In regard to the need for longer term follow-up, a much greater rate of early myocardial infarction (MI) was noted in the initial invasive-approach group. The group that was treated conservatively at the start incurred a greater rate of late MIs. Both Ruel and colleagues and the ISCHEMIA trialists regard the early periprocedural MIs as generally less important clinically and the late, nonprocedural, as more clinically significant.

In the ongoing efforts to optimally treat patients with coronary artery disease, it is important to keep the short-term costs and long-term benefits in the proper perspective and to not be overly swayed by a catchy headline or promise of an easy way out. Few understand this better than a coronary surgeon.

See Article page 90.

Commentary: The ISCHEMIA trial: Throwing the baby out with the bathwater?

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Multiple trials have explored various strategies for treating coronary artery disease (CAD). It is imperative that cardiac surgeons remain active participants in the design, enrollment and, ultimately, the interpretation of these studies, as their impact is often wide reaching and, thus, control of the narrative is essential. We commend Ruel and colleagues for providing a comprehensive analysis of the ISCHEMIA trial.^{1,2}

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Joshua C. Grimm, MD, and Arman Kilic, MD

CENTRAL MESSAGE

The ISCHEMIA trial examined a randomized cohort of patients with stable, ischemic heart disease. The authors provide a foundation from which to contextualize this study and its shortcomings.

In ISCHEMIA, patients with stable CAD and moderate or severe ischemia on noninvasive testing were randomized to an initial conservative (optimal medical therapy [OMT]) or invasive (angiography followed by percutaneous coronary intervention [PCI] or coronary artery bypass grafting [CABG]) strategy. At intermediate follow-up of 3.2 years, there was no difference in adverse cardiovascular events or all-cause mortality between the 2 arms.¹ Ruel were appropriately critical in their assessment of the distribution

of patients undergoing PCI versus CABG as well as the overall marketing of the study's major findings.

Despite multivessel CAD in 70% of patients and 42% having diabetes, only 20% underwent CABG.¹ While revascularization modality was decided by the local heart team, it is nearly impossible to conceive that CABG was not underused in this study.^{3,4} Furthermore, as the primary outcome was more common in the conservative group at 4 years, it is possible that the outcomes would have varied had the trial's follow-up been extended in the initial analysis. Regardless, the interpretation of ISCHEMIA's conclusion should not be that OMT is superior to PCI or CABG, but rather, as noted by Ruel and colleagues, that waiting to perform coronary angiography in patients with moderate or severe ischemia is as good as immediately proceeding with it when end points are compared at 3.2 years follow-up.²

Recommendations for managing CAD are constantly changing based on the ongoing publication of randomized

trials and meta-analyses. It is critical for surgeons to understand the inherent limitations of each, as their findings have been extrapolated in support of OMT and/or PCI in patients who would have traditionally undergone and likely benefited from CABG.

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