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REPLY: Complete Revascularization in Patients Undergoing Primary Percutaneous Coronary Intervention for STEMI

Is It Really What We Should Be Doing?

We read with interest the letter from Dr. Dastidar and colleagues in which they express their views and compare our report of the randomized CvLPRIT (Complete Versus Lesion-Only Primary PCI Trial) (1) with their in-house clinical experience.

They suggest that the trial was not run according to current European Society of Cardiology guidelines. In fact, it remains unclear how best to manage multivessel disease ST-segment elevation myocardial infarction patients and in the last iteration of the European Society of Cardiology ST-segment elevation myocardial infarction guidelines this was listed as a "Gap in the Knowledge." Furthermore, the strategy suggested by Dr. Dastidar and colleagues (of routine noninvasive testing) is not within the guidelines, although the control group in CvLPRIT could undergo intervention on the non-infarct-related artery if there were reliable symptoms and evidence of ischemia on subsequent noninvasive testing. Importantly, the meta-analysis they quote (Vlaar et al. [2]) was published before the 2 most significant randomized controlled trials (PRAMI [Preventive Angioplasty in Acute Myocardial Infarction] and CvLPRIT), so it was unlikely to have found overall benefit for intervention.

In CvLPRIT, as a safety measure, all patients had a "nested" myocardial perfusion scan at 6 weeks, with the intention that information on any patient with >20% left ventricular ischemic burden be sent to the responsible physician (A. Keilon, unpublished data, June 2015). In essence, no patients needed to be so reported, which brings the debate to the issue of the value of ischemia testing in such patients. Whether it is the stability of the lesion rather than the presence of significant physiological flow reduction that leads to non-infarct-related artery lesion-driven adverse outcomes remains undetermined. Indeed, there is no evidence in the primary percutaneous coronary intervention era to support the use of ischemia testing to guide management. Furthermore, both CvLPRIT and PRAMI have shown a benefit of in-hospital complete revascularization with early separation of the survival curves, which suggests that benefits may accrue from mechanisms other than ischemia reduction.

CvLPRIT was consistent with PRAMI in demonstrating significant benefit from total revascularization. However, as has been stated in our paper (1), and during presentations, we never purported to have the whole answer. What these 2 trials have done is raise the issue of how best to manage such patients. They were insufficiently powered for death and myocardial infarction, and larger trials are needed and planned, including one by the CvLPRIT and PRAMI investigators, which will be powered for death and myocardial infarction and will assess the value of fractional flow reserve in the non-infarct-related artery.

In the meantime, physicians must make their own judgment and, if faced with an angiographically significant lesion in the proximal portion of the right coronary artery in a patient presenting with a left anterior descending ST-segment elevation myocardial infarction, decide, based on the current randomized data (see meta-analysis by El-Hayek et al. [3]) whether it is in the patient's best interest to choose to leave this non-infarct-related artery lesion untreated.

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