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American Heart Association/American College of Cardiology joint scientific statement

New guidelines address care, treatment for heart attacks

DALLAS, Dec. 10 /PRNewswire-USNewswire/ -- New clinical trial data on a variety of aspects of heart attack care has prompted the American College of Cardiology and American Heart Association to update portions of their joint guidelines for treating the type of heart attack called ST elevation myocardial infarction (STEMI).

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New guidelines address care, treatment for heart attacks

DALLAS, Dec. 10 - New clinical trial data on a variety of aspects of heart attack care has prompted the American College of Cardiology and American Heart Association to update portions of their joint guidelines for treating the type of heart attack called ST elevation myocardial infarction (STEMI).

The revised guidelines will be published in the Jan. 15, 2008, print issues of Circulation: Journal of the American Heart Association and the Journal of the American College of Cardiology and are available online at www.americanheart.org and www.acc.org.

Almost half a million Americans each year have a STEMI, which is caused by a completely blocked artery. STEMIs are considered the most critical type of heart attack but can be quickly recognized and treated to reduce heart damage.

"Our recommendations for the initial treatment of STEMI continue to reinforce the goal of restoring blood flow to the heart as quickly as possible," said Elliott Antman, M.D., chair of the guideline writing group, director of the coronary care unit at Brigham and Women's hospital and professor of medicine Harvard Medical School in Boston, Mass. "Data show that

better systems of care, leading to faster times to reperfusion, result in better outcomes for patients with STEMI. One underutilized but effective strategy for improving STEMI systems of care is to expand the use of prehospital 12-lead electrocardiography programs by emergency medical systems (EMS) that provide advanced life support. This provides the early diagnosis that can set into motion the appropriate treatment strategy."

The recommendations clarify that the emphasis on percutaneous coronary intervention (PCI) should not obscure the importance of fibrinolytic (clot-busting) therapy. PCI, also known as angioplasty, is a procedure in which a tiny wire is inserted into the blocked area of a coronary artery and a balloon is inflated to re-open the artery and restore blood flow to the heart; a stent is frequently inserted to keep the artery propped open.

STEMI patients presenting to a hospital with PCI capability should be treated with primary PCI within 90 minutes of first medical contact as a systems goal. The 90-minute goal still stands for hospitals without PCI capability, as long as a patient can be transferred and receive treatment within the 90-minute window. However, for patients who cannot be transferred to a PCI center and undergo PCI within 90 minutes, they should be treated with fibrinolytic therapy within 30 minutes of hospital presentation as a systems goal unless fibrinolytic therapy is contraindicated.

The update also includes clarification of which patients with STEMI are candidates for early intravenous (IV) beta-blocker therapy, now noting that IV beta-blockers should not be administered to STEMI patients who have any of the following: 1) signs of heart failure; 2) evidence of a low output state; 3) increased risk for cardiogenic shock; or 4) other relative contraindications to beta blockade (including second- or third-degree heart block, active asthma, or reactive airway disease).

The update also includes new information on how to make the transition to the catheterization lab for patients who initially received fibrinolytic treatment. This includes facilitated (PCI) and rescue PCI. Facilitated PCI refers to a strategy of planned immediate PCI after administering drugs to reduce blood vessel obstruction before the procedure. Rescue PCI refers to the need for PCI after fibrinolytic treatment has failed to restore blood flow to the heart.

According to the update, potential advantages of facilitated PCI include quicker restoration of blood flow, less heart muscle damage, improved patient stability and greater procedural success. Potential risks include increased bleeding complications, especially in older patients.

Despite the potential advantages, clinical trials of facilitated PCI have not demonstrated benefit in reducing infarct size or improving outcomes. Thus, the update states that full-dose fibrinolytic therapy followed by immediate PCI may be harmful. However, facilitated PCI using regimens other than full-dose fibrinolytic therapy might be considered for restoring blood flow when all of the following are present: 1) patients are at high risk; 2) PCI is not immediately available within 90 minutes; and 3) bleeding risk is low.

Rescue PCI is recommended for patients who have received fibrinolytic therapy and have any of the following: 1) cardiogenic shock in patients less than 75 years of age who are suitable candidates for revascularization; 2) severe congestive heart failure and/or pulmonary edema; 3) hemodynamically compromising ventricular arrhythmias.

The guidelines also include new recommendations on using anticoagulants. Patients undergoing reperfusion with fibrinolytics should receive anticoagulant therapy for at least 48 hours and preferably for the duration of the initial hospital stay, up to eight days.

According to the update, clopidogrel should be added to aspirin in patients with STEMI regardless of whether they undergo reperfusion with fibrinolytic therapy or do not receive reperfusion therapy. Treatment with clopidogrel should continue for at least 14 days.

Recommendations regarding the initial treatment of STEMI retain the same goal - to restore blood flow to the heart as quickly as possible, primarily through the artery opening procedure called percutaneous coronary intervention (PCI).

Finally, among the most notable changes in the update is the recommendation that patients who routinely use COX-2 inhibitors and non-steroidal anti-inflammatory drugs (NSAIDs) - except aspirin - should stop taking them while being treated for a heart attack. NSAIDs are anti-inflammatory drugs that reduce pain, fever and inflammation. Cox-2 inhibitors are a kind of NSAID that directly targets the COX-2 enzyme, which causes inflammation and pain.

"The updated opinion on COX-2 inhibitors and other NSAIDs comes along with further clarification and updates on other drug treatments, such as intravenous beta blocker therapy, and new recommendations about new drug treatments that should be used in patients with STEMI," Antman said.

NSAIDs have been linked to an increased risk of adverse effects in people with heart disease or heart disease risk factors. Because of this risk, the American Heart Association in February 2007 advised physicians to change the way they prescribe pain relievers, using COX-2 inhibitors and NSAIDs as the last line of treatment, instead of as a first line treatment.

The update now says to stop NSAIDs and COX-2 inhibitors during the acute phase of treatment in patients with STEMI. After the initial treatment, there are recommendations for a "rigorous review of any ongoing needs for pain control at the time of hospital discharge, followed by a five-step process for choosing appropriate pain medicines," Antman said. In all cases, the lowest effective doses should be used for the shortest possible time and COX-2 selective NSAIDs should be considered only as a last resort.

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