Pre-hospital Cooling to Improve Successful Targeted Temperature Management after Cardiac Arrest

Scales DC et al.
Editorial Comment
CCCF, November 1, 2016
Next 5 minutes ...

• What I liked about this study
• Concerns I had with this study
• What this study has taught me ... made me think about ...
What I liked about this study

• Asked important questions
  – Can we start TTM in pre-hospital setting?
  – Will trying to start TTM in pre-hospital setting increase use of TTM during hospitalization?
  – If started no sooner than 5 minutes after ROSC will outcomes improve?
What I liked about this study

• Extra-ordinary level of co-ordination achieved
  – Pre-hospital
  – ER
  – ICU
  – Multiple sites – 4 EMS, 24 hospitals

• Excellent study design
Concerns about the study

• Relevance of clinical question asked changed somewhat ... what is TTM?
  – Recent Canadian guidelines supportive but community perhaps not?

• Sample size not achieved
  – Point estimates interesting ...
    • Did we miss benefit?
    • Can’t rule out harm
    • Cost of implementing this are real
What did I learn?

• Study addresses 2 questions
  – Specifically
    • Do earlier attempts at TTM in pre-hospital setting achieve better outcomes?
  – Generally
    • What are the challenges and benefits of pre-hospital studies?
Out of Hospital Cardiac Arrest

Timing of TTM (32-34)

Cardiac Arrest → ROSC → ER Arrival → ICU Admit

- ↓ ROSC
- ↑ Re-arrest
- ↑ CPE
- Safe?

Usual time
Targeted Pre-hospital interventions

• Why do this?
  – Outreach philosophy ... earlier is better
    • EARLY IDENTIFICATION
    • EARLY ASSESSMENT/DIAGNOSIS
    • EARLY RESUSCITATION – NONSPECIFIC TREATMENT
    • EARLY SPECIFIC TREATMENT
    • EARLY ACTIVATION OF RESPONSE TEAM
      – STROKE
      – STEMI
      – POST ARREST?
Targeted Pre-hospital Interventions

• Do we need to study it?
  – “We know it works” ... TTM
  – Timing of intervention may be important
    • TTM pre ROSC vs at ROSC vs later
  – Feasibility of intervention
    • Assumptions of compliance may be wrong
Targeted Pre-hospital Interventions

• Challenges of Studying this
  – Less controlled environment
    • Lots of up front co-ordination
    • Sample size calculations may need to account for higher number of missed patients
    • Associated costs
  – Other variables at play
    • Who leads pre-hospital care
    • Time to hospital
    • How does the in-hospital system run
    • What is the interface between pre-hospital and hospital
Summary

• Congratulations to Dr. Scales and his team