**ATHEROSCLEROTIC HEART DISEASE BURDEN, LEFT VENTRICULAR SYSTOLIC DYSFUNCTION, AND OUTCOMES IN CARDIAC ARREST SURVIVORS TREATED WITH THERAPEUTIC HYPOTHERMIA**

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Objective/Background: Outcomes of therapeutic hypothermia in relation to admission electrocardiogram (ECG), left ventricular (LV) function, and coronary artery disease (CAD) burden in cardiac arrest survivors have not been well investigated.

Methods: Admission ECG, cardiac catheterization and echocardiographic data were collected in 27 consecutive cardiac arrest survivors (6 females, 60+/-15 years old, 2 with diabetes, 2 with chronic kidney disease, none with known prior myocardial infarction), treated with therapeutic hypothermia. Coronary anatomy was classified per New York State Angioplasty Registry criteria.

Results: Admission ECG demonstrated ST elevations consistent with acute myocardial infarction in 25% of patients. However, these ST elevations were not predictive of CAD burden: significant coronary artery disease requiring angioplasty was noted in 79% of patients (p=0.595). Mortality was not increased in patients with ST elevations on admission (30 vs. 35%, p=0.756).Left ventricular dysfunction, present in majority of patients prior to re-warming or during therapeutic hypothermia, has resolved before discharge in most patients (62% before re-warming vs. 14% before discharge, p<0.005). Coronary artery disease prevalence had no relation to the baseline LV systolic dysfunction (92% in normal LV or mild LV dysfunction vs. 78% in patients with moderate or severe LV dysfunction, p=0.368). Left ventricular dysfunction had no significant effect on hospital outcomes (50% of expired patients had normal or mildly depressed LV systolic function, p=0.784).

Conclusions: In cardiac arrest survivors, ST elevation and LV systolic dysfunction on admission do not affect mortality and are not predictive of the atherosclerotic heart disease burden, which is present in majority of patients.