

Prehospital Pediatric Cardiopulmonary Resuscitation (CRP)

A 6 years analysis of Advanced Pediatric Life Support

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Introduction:

Pediatric patients receiving resuscitation have a high mortality and morbidity. Scarce information is available about the success of pediatric CPR. In Portugal, the prehospital Advanced Pediatric Life Support (APLS) providers are emergency medical teams of one physician and one nurse working in a VMER (Prehospital Emergency Medical Vehicle). The aim of this study is to characterize the victims, circumstances of arrest, prehospital survival rate and our team performance in APLS.

Methods:

In this retrospective study, we analysed 38 paediatric patients (3.4% of a total of 1104 cardiac arrest events) treated for out-of-hospital cardiac arrest in an urban area of Lisbon city (850,000 inhabitants) between 2004 and 2009.

Results:

A medical cause was found in 73.7% of the cardiac arrest and 79% were male patients. The ages equally diverse from newly born / infant (34.3%), child (39.4%) and young adult (26.3%). All children had unwitnessed cardiac arrests and paediatric basic life support (PBLS) was largely started prior to our team arrival (76.3%) by ambulance technicians. The EMT time of arrival to the scene was less than 10 minutes in 89.4% of the events. The presenting cardiac rhythm was mainly asystole (84.2%), pulseless electrical activity (13.2%) and one case of ventricular fibrillation. With APLS, only 6 patients (15.8%) were successfully resuscitated and transported to the hospital with return of spontaneous circulation. 32 patients died on scene or before reaching the hospital despite APLS manoeuvres. All trauma (due to fall or car accident) cardiac arrest paediatric patients (26.3%) died on scene.

Conclusion:

Because pediatric CPR is rare, training in pediatric resuscitation is often elapsd. Survival averages only approximately 3% to 17% in most studies and survivors are often neurologically devastated. Further studies are needed to recognize if specialized teams can change the outcome or if the use of neurological protection techniques might be helpful.

References:

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Cardiac Arrest Aetiology

