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Arrhythmias

CARDIOGENIC SHOCK: NO LONGER A CONTRAINDICATION TO THERAPEUTIC HYPOTHERMIA IN SURVIVORS OF CARDIAC ARREST

ACC Moderated Poster Contributions
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Background: Therapeutic hypothermia (TH) is neuroprotective and increases survival in cardiac arrest survivors. Cardiac arrest is often seen in the setting of ST-elevation myocardial infarction (STEMI), and cardiogenic shock (CS) is a known poor prognostic factor.

Methods: From Feb 2006 to July 2011, 252 consecutive cardiac arrest patients who remained comatose following return of spontaneous circulation were enrolled in a TH protocol, integrated into a regional STEMI transfer network. Patients were treated regardless of past medical history, initial rhythm or hemodynamic status. The aim of this study was to determine if there were any predictors of CS in this population and their effect on morbidity and mortality.

Results: Of the 252 patients, 92 (36.5%) were in CS. Survival with favorable neurologic outcome (CPC 1 or 2) was poorer in CS patients than no CS patients, 33/92 (35.9%) vs 83/160 (51.9%), $p=0.014$. Patients in CS were older 65.5 vs 61.5 years $p=0.02$ and had a higher incidence of pre-existing cardiomyopathy (CM) 41/92 (44.6%) vs 41/160 (25.6%) $p=0.002$ and concurrent STEMI 43/92 (46.7%) vs 44/160 (27.5%) $p=0.002$. Ischemic CM was the most common type 34/41 (83.0%). The odds ratio of CS in patients with pre-existing CM was $OR=2.33$ (1.36, 4.02). The odds ratio of CS in patients with concurrent STEMI was $OR=2.31$ (1.35, 3.96). There was no statistical difference in gender, initial rhythm, transfer distance, history of CAD, HTN, or CHF between patients in CS versus those without CS. There was a trend of lower survival with CPC 1/2 in pre-existing CM patients than those without 12/41 (29.3%) vs 21/51 (41.2%) $p=0.24$. There was a trend of higher survival with CPC 1/2 in patients in CS and concurrent STEMI than CS alone 19/43 (44.2%) vs 14/49 (28.6%) $p=0.12$.

Conclusion: Pre-existing CM and concurrent STEMI are associated with higher incidence of CS. Prior CM is common among those with CS. CS has an unexpectedly favorable outcome with TH. TH should be the standard of care for unresponsive cardiac arrest patients in CS.