Arrhythmias

ROLE OF SEVERE ACIDEMIA ON NEUROLOGIC OUTCOME OF CARDIAC ARREST SURVIVORS UNDERGOING THERAPEUTIC HYPOTHERMIA

Poster Contributions
Poster Sessions, Expo North
Monday, March 11, 2013, 9:45 a.m.-10:30 a.m.

Session Title: Arrhythmias: SCD in Children and Adults
Abstract Category: 6. Arrhythmias: Other
Presentation Number: 1280-56

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Introduction: Therapeutic Hypothermia (TH) has become a standard of care for improving neurological outcomes in cardiac arrest survivors. We investigated the influence of severe acidemia (defined as arterial pH < 7.20) at the time of initiation of TH on the neurological outcome.

Methods: A retrospective analysis was performed on 196 consecutive cardiac arrest survivors who underwent TH with endovascular cooling between January 2007 and April 2012. Arterial blood gas drawn prior to initiation of TH was utilized to measure pH in all patients. Patients were divided in two groups based on arterial pH (pH<7.20 and ph ≥ 7.20). The primary end-point was measured using the Pittsburgh Cerebral Performance Category (CPC) scale prior to discharge from the hospital: good (CPC 1 and 2) and poor (CPC 3 to 5) neurologic outcome.

Results: Out of 196 patients, 45/101 (44%) in the pH ≥ 7.20 group had good neurological outcome as compared to 22/95 (23%) in the pH <7.20 group (P=0.003). On univariate analysis, mean arterial pH in patients with good neurologic outcome was significantly higher as compared to patients with poor neurologic outcome (7.21±0.15 versus 7.11±0.19 respectively, P<0.005). On multivariable analysis patients with pH < 7.20 at initiation of TH was independently predictive of neurologic outcome in cardiac arrest survivors undergoing TH (P 0.005, OR 0.69, 95% CI 0.14- 0.70).

Conclusion: Presence of severe acidemia at the initiation of TH is associated with poor neurological outcome in cardiac arrest survivors.

Figure 1. Bar graph Demonstrating neurological outcome based of arterial Ph