MedicalXpress

Clot-busting drug as effective as angioplasty

March 12 2013

A clot-busting therapy may benefit some heart attack patients who cannot have immediate angioplasty, according to research presented today at the American College of Cardiology's 62nd Annual Scientific Session.

"Drug therapy before transfer is at least as effective as [angioplasty], and an urgent catheterization was avoided in two-thirds of patients," said Frans Van de Werf, MD, PhD, professor of cardiology at University of Leuven, Belgium, and the study's lead investigator.

"It gives [clinicians] time to consider other options, such as [coronary artery bypass graft] and medical therapy."

The Strategic Reperfusion Early After Myocardial Infarction (STREAM) trial included 1,915 patients from 15 countries. All had ST-elevation myocardial infarction (STEMI), a type of heart attack caused by a blood clot completely blocking one of the heart's arteries. Patients were first seen in community hospitals or by emergency medical personnel. In these settings, immediate angioplasty—the preferred first-line treatment for STEMI—was not possible until patients were transferred to a major medical center.

Before transfer, subjects were randomized to either angioplasty—also called PCI, or percutaneous coronary intervention—immediately after arrival or to drug therapy with tenecteplase plus enoxaparine, clopidogrel and aspirin before arrival. When patients on tenecteplase reached a medical center, about one-third needed urgent angioplasty. The other

two-thirds did not. They received an angiogram an average of 17 hours after arrival. Based on the results of the angiogram, patients received either PCI or coronary artery bypass graft surgery under non-urgent circumstances.

The primary endpoint was a composite of all-cause mortality, shock, congestive heart failure and subsequent heart attack within 30 days. Results were similar between the immediate PCI group and the tenecteplase group (14.3 vs. 12.4 percent, p=0.211). There were no differences in cardiac-specific mortality or cardiac rehospitalization.

Patients receiving tenecteplase were more likely to have normal blood flow on an angiogram, compared with the PCI-only group (58 vs. 21 percent). They were less likely than the PCI-only group to have an angiogram show complete blockage of an artery (16 vs. 59 percent). More tenecteplase patients than PCI-only patients eventually underwent coronary artery bypass graft surgery.

During the course of the trial, researchers halved the dose of tenecteplase in people ages 75 and older to minimize cranial bleeding, a common complication of clot-busting therapy. The incidence of such bleeding in the total study population was 0.5 percent after the dose reduction.

"We offer this pharmaceutical strategy with timely coronary angiography as an alternative to primary PCI," Dr. Van de Werf said. "We believe that it may be helpful in some early-presenting patients for whom immediate PCI is not possible."

More information: This study will be simultaneously published online in the *New England Journal of Medicine* at the time of presentation.

Dr. Van de Werf will present "The STREAM Trial" on Sunday, March

10, at 10:45 a.m., in Moscone Center, South, Esplanade Ballroom.

Provided by American College of Cardiology