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INTERPRETING THE COURAGE TRIAL

Is medical therapy as good as PCI in stable angina? Two views

Like any trial, COURAGE has nuances in how it should be interpreted and applied

IN A LANDMARK STUDY, the Clinical Outcomes Utilizing Percutaneous Coronary Revascularization and Aggressive Drug Evaluation (COURAGE)[1] compared two initial treatment strategies for patients with stable angina: percutaneous coronary revascularization plus optimal medical therapy vs optimal medical therapy alone.

The study found no significant difference in the incidence of death or myocardial infarction (MI) with either strategy, though angina was modestly reduced with the strategy that included initial revascularization. The patients treated with medical therapy alone fared surprisingly well, though about one-third went on to require revascularization.

See related "point" article by Dr. William Boden on page 623 and "counterpoint" article by Dr. Dean Kereiakes on page 637

The study received a great deal of media attention,[2] and patients are asking how the results should affect treatment decisions in their own care. COURAGE has the potential to influence practice, particularly in the United States, where revascularization for stable angina is much more common as the initial treatment than it is in other parts of the world.

In this issue of the *Cleveland Clinic Journal of Medicine*, we are fortunate to have a "point-counterpoint" between the principal investigator of the COURAGE trial, Dr. William Boden, and a leading interventional cardiologist, Dr. Dean Kereiakes. In addition to being prominent academicians, both are in charge of cardiovascular services in their respective health care systems. The possible ramifications of the results extend beyond the clinical and scientific to issues such as the impact on procedural volume and reimbursement—thorny issues that both these physicians will need to face in their leadership positions.

WHAT COURAGE WAS NOT, AND WHAT IT WAS

It is important to realize what the trial was not. COURAGE did not examine patients with unstable ischemic syndromes. The role of primary percutaneous coronary intervention in ST-segment elevation MI for reducing subsequent death or reinfarction is established.[3] Similarly, in non-ST-segment-elevation MI and high-risk unstable angina, both percutaneous and surgical revascularization appear to reduce the incidence of death, MI, and the need for subsequent procedures.[4,5] In fact, a meta-analysis in which Dr. Boden was one of the coauthors supports this observation.[6,7]

In stable angina, however, the COURAGE results suggest that many patients are served well by a strategy of medical therapy first, even though many doctors and especially patients believe that stents (or bypass grafts) should prevent death and MI in this disease.

Although nearly all of the stents used in COURAGE were bare-metal stents (as drug-eluting stents were not yet widely available),

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it is not clear that drug-eluting stents would change the equation with respect to death or MI rates, though they might have been expected to further decrease angina and the need for repeat revascularization.[8–10]

Stable patients at higher risk than those enrolled in COURAGE, including those with silent ischemia, may indeed manifest a reduction in cardiovascular mortality rates with percutaneous coronary intervention on long-term follow-up, as a recent study of patients with prior MI demonstrated.[11]

Like any clinical trial, COURAGE has nuances in how its results should be interpreted and applied to actual clinical practice, and Drs. Boden and Kereiakes provide great insight in the following point-counterpoint.

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