



In-hospital Cardiac Arrest: How to Become a Good “Samaritan”?

Walid Trabelsi^{1*}, Chihebeddine Romdhani¹ and Mustapha Ferjani¹

Every second is important when treating patients in cardiac arrest. Standardization and guidelines are, therefore, critical to get an early effective good quality cardiopulmonary resuscitation. Sudden cardiac arrest is a considerable public health issue in Europe and USA. Studies estimate the number of out-of-hospital cardiac arrest per year at 155,000 in the United States of America and 275,000 in Europe [1,2]. The survival rate variability was considerable between studies (i.e., in Europe: 3 to 31%) [3,4]. We are still facing a huge challenge to increase the survival rate and to achieve better neurologic outcome. Diagnosis and treatment of the underlying cause are fundamental to successful resuscitation. Recent 2010 international consensus [5] are important to address this challenge.

This international consensus emphasizes the importance of good-quality cardiopulmonary resuscitation and early automated external defibrillation. A single compression-ventilation ratio of 30:2, with two inches depth of compression (5 cm) and full chest recoil after each compression, is used for the lonely rescuer of an adult, at a rate of at least 100 compressions per minute. Interruptions of chest compression should be minimized as much as possible. The 2010 international consensus contains important changes from previous

versions. These changes cannot be listed in this editorial. However, it is hard not to mention important changes in post cardiac arrest care guidelines. It is now clear that organized protocols, including therapeutic hypothermia, can increase survival rate to hospital discharge among patients who achieve return of cardiac circulation after cardiac arrest. Sunde et al. [6], showed that standardized post resuscitation protocol focusing on vital organ function including therapeutic hypothermia, percutaneous coronary intervention (PCI), control of hemodynamics, blood glucose, ventilation and seizure improved discharge rate from hospital, neurological outcome and 1-year survival. This study and others found that implementing post resuscitation bundle led to better outcome [7,8].

Van Genderen et al. [9], showed that persistent peripheral and microcirculatory perfusion alterations after out-of-hospital cardiac arrest are associated with increased mortality. They did not found any significant difference between survivors and non-survivors regarding systemic hemodynamics (mean arterial pressure and cardiac output). But, studies still needed to prove that implementing microcirculation-guided strategy will improve outcome.

Several questions remain unanswered; hence the need for more randomized clinical trials. Nevertheless, conducting large scale randomized clinical trials is particularly difficult, due to feasibility and ethical issues. Unfortunately, our knowledge will continue to progress by cases series, retrospective cohorts and animal model studies. Implementation and analysis of electronic international registries may be a way to help build up knowledge.

*Corresponding author: Walid Trabelsi, Department of Anesthesia and Intensive Care Unit, Tunisian Military Hospital of Tunis, Tunisia, Tel: 0021624091983; Fax: 0021671391099; E-mail: waliid_trabelsi2009@yahoo.fr

Received: May 14, 2013 Accepted: May 14, 2013 Published: May 17, 2013

References


1. Atwood C, Eisenberg MS, Herlitz J, Rea TD (2005) Incidence of EMS-treated out-of-hospital cardiac arrest in Europe. *Resuscitation* 67: 75-80.
2. Rea TD, Eisenberg MS, Sinibaldi G, White RD (2004) Incidence of EMS-treated out-of-hospital cardiac arrest in the United States. *Resuscitation* 63: 17-24.
3. Berdowski J, Berg RA, Tijssen JG, Koster RW (2010) Global incidences of out-of-hospital cardiac arrest and survival rates: Systematic review of 67 prospective studies. *Resuscitation* 81: 1479-1487.
4. Herlitz J, Bahr J, Fischer M, Kuisma M, Lexow K, et al. (1999) Resuscitation in Europe: a tale of five European regions. *Resuscitation* 41: 121-131.
5. Hazinski MF, Nolan JP, Billi JE, Bottiger BW, Bossaert L, et al. (2010) Part 1: Executive summary: 2010 International Consensus on Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science With Treatment Recommendations. *Circulation* 122: S250-S275.
6. Sunde K, Pytte M, Jacobsen D, Mangschau A, Jensen LP, et al. (2007) Implementation of a standardised treatment protocol for post resuscitation care after out-of-hospital cardiac arrest. *Resuscitation* 73: 29-39.
7. Lund-Kordahl I, Olasveengen TM, Lorentz T, Samdal M, Wik L, et al. (2010) Improving outcome after out-of-hospital cardiac arrest by strengthening weak links of the local Chain of Survival; quality of advanced life support and post-resuscitation care. *Resuscitation* 81: 422-426.
8. Tømte O, Andersen GØ, Jacobsen D, Drægner T, Auestad B, et al. (2011) Strong and weak aspects of an established post-resuscitation treatment protocol-A five-year observational study. *Resuscitation* 82: 1186-1193.
9. van Genderen ME, Lima A, Akkerhuis M, Bakker J, van Bommel J (2012) Persistent peripheral and microcirculatory perfusion alterations after out-of-hospital cardiac arrest are associated with poor survival. *Crit Care Med* 40: 2287-2294.

Author Affiliation

[Top](#)

¹Department of Anesthesia and Intensive Care Unit, Tunisian Military Hospital of Tunis, Tunisia

Submit your next manuscript and get advantages of SciTechnol submissions

- ❖ 50 Journals
- ❖ 21 Day rapid review process
- ❖ 1000 Editorial team
- ❖ 2 Million readers
- ❖ More than 5000 
- ❖ Publication immediately after acceptance
- ❖ Quality and quick editorial, review processing

Submit your next manuscript at • www.scitechnol.com/submission