

Abstract

Outcomes of Cardiopulmonary Resuscitation in Neurological Center, Thailand
Pimwan Sookplung, MD Nalinrat Thotham, BN Jatupong Panwilai, BN
Ancheon Chailorat, Bsc.(nursing) Kwanjit Prasertthong, Bsc (nursing)
Department of Anesthesiology, Prasat Neurological Institute, Bangkok, Thailand

Introduction: To evaluate outcomes and quality of in-hospital cardiopulmonary resuscitation (CPR), and factors affecting the outcome of CPR in neurologic-neurosurgical patients in tertiary neurological center, Thailand.

Methods: The descriptive statistics and multivariate logistic regression analysis were performed to identify the factors affecting. P-value \leq 0.05 was considered significant. After the ethics committee approval, the data consisted of demographic data, diagnosis, comorbidity, type of ward, type of department, cause of cardiac arrest, initial electrocardiogram (EKG) rhythm and outcomes of CPR were collected from Prasat Neurological Institute (PNI) CPR registry from October 2005-September 2010. The primary outcomes were the number of patient who had return of spontaneous circulation (ROSC) and survival to discharge.

Results: There were 76 CPR reports during the study period. Thirty seven (48.7%) were males. The median age (interquartile range) was 66 (50-77) years. Thirty eight cardiac arrests (50%) occurred in intensive care unit. The majority of cardiac arrests occurred in neurosurgical ward (52.6%). The most common neurological diagnosis was ischemic stroke (42.1%). The most common cause of cardiac arrest was sepsis (21.1%) and myocardial infarction/arrhythmia (19.7%). Initial EKG rhythms were asystole (57.9 %). The rated to return of spontaneous circulation (ROSC) was seen in 47 patients (61.8%). Four patients (5.3%) were discharged from the hospital. Multiple logistic regression analysis showed significantly increased ROSC in patients received CPR during dayshift (P=0.04) and did not received vasopressor prior to the time of cardiac arrest (P=0.02) with odds ratio (95%confidence interval)=4.67(1.09-19.89), 7.66(1.47-39.94).

Conclusion(s): Even though the initially successful cardiopulmonary resuscitation, the survival and neurological outcome is still poor in neurologic-neurosurgical patients. The prognostic factors to improve CPR outcomes were CPR during dayshift and did not receive vasopressor prior to the time of cardiac arrest.

Reference(s):

- [1]SuSuraseranivongse S et al. Resuscitation;71(2):188-93. 2006.
- [2]Krittayaphong R et al. J Med Assoc Thai;92(5):618-23. 2009.
- [3]Rabinstein AA et al. Mayo Clin Proc;79(11):1391-5. 2004.
- [4]Yi HJ et al. Neurosurgery; 59(4):838-45. 2006.

Table 1 Multivariate logistic regression analysis of ROSC after cardiopulmonary resuscitation (n = 47)

	Multivariate logistic regression analysis				
	Coeff (b)	SE (b)	Adjusted OR	95%CI	P value
Non vasopressor	2.04	0.84	7.66	1.47-39.94	0.02*
Dayshift (8am-4pm)	1.54	0.74	4.67	1.09-19.89	0.04*

P value < 0.05* = significance