



Emergency Cardiovascular Care 2010: Transforming STEMI Care

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Setting the Stage: STEMI care in U.S

- NCDR shows improvements
 - Death rate 5.8%
 - Reinfarction rate 1%
 - Bleeding is increased
 - No reperfusion → 6%
 - Not eligible for perfusion 13%
 - D2B <90 min for transfer-in pts only 23%
 - Not enough upstream Plavix



Controversies in STEMI Care

- Ideal reperfusion strategy when D2B >90 but less than 120 versus >120 min
- Ideal time for PCI when has successful lytic rx
- PCI without SOS versus Center of Excellence
- *“When you have multiple choices you end up with paralysis...bad medicine”* Dr Ralph Brindis
- Use ACC/AHA guidelines regarding volume when considering competency.

Pre-Hospital Cath Lab Activation

- RapidSTEMIID.com is an interactive STEMI ECG interpretation tool.
- ML EMS survey – 36% EMS agencies responded (91% of US pop)
 - Most agencies were more equipped than thought
 - Most common way PH12 communication is radio.
 - EMS diagnosed STEMI 64%; Computer only diagnosis 11%
 - Most EMS agencies do not pre-activate the cath lab

“Diagnosis of STEMI needs to be made by EMS...and ED doc has to get over it” Dr Tim Henry



Mayo Clinic

- “Definite STEMI” = EMS & computer agreement
- “Possible STEMI” = LBBB or EMS and computer discordant.
- “Not STEMI” = EMS & computer agree that not STEMI

- Effect of protocol D2B 62 min → 32 min
- Approximately 2% false negative rate

Pre-hospital Cath Lab Activation

- No agreement of False positive (aka “over activation?”)
 - Dr Lee Garvey’s definition: “*No uniform agreement that ECG is c/w STEMI or if the patient is deemed not appropriate for cath lab*” –
 - It can not be that have a clean coronary; it must be what is a reasonable interpretation of ECG.
- “*We can’t be concerned about false + until we understand the amount of missed STEMIs (false -)*” –Dr Brent Myers
 - A simulation study (Prehosp Emerg Care 2009) showed false + 8-15% and false – 10%



Data

- EMS data is one of the most frustrating to collect. If do not get it in the first 24 hours it is gone.
- Symptom onset is difficult to assess.
- Compliance issues with EMS is difficult
- EMS uses NEMESIS; Hospitals use Action Registry



Rokos STEMI V2.0

1. Reduce False + using WIPI (wireless transmission and physician interpretation)
2. Fast and reliable inter-hospital transfer
3. Nationally standardized database (Action-GWTG?)
4. Cardiac resuscitation centers
5. Rural pharmaco-invasive strategies



Hypothermia

- Survival from OOH arrest is extremely variable.
- One half of OOH arrest were STEMI (MHI)
- Earlier cooling; an increase in time it takes to cool by one hour increased death rate by 25%.
- If EMS starts cooling it is more likely to be continued in the hospital. (FDNY experience)
- Goal → by time reach cath lab pt @ 33° C
- Pursue cooling even if pt is awake, but confused/encephalopathic.
- The minimal time post cooling to assess neuro recovery is 5 days

