrizione mediata da stimolazione alfa adrenergica.

Conseguente aumento della pressione di perfusione coronarica in fase diastolica.

CONTRO:

Gli effetti betaadrenergici sono deleteri in corso di arresto cardiaco:

1. effetto proaritmico
2. aumentato consumo miocardico di ossigeno
3. riduce la perfusione del microcircolo coronarico e cerebrale

OPALS study. NEJM 2004; 351: 647-56. in preospedaliero, confronto tra BLS (defibrillazione precoce e MCE) ed ALS (farmaci EV ed eventuale intubazione) ROSC 12.9% vs 18.0%. Sopravvivenza alla dimissione: 5.0% vs 5.1%.

MAGGIOR NUMERO DI PAZIENTI CHE OTTENGONO IL ROSC MA SENZA AUMENTO DELL'OUTCOME NEUROLOGICO.

Difficile fare trial di efficacia rimuovendo tutti i fattori confondenti, soprattutto considerato che la adrenalina è standard of care dell'ACLS.

"it is reasonable to consider administering 1 mg dose of IV/IO epinephrine every 3 to 5 minutes during adult cardiac arrest" [ACLS guidelines - 2015]

Nella pseudoPEA

Infusione continua di adrenalina a 0.5 mcg/kg/min.

È circa il 25% della dose della somministrazione in boli refratti.

È un dosaggio in grado di supportare efficacemente la perfusione coronarica diastolica senza generare un eccessivo sovraccarico aminico di cuore e cervello

