

Novel anti-clotting drug more effective than Plavix in coronary procedures, study says

11 March 2013, by Tracie White

(Medical Xpress)—An experimental drug has been shown to be significantly more effective at preventing blood clots during coronary stenting procedures compared to the anti-clotting agent now typically used, according to an international, multicenter study whose senior author is at the Stanford University School of Medicine.

Given intravenously, the novel anti-clotting [drug](#), called cangrelor, reduced the odds of complications from stenting procedures—primarily blood clots, but also heart attacks and strokes—by 22 percent when compared with the routinely used anti-platelet drug [clopidogrel](#), said the study, published online March 10 in the [New England Journal of Medicine](#).

"We are pleased the trial delivered such clear results," said senior author Robert Harrington, MD, professor and chair of the Department of Medicine at Stanford. "This study examined a very wide spectrum of patients, which suggests the results likely apply to a substantial percentage of patients undergoing stent procedures around the world."

Coronary artery stents are used in the majority of patients who undergo percutaneous [coronary intervention](#), a common [medical procedure](#). (An estimated 600,000 are performed in the United States each year.) Interventional cardiologists perform PCI in the catheterization laboratory to reopen arteries in the heart that have become narrowed or blocked because of [coronary artery disease](#), which affects an estimated 14 million Americans.

In order to prevent blood clotting during PCI, patients are routinely given [oral doses](#) of the anti-clotting agent clopidogrel (brand name Plavix). The drawback with this drug is that it is only available orally, which can make it difficult to administer if a patient is very sick. The drug is also slow to take effect, and it remains active for days after the procedure, said Deepak Bhatt, MD, lead author of

the study.

"We need a very potent agent to prevent clotting when we are putting things in the heart artery, like wires and stents," said Bhatt, senior physician at Brigham and Women's Hospital, chief of cardiology at the VA Boston Healthcare System and professor of medicine at Harvard Medical School. "We want a fast-acting, reversible agent, which is why a drug like cangrelor could be useful and why we tested it."

The study, a randomized, double-blind phase-3 trial begun in 2010, compared the use of intravenously administered cangrelor to orally administered clopidogrel in about 11,000 PCI patients at 153 centers around the world.

"The use of cangrelor provided a reduction in ischemic complications across the full spectrum of patients undergoing contemporary PCI," the study said. "The odds of having an ischemic event were reduced by 22 percent, and this benefit was not accompanied by any significant increase in severe bleeding or in transfusions."

Results did show increased minor bleeding in patients given cangrelor, but this was to be expected because it is a more potent anti-clotting drug, and there was no increase in dangerous levels of bleeding, the study said.

Provided by Stanford University Medical Center

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