

**The SCAI Annual Scientific Sessions**  
in Partnership with **ACC i2 Summit**  
**March 29 - April 1, 2008 • CHICAGO**



EMBARGOED FOR RELEASE  
Saturday, March 29, 8:00 AM CDT  
Presentation Number: 2401-9

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**TAILORED CLOPIDOGREL DOSING IMPROVES PCI OUTCOMES**  
***Blood test monitors each patient's response to anti-clotting drug***

**CHICAGO, Ill. (March 29, 2008)** — Using a simple blood test to individualize the loading dose of a medication that prevents blood clotting significantly reduces the risk of major cardiovascular complications after percutaneous coronary interventions (PCI), according to a multicenter study reported today in a Late-Breaking Clinical Trials session at the SCAI Annual Scientific Sessions in Partnership with ACC i2 Summit (SCAI-ACCi2) in Chicago. SCAI-ACCi2 is a scientific meeting for practicing cardiovascular interventionalists sponsored by the Society for Cardiovascular Angiography and Interventions (SCAI) in partnership with the American College of Cardiology (ACC). The study will simultaneously publish in the *Journal of the American College of Cardiology*.

The study showed that in some patients, an initial, or loading, dose several times higher than usual is necessary to ensure the effectiveness of clopidogrel, a medication that prevents platelets from clumping together to form blood clots. The payoff for tailoring the clopidogrel dose: a significant reduction one month after PCI in the combined rates of heart attack, death, and need for repeat procedures to open the coronary arteries, with no increased risk of bleeding.

“Tailoring the loading dose of clopidogrel using platelet monitoring seems to be the best way to decrease the rate of major adverse cardiac events, in particular, stent thrombosis, which is the worst complication after PCI,” said Laurent Bonello, MD, a cardiologist at Hopital Universitaire Nord, and Universite de la Mediterranee, both in Marseille, France.

Giving a large dose of clopidogrel before coronary stenting is standard procedure in cardiac catheterization laboratories. However, there is substantial variability among patients in the response to the anti-clotting drug. Previous studies have shown that a poor response to clopidogrel is linked to an increased risk of serious complications, including the growth of a blood clot inside the stent, or stent thrombosis.

To determine whether individualizing the clopidogrel dose could improve outcomes, Dr. Bonello and his colleagues enrolled 162 patients who were resistant to clopidogrel and needed stenting for treatment of unstable chest pain or a type of heart attack known as non-ST-elevation acute coronary syndrome. Clopidogrel resistance was defined as more than 50 percent platelet activity after a standard 600-mg clopidogrel loading dose. Patients were randomly assigned to a control group (84 patients) or to individually tailored therapy (78 patients), which consisted of increasing the clopidogrel dose in 600-mg increments up to a maximum of 2,400 mg until platelet activity dropped to 50 percent or less.

The dose adjustment was effective in 86 percent of patients. On average, patients in the tailored-therapy group received a total of 1,620 mg of clopidogrel before PCI, and experienced a drop in platelet activity from 69.3 after the first loading dose to 37.6 after extra dosing guided by platelet monitoring. After 30 days of follow-up, no patients in the tailored therapy group had suffered a heart attack, needed repeat PCI or bypass surgery, or died, whereas 10 percent of patients in the standard-dosing group had experienced one or more of these complications ( $p=0.007$ ). The rates of bleeding were the same in both groups (5 percent vs. 4 percent).

"This is the first study demonstrating that adjusting the clopidogrel loading dose according to the patient's individual biological response can improve prognosis after percutaneous coronary revascularization," Dr. Bonello said.

*Dr. Bonello will present the results of this study on Saturday, March 29 at 8:45 a.m. CDT in the Grand Ballroom, S100. This study will simultaneously publish in the Journal of the American College of Cardiology.*

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### **About SCAI**

Headquartered in Washington, DC, the Society for Cardiovascular Angiography and Interventions is a 4,000-member professional organization representing invasive and interventional cardiologists in over 60 nations. SCAI's mission is to promote excellence in invasive and interventional cardiovascular medicine through physician education and representation, and advancement of quality standards to enhance patient care. SCAI's annual meeting has become the leading venue for education, discussion, and debate about the latest developments in this dynamic medical specialty.

### **About ACC**

The American College of Cardiology is leading the way to optimal cardiovascular care and disease prevention. The College is a 34,000-member nonprofit medical society and bestows the credential Fellow of the American College of Cardiology upon physicians who meet its stringent qualifications. The College is a leader in the formulation of health policy, standards and guidelines, and is a staunch supporter of cardiovascular research. The ACC provides professional education and operates national registries for the measurement and improvement of quality care.