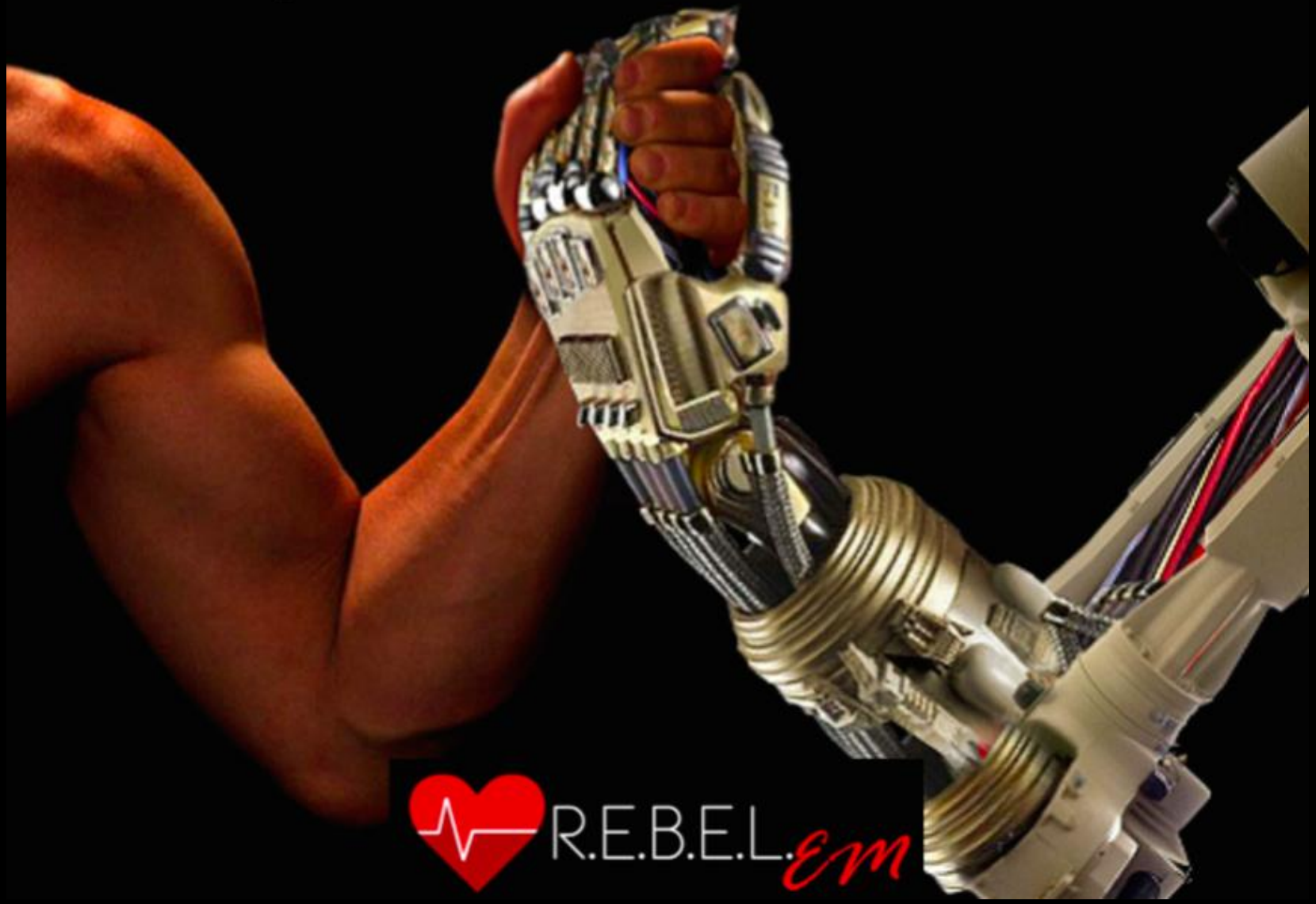
PROTOCOLLI

ADRENALINA

RCP

MECCANICA

CPR: Man vs Machine



Review article

Mechanical chest compression for out of hospital cardiac arrest: Systematic review and meta-analysis☆

Simon Gates[a,*], Tom Quinn[b,g], Charles D. Deakin[c,d], Laura Blair[e], Keith Couper[a,f], Gavin D. Perkins[a]

A B S T R A C T

Aim: To summarise the evidence from randomised controlled trials of mechanical chest compression devices used during resuscitation after out of hospital cardiac arrest.

Methods: Systematic review of studies evaluating the effectiveness of mechanical chest compression. We included randomised controlled trials or cluster randomised trials that compared mechanical chest compression (using any device) with manual chest compression for adult patients following out-of-hospital cardiac arrest. Outcome measures were return of spontaneous circulation, survival of event, overall survival, survival with good neurological outcome. Results were combined using random-effects meta-analysis.

Data sources: Studies were identified by searches of electronic databases, reference lists of other studies and review articles.

Results: Five trials were included, of which three evaluated the LUCAS or LUCAS-2 device and two evaluated the AutoPulse device. The results did not show an advantage to the use of mechanical chest compression devices for survival to discharge/30 days (average OR 0.89, 95% CI 0.77, 1.02) and survival with good neurological outcome (average OR 0.76, 95% CI 0.53, 1.11).

Conclusions: Existing studies do not suggest that mechanical chest compression devices are superior to manual chest compression, when used during resuscitation after out of hospital cardiac arrest.

Resuscitation 94 (2015) 91–97

Ritardo defibrillazione – LINC trial

Original Investigation

Mechanical Chest Compressions and Simultaneous Defibrillation vs Conventional Cardiopulmonary Resuscitation in Out-of-Hospital Cardiac Arrest

The LINC Randomized Trial

Sten Rubertsson, MD, PhD; Erik Lindgren, MD; David Smekal, MD, PhD; Ollie Östlund, PhD; Johan Silfverstolpe, MD; Robert A. Lichtveld, MD, PhD; Rene Boomars, MPA; Björn Ahlstedt, MD; Gunnar Skoog, MD; Robert Kastberg, MD; David Halliwell, RN; Martyn Box, RN; Johan Herlitz, MD, PhD; Rolf Karlsten, MD, PhD

mechanical compressions and to the first defibrillation. However, the first defibrillation occurred 1.5 minutes later in the mechanical CPR group than in the manual CPR group (Table 1). By protocol, the first countershock was to be delivered 90 seconds after starting mechanical compressions; if it had been delivered at the start of mechanical compressions instead, time to defibrillation could have been similar in the 2 groups. This adjustment to the protocol might improve survival in the mechanical CPR group by several percent.[23] However, it is also possible that the additional compressions before defibrillation were beneficial.

IN CASO DI UTILIZZO DI MASSAGGIATORI MECCANICI,

INIZIARE SEMPRE LA RCP MANUALMENTE,

E SOLO DOPO I PRIMI CICLI DI MCE E DEFIBRILLAZIONE POSIZIONARE IL DEVICE.

PROTOCOLLI

ADRENALINA

ECLS

RCP

MECCANICA

ECLS

- implementare un programma di rcp meccanica verso il cath lab.
- implementare un programma di ECMO intraospedaliero.

PORTARE LA CULTURA DELL'ECLS NELLA NOSTRA REALTA' LAVORATIVA.

PROTOCOLLI

ADRENALINA

SIMULAZIONE
E LEADERSHIP

ECLS

CP

MECCANICA

THANKS FOR YOUR ATTENTION

AND PLEASE ASK!