IS COOLING FABLE OR SCIENTIFICALLY JUSTIFIABLE: META-ANALYSIS OF RANDOMIZED CONTROL TRIALS

Moderated Poster Contributions
Arrhythmias and Clinical EP Moderated Poster Theater, Poster Hall B1
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**Background:** Therapeutic hypothermia (TH) is an integral component of post-arrest care to survivors. However, recent RCTs have yielded negative results. We sought to determine if the pooled data from available RCTs is in concordance with the current guidelines.

**Methods:** A comprehensive search of PUBMED from inception till September 2014 was performed using predefined criteria. TH was defined as any temperature ≤ 34 degrees celsius. We compared mortality and adverse neurological outcomes in patients undergoing TH vs. Normothermia (NT, defined as temperature ≥ 36 degrees celsius).

**Results:** Among 4 eligible RCTs, a total of 689 patients underwent TH and 672 patients underwent NT. Follow up ranged from hospital discharge to a mean period of 256 days. Rates of mortality and adverse neurological outcomes were similar in patients undergoing TH compared to NT, with risk ratio (RR) (95% CI); 0.84 (0.66 - 1.06) and 0.82 (0.59 - 1.15) respectively. In a meta-regression analysis, we found that log odds ratio of mortality and adverse neurological outcomes increased as percentage of bystander CPR rates increased among studies (p=0.007 and p=0.004 respectively) (Figure).

**Conclusion:** Our results suggest that TH may not improve mortality or adverse neurological outcomes in post-arrest survivors. Differences between bystander CPR rates in studies may explain dissimilarities in the putative effects of TH reported. Employing TH as a standard of care strategy of post-arrest care in survivors may need to be reevaluated.

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**Figure:**

1. **Graph 1:** Scatter plot showing the relationship between percentage of bystander CPR and mortality.
2. **Graph 2:** Scatter plot showing the relationship between percentage of bystander CPR and adverse neurological outcomes.
3. **Graph 3:** Scatter plot showing the relationship between percentage of bystander CPR and mortality and adverse neurological outcomes combined.