

CLINICAL DECISIONS

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Management of Stable Coronary Disease — Polling Results

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In late October, we presented the case of a patient with stable coronary artery disease in *Clinical Decisions*,¹ an interactive feature designed to assess how readers would manage a clinical problem for which there may be more than one appropriate treatment. Our patient was a 65-year-old man with hypertension, obesity, and type 2 diabetes who presented with a 2-week history of exertional angina. He underwent an exercise-tolerance test on a treadmill, along with myocardial perfusion imaging, which showed a fixed anterior defect and a reversible anterolateral defect, both of moderate size. His subsequent cardiac catheterization revealed an occluded first diagonal branch, a long lesion with 70% stenosis in the midportion of the left anterior descending coronary artery, a calcified lesion with 80% stenosis in the proximal left circumflex coronary artery, and 50% stenosis of the posterior descending coronary artery. These findings were accompanied by anterior-wall hypokinesis and an ejection fraction of 45% by left ventriculography.

Of the three management options proposed, the most popular — receiving 3282 votes (43.0% of the 7632 votes cast) — was to initiate appropriate medical therapy and follow the patient closely for adherence and efficacy. A close second, with 3066 votes (40.2% of the votes cast), was the option to initiate appropriate medical therapy and to refer the patient for coronary-artery bypass grafting (CABG). The remaining option, to initiate appropriate medical therapy and refer the patient for percutaneous coronary intervention (PCI), received 1284 votes (16.8% of the votes cast). The 7632 participants who voted were from 111 distinct countries and regions and indicated that they were physicians (84.9%), students (7.7%), or other health professionals (5.0%). Detailed results are displayed according to country at www.nejm.org. The percentage of participants who selected a given treatment option varied only slightly when responses were

stratified by participants' self-reported locations (Fig. 1).

In addition to votes, we received 446 comments, 95% of which were posted at www.nejm.org (after being reviewed for appropriateness). The majority of comments were in favor of either medical therapy alone or medical therapy plus CABG, reflecting the overall voting trends. Reasons given in favor of a particular management strategy were varied but included some recurrent themes.

The majority of respondents who chose to treat the patient with improved medical therapy alone considered the patient to have stable angina with fair exercise tolerance in the setting of what could be considered to be, in effect, two-vessel coronary artery disease. Most believed that the patient's poorly controlled risk factors warranted a fair trial of aggressive medical therapy and lifestyle modification, which could include cardiac rehabilitation. A number of respondents cited data from the COURAGE trial² and other studies^{3,4} suggesting that revascularization at this time would not offer a mortality benefit and would pose procedure-associated risks. Additional justifications for selecting this treatment option included cost-effectiveness and the opportunity to reassess the need for revascularization later.

Respondents who preferred to escalate medical therapy and simultaneously refer the patient for PCI considered the patient to have coronary artery disease in need of revascularization but not requiring CABG. Many wanted to improve symptoms in the short term, and some pointed out that even stable angina would limit the patient's ability to comply with lifestyle modifications. A number of respondents commented that although aggressive medical therapy might improve overall prognosis, PCI would improve quality of life, and improved quality of life would be of more tangible value to the patient. Opinions differed as to whether PCI should involve the placement of

