Targeted Temperature Management linked with neurological recovery in post-cardiac arrest patients regardless of rhythm-type: a living meta-analysis of RCTs

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Introduction

- Targeted temperature management (TTM) proposes benefit in neurological outcome in patients after cardiac arrest.
- Newer studies warrant exploration of the collective benefit of TTM post-cardiac arrest.

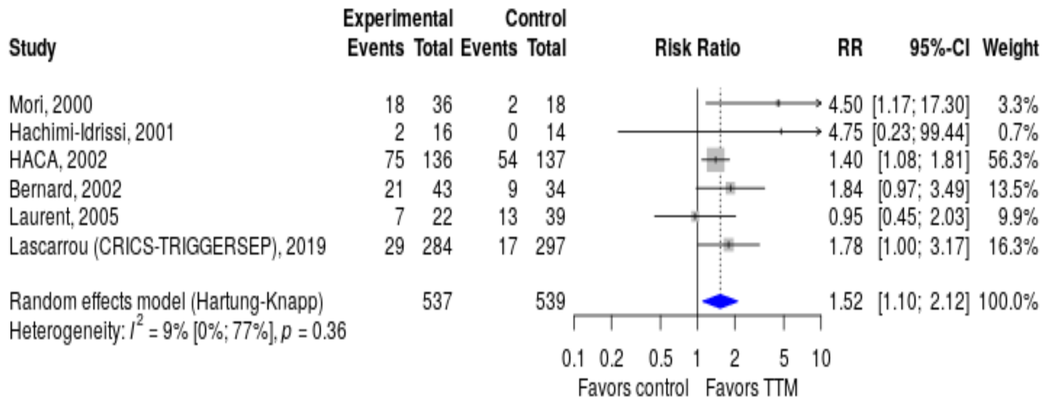
Methods

- Living meta-analysis of RCTs
- Literature PubMed search: Cited references of existing meta-analysis/studies screened
  - Intervention/Outcome: TTM after a cardiac arrest in adults with some form of neurological assessment
  - Inclusion: Trials comparing at least 12 hours of in-hospital TTM to usual care
  - Exclusion: Trials with subjects only receiving pre-hospital TTM
- Statistical Methods:
  - Random effects model (Hartung-Knapp) was used to estimate overall risk ratio
  - The I^2 statistic estimates the heterogeneity and the funnel plot asymmetry was tested

Does targeted temperature management have neurological benefit in post-cardiac arrest patients regardless of rhythm-type?

Results

Effects of Targeted Temperature Management on neurological outcome after cardiac arrest regardless of rhythm-type



Test for funnel plot asymmetry (Rucker): p= 0.174 (may be falsely significant if < 10 studies)

Conclusion

Our results indicate 52% neurological recovery benefit amongst adults receiving TTM post-cardiac arrest, not limited to any rhythm-type

Objective

- To explore any neurological benefit with at-least 12 hours of in-hospital TTM post-cardiac arrest regardless of the rhythm-type at the time of arrest

Discussion

Limitations to our findings include

1) Three studies contribute 86% to the meta-analysis
2) Intervention with hemofiltration in the control arm for Laurent, 2005
3) Temperature check and cooling methods were inconsistent across the RCTs
4) Varying definition of the neurological outcome across studies, and
5) Our exploratory approach in determining inclusion criteria for the RCTs included