

Prehospital Cardiopulmonary Resuscitation (CPR)

A 6 years analysis of Advanced Life Support

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Introduction:

In Portugal, the first responders for cardiac arrest in the prehospital setting with the skill to provide Advanced Life Support (ALS) are emergency medical teams (EMT) of one physician and one nurse working in a VMER (Emergency Medical Vehicle). The aim of this study is to characterize the victims, circumstances of arrest, prehospital survival rate and our team performance in ALS.

Methods:

In this retrospective study, we analysed 1104 patients (only 7.6% of a total of 14600 emergency calls) treated for out-of-hospital cardiac arrest in an urban area of Lisbon city, with 850 000 inhabitants, between 2004 and 2009.

Results:

An apparent medical cause was found in 91.3% of patients, 64.8% were older than 55 years and 67.6% were male. The majority had unwitnessed cardiac arrests (79.6%) and adequate basic life support (BLS) was started prior to our team arrival (77%), by ambulance technicians. The EMT time of arrival to the scene was less than 10 minutes in 87% of the occurrences. The presenting cardiac rhythm was mostly asystole (66.1%), ventricular fibrillation (14.4%) and pulseless electrical activity (12.1%). With ALS, 219 patients (19.8%) were successfully resuscitated and transported to the hospital with return of spontaneous circulation (ROSC). In this group 39.7% had witnessed cardiac arrest by the EMT (44.8% in asystole and 25.3% in VF). 885 patients died on scene or before reaching the hospital despite ALS manoeuvres. All trauma cardiac arrest patients (8%) died on scene or in the first 24 hours after hospital admission.

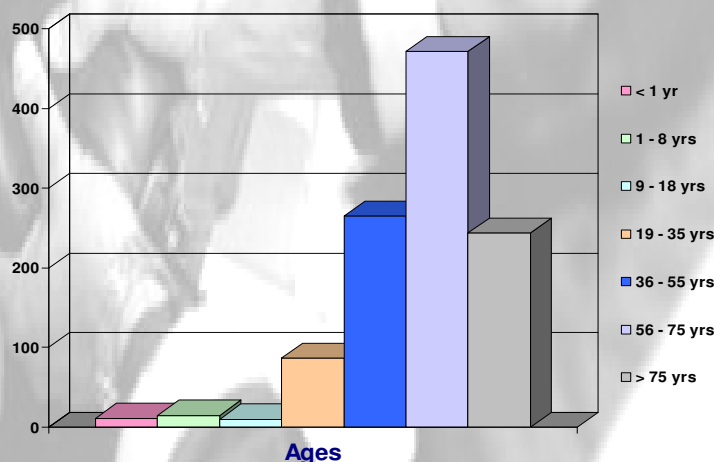
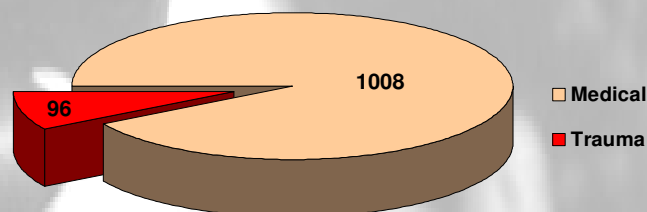
Conclusions:

A pleasing success rate was obtained by our medical team probably due to the BLS done previously to our patients. The short time of arrival may also help enhancing survival. Cross-check hospital data would also be vital in order to truly examine CPR survival. In the future, it is urgent to increase CPR education so that bystanders and non-medical first responders can help change this unfriendly numbers.

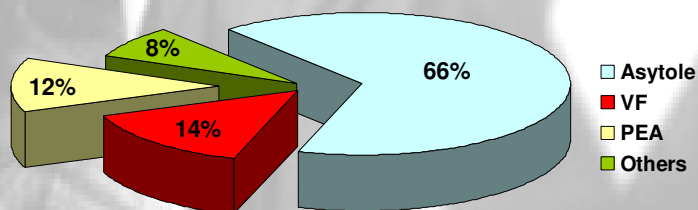
References:

- 1) R. B. Vukmir: Survival and Outcome from Prehospital Cardiac Arrest. *The Internet Journal of Rescue and Disaster Medicine*. 2004;
- 2) Einarsson O, Jakobsson F, Sigurdsson G. Advanced cardiac life support in the prehospital setting: the Reykjavik experience. *J Intern Med*. 1989 Feb; 225(2): 129–135.

Cardiac Arrest Aetiology



Cardiac Arrest Initial Rhythm



ALS Final Result

