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Society for Cardiovascular Angiography and Interventions

High-dose anticlotting drug cuts heart attack, death risk in half

Loading up on clopidogrel before PCI reaps benefits without extra bleeding

(May 11, 2007—ORLANDO, FL)—Pretreatment with double-dose anticlotting medication just before percutaneous coronary intervention (PCI) cuts the combined risk of heart attack and cardiac death by half, according to a study reported at the 30th Annual Scientific Sessions of the Society for Cardiovascular Angiography and Interventions (SCAI), May 9–12, 2007, in Orlando, FL.

Researchers found that giving patients at least 600 mg of clopidogrel before stenting, rather than the standard 300-mg dose, halved the risk of major complications associated with blood clotting, or thrombosis. In addition, the higher dose did not increase the risk of serious bleeding.

"This research has important clinical and cost implications," said Giuseppe G. Biondi-Zoccai, M.D., an assistant professor of cardiology at the University of Turin, in Turin, Italy. "The goal of antithrombotic management for PCI is to maximize protection from thrombotic complications during and shortly after PCI, while minimizing bleeding and costs."

Clopidogrel interferes with the action of platelet cells, which stimulate the formation of blood clots. Interventional cardiologists give patients a loading dose of this medication before PCI to protect against blood clotting. After the procedure, most patients take a lower daily dose (75 mg) for up to a year, depending on the type of stent used to prop open the clogged coronary artery.

To evaluate the effect of the clopidogrel loading dose, researchers from University of Turin and Virginia Commonwealth University, in Richmond, performed a meta-analysis of data from 10 studies involving more than 1,500 patients. Roughly half of the patients were pretreated with

300 mg of clopidogrel and the other half with 600 mg. A few received either 450 mg or 900 mg of clopidogrel.

Overall, pretreatment with high-dose clopidogrel (600 mg or more) was associated with a 50 percent reduction in the risk of cardiac death or nonfatal heart attack, both during the initial hospitalization and within 30 days of the PCI procedure, a finding that was highly statistically significant ($p=0.009$). There was no statistically significant increase in major or minor bleeding ($p=0.55$ and $p=0.98$, respectively). Findings remained the same when the analysis was restricted to 7 randomized controlled trials only. Further analysis showed that the higher the underlying risk of complications related to blood clotting, the greater the benefit from high-dose clopidogrel.

The study will be presented at the Orlando SCAI meeting by Antonio Abbate, M.D., an assistant professor of medicine, Virginia Commonwealth University, Pauley Heart Center, Richmond, VA.

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About SCAI

Headquartered in Washington, DC, the Society for Cardiovascular Angiography and Interventions is a 3,700-member professional organization representing invasive and interventional cardiologists in 70 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.