STEMI 2006: The First 24 Hrs

Early Reperfusion—If Possible

Initial therapy for AMI aims at restoration of perfusion achieved through either medical or mechanical (PCTA, CABG) means.

ACC/AHA STEMI guidelines were updated and expanded in 2004, and are now generally regarded as the "final word." The new guidelines emphasize primary PCI as the initial reperfusion therapy of choice if promptly available. Timing of therapies prompted a presentation focusing on STEMI management in the first 24 hours.

Timing was a pivotal issue in the Treatment with Enoxaparin and Tirofiban in Acute Myocardial Infarction (TETAMI) trial. AMI patients presenting >/=12 hours after symptom onset are generally considered to be ineligible for reperfusion therapy—and there are no current specific treatment recommendations for this subgroup, according to TETAMI investigator Marc Cohen, MD, Newark Beth Israel Medical Center. "TETAMI was established to get a better understanding of the characteristics and outcomes of STEMI patients who are deemed ineligible for standard reperfusion."

All patients with STEMI who were <24 hours from onset were included in either the TETAMI randomized trial or registry. Those patients ineligible for acute reperfusion (presented too late), had no cardiogenic shock, and were not scheduled for catheterization and revascularization within 48 hours "were randomized to 1 of 4 antithrombotic regimens involving enoxaparin or unfractionated heparin, in combination with tirofiban or placebo for 2 to 8 days," Dr. Cohen said.

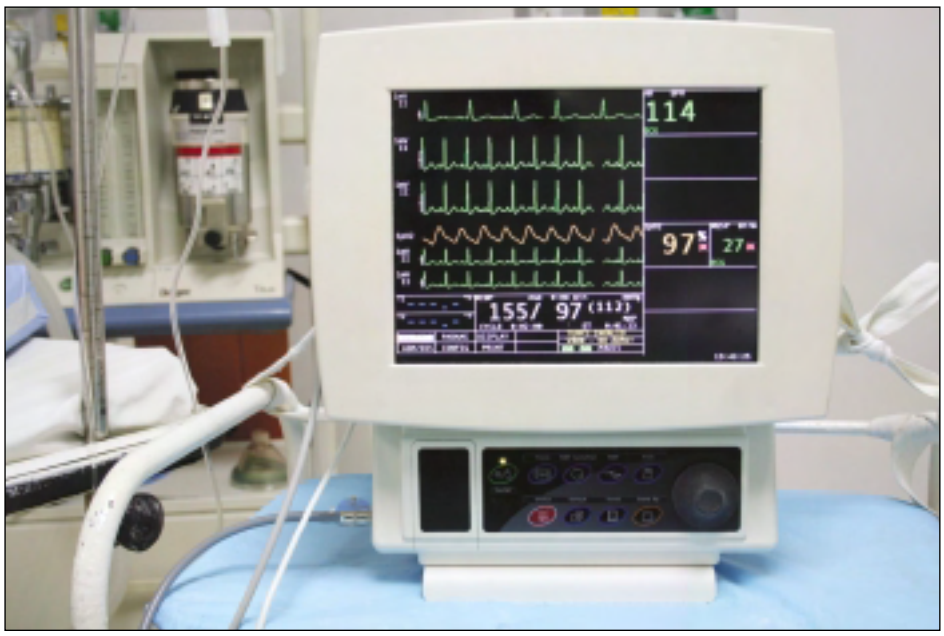
Highlights from the
American College of Cardiology
55th Annual Meeting
Atlanta

"A concurrent registry tracked STEMI patients presenting <12 hours after onset, and who underwent reperfusion." This registry also tracked the remaining STEMI patients who neither received reperfusion nor were enrolled in the TETAMI randomized trial.

"We found that patients in the TETAMI registry who received early reperfusion had lower clinical event rates at 30 days, compared with patients who did not receive reperfusion therapy. In particular, 30-day mortality was only 4.4% in patients who received reperfusion therapy, compared with 12% in non-TETAMI patients who did not receive reperfusion therapy."

Early access to treatment and early reperfusion therapy in STEMI will save lives and reduce mortality. However, in their published results, Dr. Cohen and colleagues noted a substantial fraction of patients with STEMI (40%) present too late for reperfusion therapy. In the large-scale 18-month Rapid Early Action for Coronary Treatment (REACT) program, it was observed that investigators were unable to shorten the time from onset of symptoms to hospital arrival in study communities.

"The overall picture points to the need for further studies to identify the optimal treatment of patients with STEMI who are ineligible for reperfusion, particularly those who present more than 12 hours after symptom onset," Dr. Cohen noted. Further research and initiatives in education and outreach are also needed to encourage earlier presentation for care.



Improving Outcomes: Beyond Reperfusion

What about medical management in STEMI? Christopher Granger, MD, Duke University Clinical Research Institute, noted that timing is of the essence in this strategy as well.

Five lives were saved per 1,000 patients if ACEIs were started in the first 24 hours after symptom onset, according to data from the ACEI Collaborative Group. Although ACEIs tended to be better if the MI is anterior, the benefit was still evident for infarctions in other locations. Additionally, ACEIs conferred benefits in several subgroups, including younger patients, diabetics, and those with higher heart rates (e.g., >/= 80-100 bpm).

Another area of controversy is use of insulin to control blood glucose in diabetics with AMI. ACC/AHA guidelines (2004) say yes, but Dr. Cohen presented more recent data (2005, 2006) that failed to support that indication. The DIGAMI-2 trial found no benefit in acute glycemic control, and other studies failed to demonstrate improved survival if glucose is tightly controlled in AMI. In addition, data does not support routine use of GIK (glucose-insulin-potassium) infusion.

An additional challenge is initiation and adherence to effective drug regimens. We know that patients not discharged on medication tend not to be on medication 90 days later, and the literature supports the widespread lack of compliance with medical regimens. Dr. Granger characterized adherence as a pivotal challenge in improving STEMI management.

Dr. Granger's presentation pointed to clear benefits of improved outcomes with medical management concurrent with and after PCI, organized around 6 key points:

- ACEIs should be started early, especially in high-risk patients
- Aldosterone blockade confers added benefit in patients with reduced EF and/or HF
- Beta-blockers
- No to routine acute blood glucose control—await further trials
- Statin benefit begins early
- Improving adherence to complex regimens—a critical factor in treatment success