

Drug dosing for older heart patients should differ

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Older heart patients present unique challenges for determining the optimal dosages of medications, so a new study from researchers at Duke Medicine offers some rare clarity about the use of drugs that are used to treat patients with heart attacks.

For certain [heart patients](#) older than age 75, a half-dose of the anti-[platelet](#) drug prasugrel works about as well as the typical dosage of [clopidogrel](#), according to a team led by the Duke Clinical Research Institute that looked at a sub-study of a large clinical trial.

"As people live longer throughout the world, it's increasingly important to establish appropriate treatments for conditions such as acute coronary syndromes that commonly occur later in life," said Matthew T. Roe, M.D., MHS, associate professor of medicine at Duke and lead author of a study published Aug. 20, 2013, in the journal *Circulation*.

"These patients are very vulnerable to side effects, including bleeding, if therapies are not properly dosed," Roe said. "Additionally, existing practice guidelines have few specific recommendations for older patients with acute coronary syndromes as little evidence has been accrued from prior clinical trials in this population."

People older than age 75 comprise less than 10 percent of the U.S. population, but account for 35 percent of patients with [acute coronary syndrome](#) (ACS), which includes a recent heart attack or unstable [chest pain](#). ACS is typically treated with anti-platelet therapies.

Earlier studies, for example, had shown that the platelet inhibitor prasugrel reduced the risk of adverse outcomes compared with clopidogrel in ACS patients undergoing coronary stent implantation. Those studies used a 60-mg initial dose followed by a 10-mg/day maintenance dose.

At that dosage level, however, patients older than age 75 had an increased risk of intracranial and fatal bleeding, as did younger patients weighing 132 pounds or less. The results led to warnings by the U.S. Food and Drug Administration and the European Medicines Agency for the use of the 10 mg/day maintenance dose of prasugrel in those populations, and consideration of a reduced dose (5 mg/day) to mitigate bleeding complications.

To examine whether older patients might benefit from a lower dosage of prasugrel, the Duke-led researchers analyzed more than 2,000 [older patients](#) who participated in a large trial called TRILOGY ACS that compared prasugrel with clopidogrel to manage acute coronary syndromes without coronary [stent implantation](#) or coronary bypass surgery.

The findings from this study, the first long-term data on outcomes specifically from elderly patients treated with the reduced dose of prasugrel, determined that a smaller dosage of 5-mg/day of prasugrel presented no greater risk of bleeding problems than the commonly prescribed 75-mg dose of clopidogrel in the elderly population.

"The findings from our study indicate how difficult it is to identify the right dose of anti-clotting medications for the elderly, to improve outcomes after a [heart attack](#)," said co-author Magnus Ohman, professor of medicine at Duke and chairman of the TRILOGY ACS study. "While a lower dose seemed intuitive, it was safe but not more effective. Future dedicated studies need to continue to find the right therapies for the

vulnerable elderly patients."

Provided by Duke University Medical Center

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