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Impact of Hypotension in Early Phase of Return of Spontaneous Circulation on Survival in Patients of Out-of-Hospital Cardiac Arrest

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Introduction

Background: Hypotension after return of spontaneous circulation (ROSC) in out of hospital cardiac arrest (OHCA) patients is common. Resuscitation guidelines provide recommendations for treatment of hypotension in the post ROSC period. However, to date, no study specifically focuses on the effect of hypotension shortly after ROSC in OHCA patients.

Objectives

Objectives: To investigate the association of hypotension in first 3 hours after ROSC and survival, also explore if early initiation of inotrope was associated with better outcome.

Methodology

Method: It is a retrospective cohort study in two regional hospitals. Non-traumatic OHCA patients ≥ 18 years old who achieved ROSC from the period of 1 July 2014 to 31 December 2015 were included. Hemodynamic data and administration of inotropes were retrieved for 3 hours after ROSC. We calculated the hypotensive exposure index (HEI) as the surrogate marker of the exposure of hypotension. Area under ROC curve was calculated to predict survival by HEI. Multivariate logistic regression models were performed for predicting survival. Mean arterial pressure (MAP) was explored in survived and death group with repeated measure MANCOVA, adjusted for factors use of inotropes/vasopressors and down time.

Result

Results: 289 patients were included. 29 patients were survived. The median of 1-hour HEI and 3-hour HEI were significantly lower in survival group (p