**PATIENT CHARACTERISTICS AND HOSPITAL OUTCOMES IN PATIENTS TREATED WITH THERAPEUTIC HYPOTHERMIA FOR CARDIOVASCULAR AND NEUROLOGICAL INDICATIONS**

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Background: Hospital outcomes in cardiac (CV) or stroke (CNS) patients treated with therapeutic hypothermia were compared.

Materials/Methods: Data in 85 consecutive CV or CNS patients treated with therapeutic hypothermia at a single institution were collected.

Results: Gender, admission weight, heart rate, potassium, sodium, glucose, osmolality, calcium, and hemoglobin were similar in CV a CNS patients. CV patients were older (60+/-15 vs. CNS 46+/-19 years old, p<0.0001), more acidotic (pH CV 7.2+/-0.15 vs. CNS 7.4+/-0.08, p<0.0001), with higher BUN (19.9+/-12.9 vs. CNS 13.7+/-7.9 mg/dL, p=0.028) and creatinine (2+/-2 vs. CNS 1.1+/-0.4 mg/dL, p=0.017). CNS patients had higher systolic blood pressure (146+/-36 mmHg vs. CV 125+/-28, p=0.021).Many patients (CV 63% vs. CNS 57%, p=0.592) survived to discharge. Diagnosis, age, weight, gender, blood pressure, potassium, pH, BUN, creatinine, and osmolality were not predictive of mortality. Admission tachycardia (HR 1.3 per 10 bpm, 95%CI 1.0-1.7, p=0.029), hyperglycemia (HR 2.5 per 100 mg/dL, 96%CI 1.2-5.3, p=0.019), hypercalcemia (HR 2.3 per 1 md/dL, 95%CI 1.2-4.4, p=0.016) were predictive of death, while higher hemoglobin was associated with improved survival (HR 0.7 per 1 mg/dL, 95% CI 0.6-0.98, p=0.033). Hypercalcemia (HR 3.1 per 1 mg/dL, 95% CI 1.3-7, p=0.007) and hemoglobin (HR 0.7 per 1 mg/dL, 95% CI 0.5-0.9, p=0.009) retained predictive power in multivariate analysis. Length of hospital stay was longer in CNS vs. CV patients (29+/-5 vs. 19+/-3 days, p=0.038).

Conclusions: Hemodynamic and metabolic parameters appear to be more important than diagnosis in determining hospital survival in cardiac or stroke patients selected for therapeutic hypothermia.