**LONG-TERM SURVIVAL AND AICD THERAPY IN SURVIVORS OF CARDIAC ARREST TREATED WITH THERAPEUTIC HYPOTHERMIA**

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Purpose: Long-term survival and incidence of AICD anti-tachycardia pacing or therapeutic defibrillation in survivors of cardiac arrest treated with therapeutic hypothermia were investigated.

Methods: Long term follow up (25+/-5 months) and medical data were recorded in

41 consecutive cardiac arrest survivors (13 females, 60+/- 32 years old, 6 with diabetes, 7 with chronic kidney and 8 with cardiovascular disease) treated with therapeutic hypothermia. AICD outcomes were evaluated through device interrogation. Mortality was ascertained through hospital records and Social Security Death Index. ANOVA, chi-square, Kaplan-Meier, and logistic regression analyses were used. The study was approved by the institutional IRB.

Results: Age, gender, history of CAD, systolic dysfunction, serum pH, creatinine, sodium, glucose, magnesium, lactate, and osmolality were not predictive of inpatient mortality. Higher hemoglobin (0.336 per 1 mg/dL, 95% CI 0.138-0.818, p=0.016), pre-resuscitation ventricular tachycardia or fibrillation (vs. pulseless electrical activity or asystole, 0.02, 95% CI 0.002-0.312, p=0.004), and lower K levels at presentation (72% survival in K<=4 vs. 35% in K>4 mEq/L, p=0.028) were associated with improved survival. Eighteen survivors to hospital discharge received implantable AICD. During follow-up, VT episodes were documented in 3 patients (17%), one (6%) experienced VF, and one received any-tachycardia pacing. LV dysfunction and/or significant coronary artery disease were not predictive of future AICD discharges.

Conclusions: Regardless of residual LV function, recurrent arrhythmic events are common in survivors of cardiac arrest treated with therapeutic hypothermia, underscoring importance of AICD implantation in secondary prophylaxis of sudden death.