Discussant
Providing Rapid Out of Hospital Acute Cardiovascular Treatment (PROACT 4)

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Emergency Department Crowding
An Increasing Challenge Worldwide

- As the largest single cause of ED admissions, streamlining care of patients with chest pain has the potential to both reduce ED crowding and reduce costs of care.

- In this light, Ezekowitz and colleagues conducted a pragmatic RCT of POC troponin testing by EMS as a means to reduce time from FMC to ED final disposition (primary endpoint).
Methods

- Prospective, randomized, “open label”, blinded endpoint (PROBE) methodology
  - Objective was to see how knowledge of prehospital Tn affected time from FMC to disposition

- 90% power for 25% reduction (120-minute) in time to ED final disposition in POC TnI group with 600 pts and 10% failure rate
  - 60 minutes deemed “clinically relevant”
  - Primary analysis by intention to treat

- POC TnI assay 99th percentile 0.02 ng/mL and in hospital TnI assay 99th percentile 0.04 ng/mL but used cutpoint of 0.1 ng/mL
  - May miss all but larger MIs and prolong time to disposition
  - Difficult to assess sensitivity and specificity of POC
Results

- **POC**
  - FMC to 1st Tn: 38 minutes
  - EMS transport time: 31 vs 27 minutes

- **UC**
  - FMC to 1st Tn: 138 minutes
  - EMS transport time: 31 vs 27 minutes

- ED disposition
  - POC: 8.8 hours
  - UC: 9.1 hours

- 75% adjudicated as non-cardiac etiology
- 73% discharged from ED
- 10% elevated POC Tn level

**P** = 0.05
Unanswered Questions?

- Single, highly integrated system of care (hospital and EMS)
  - How would this translate to more fragmented Hospital and Emergency Medicine Systems?

- POC assay with 18% failure rate and 38 minute TAT
  - Is there a faster, more reliable approach to POC Tn testing that could decrease TAT and also reduce testing failures?

- Modest sensitivity/CV of POC assay; hospital assay used at high cut point
  - What are the opportunities when hsTn assays available?
  - How might advanced diagnostic protocols be integrated?

- Despite POC testing by EMS (38 vs 138 min first Tn time), FMC to disposition still nearly 9 hours and only 20-25 minutes shorter than usual care
  - What are the systems opportunities to shorten time to disposition?