

# Study examines stent implantation compared to initial medical therapy for stable coronary disease

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A meta-analysis of eight previously published clinical trials suggests that initial stent implantation for patients with stable coronary artery disease is not associated with improved outcomes compared with initial medical therapy for prevention of death, nonfatal heart attacks, unplanned revascularization or angina, according to a study published in the Feb. 27 *Archives of Internal Medicine*. The article is part of the journal's Less is More series.

While percutaneous [coronary intervention](#) (PCI) reduces death and nonfatal [myocardial infarction](#) (MI, [heart attack](#)) in [acute coronary syndrome](#) settings, its role in treating stable [coronary artery disease](#) (CAD) "remains controversial," the authors write in their study background.

Kathleen Stergiopoulos, M.D., Ph.D, and David L. Brown, M.D., of Stony Brook University Medical Center, New York, conducted a meta-analysis of previous randomized clinical trials that compared initial coronary [stent implantation](#) and medical therapy with initial medical therapy alone. Eight trials that enrolled 7,229 patients between 1997 and 2005 were included. Of those patients, 3,617 were randomized to receive stent placement and medication therapy and 3,612 were randomized to receive [medication therapy](#) alone.

"The significant finding of this analysis is that compared with a strategy

of initial medical therapy alone, [coronary stent](#) implantation in combination with medical therapy for stable CAD is not associated with a significant reduction in mortality, nonfatal MI, unplanned revascularization or angina after a mean (average) follow-up of 4.3 years," the researchers comment.

They explain their results are in contrast to two recent meta-analyses that found reductions in mortality and angina (discomfort, tightness or heaviness in the chest) in patients assigned to initial PCI. They suggest that an aspect of the current study may explain the difference.

"By limiting the analysis to studies in which stent implantation was the predominant form of PCI, this meta-analysis, for the first time that we know of, compares contemporary versions of PCI and medical therapy. The exclusion of studies using balloon angioplasty as the primary form of PCI shifted the years of enrollment forward by almost a decade during which time optimal medical therapy evolved to the current regimen that includes aspirin,  $\beta$ -blockers, ACE-inhibitors (or angiotensin receptor blockers) and statins," they note.

Of the total 649 deaths among the 7,229 patients in the trials, 322 occurred among 3,617 patients in the stent groups (8.9 percent) and 327 occurred among 3,612 patients in the medical therapy groups (9.1 percent). Nonfatal MI was reported in 323 of 3,617 patients in the stent groups (8.9 percent) compared with 291 of 3,612 patients in the medical therapy groups (8.1 percent.) Unplanned revascularization was performed in 774 of 3,617 stent patients (21.4 percent) and 1,049 of 3,420 medical therapy patients (30.7 percent).

Data on angina were available for 4,122 patients. Among the initial stent implantation patients, 597 of 2,070 experienced persistent angina (29 percent) compared with 669 of 2,052 medical therapy patients (33 percent).

"In the context of controlling rising health care costs in the United States, this study suggests that up to 76 percent of patients with stable CAD can avoid PCI altogether if treated with optimal medical therapy, resulting in a lifetime savings of approximately \$9,450 per patient in health care costs," the authors conclude.

In an invited commentary, William E. Boden, M.D., of the Samuel S. Stratton VA Medical Center, Albany, N.Y., writes: "What is the practicing clinician to take away from the present study in the context of other published meta-analyses? First, the totality of evidence does not support any demonstrable clinical benefit for PCI in patients with stable CAD in terms of reducing death, nonfatal MI, hospitalization for ACS (acute coronary syndrome), need for unplanned revascularization and a durable, sustained effect on [angina](#) relief."

He continues: "Finally, given the spiraling health care costs that we have witnessed in the United States over the past decade, and the financial burden this places on our existing health care system, businesses and health care consumers, we certainly have abundant scientific evidence to support a more selective, measured and balanced approach to the initial management of SIHD (stable ischemic heart disease) and one that promotes and embraces optimal [medical therapy](#) for the majority of patients as a proven alternative to [revascularization](#)."

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