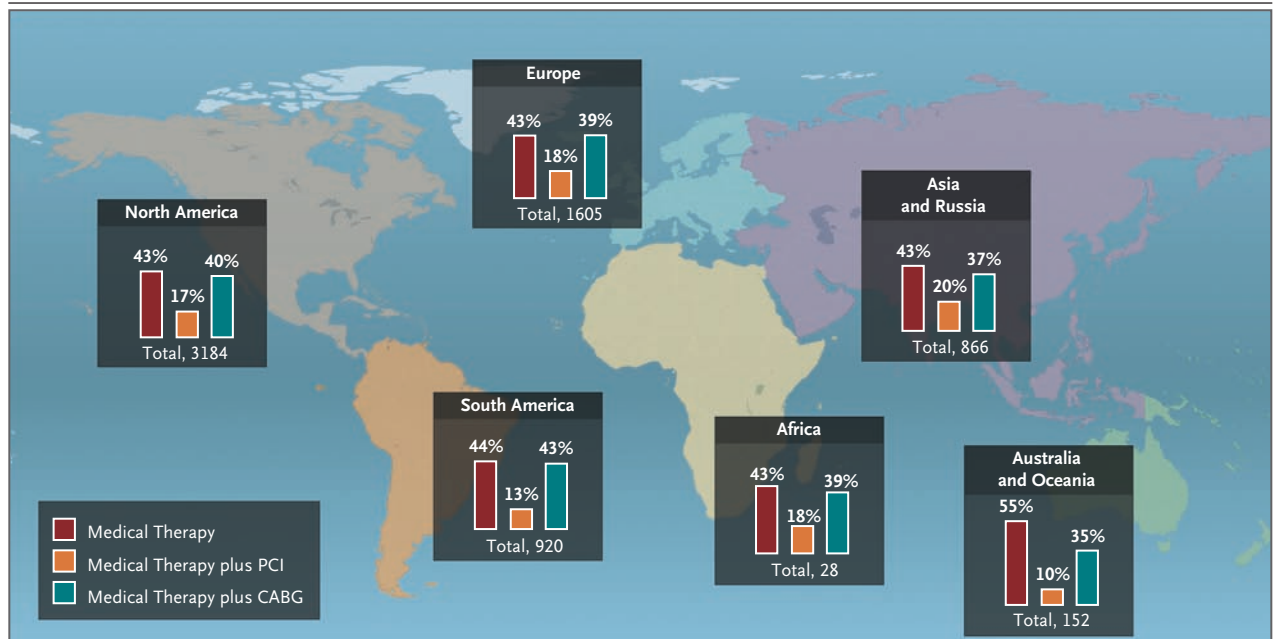


Figure 1. Percentage of Participants Choosing Each Treatment Option for Stable Coronary Disease.

The total number of participants who voted is shown for each continent or region. Option 1 (medical therapy) was to initiate appropriate medical therapy and follow the patient closely for adherence and efficacy. Option 2 (medical therapy plus PCI) was to initiate appropriate medical therapy and refer the patient for percutaneous coronary intervention. Option 3 (medical therapy plus CABG) was to initiate appropriate medical therapy and refer the patient for coronary-artery bypass grafting. The percentage of participants who selected a given treatment option varied only slightly by continent or region. An interactive graphic that includes country-specific data is available at www.nejm.org.

a stent in the lesion of the left anterior descending coronary artery, the lesion of the proximal left circumflex coronary artery, or both. Those who recommended placement of a stent in the lesion of the left anterior descending artery often attributed the reversible anterolateral defect to this lesion, and they also found the depressed ejection fraction with anterior hypokinesis compelling. Those who thought that the lesion of the proximal left circumflex artery was contributing to the reversible defect noted that this artery would be more amenable to placement of a stent than to bypass grafting. Opinions also differed as to whether bare-metal or drug-eluting stents would be better, especially given the higher rate of restenosis in patients with diabetes and the patient's long lesion of the left anterior descending artery, which would require the placement of multiple stents.

Those who opted to escalate medical therapy and to refer the patient for CABG considered the patient's coronary disease to be too severe for either medical therapy alone or PCI. A number of respondents commented that the atherosclerotic

burden amounted to three-vessel coronary disease and therefore warranted a surgical approach, particularly given the patient's diabetes and a depressed ejection fraction. Even many of those who considered the patient to have two-vessel disease concluded that CABG would be the most definitive, durable treatment option. The majority of respondents in favor of CABG cited studies suggesting a substantial survival advantage associated with CABG as compared with the alternatives,⁴⁻⁶ along with longer-term symptom relief. Some expressed concern that medical therapy alone would not be enough to have an effect on diffuse, calcific coronary disease. Others noted that bypassing the long lesion of the left anterior descending coronary artery by using an internal thoracic artery would be preferable to PCI with multiple stents, each adding to the risk of restenosis, especially given the patient's diabetes. A few respondents suggested that CABG was the best treatment for a patient with limited adherence to medical therapy.

This is clearly a controversial area; more data on symptomatic but stable coronary artery disease

are needed to direct clinical decisions. As we await such data, it appears that current approaches will continue to vary on the basis of an integration of physicians' experience and knowledge with patients' preferences. Given a clinical problem without a clear solution, many respondents appropriately noted the importance of discussing with the patient all treatment options and their possible outcomes.

Comments from this interactive feature will remain available at www.nejm.org, along with data on the voting results. We thank you for your input, and we look forward to hearing from you again soon about another challenging case.

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