Guidelines for Randomized Trials to Determine Incidence of Perioperative Myocardial Infarction

To the Editor:—Although the study of Rao et al. lacks adequate methods for prognostic matching of patients undergoing surgery following myocardial infarction (and, thus, cannot establish any advantage for aggressive, invasive, anesthetic techniques), their data provide useful guidelines for the design of the "prospective randomized trials" suggested by Lowenstein et al. in the accompanying editorial.

Rao and colleagues emphasize the low risk of perioperative myocardial infarction (MI) in most patients undergoing noncardiac surgery within 25 months of MI. Thus, perioperative MI developed in only 1.9-7.7% of their 1097 patients. This low overall risk of MI resulted from the dilution of a small number of high-risk subjects by a much larger population of low-risk patients. Risk stratification appeared possible using readily identifiable, clinical variables, e.g., surgery within 6 months of MI, cardiac failure, angina, or hypertension. For example, 12 of 28 (43%) Group 1 patients, and 4 of 14 (36%) Group 2, respectively, developing perioperative MI had had early surgery. Conversely, the risk of MI in early postinfarction patients was as high as 36%. Whether the decreased rate of perioperative MI in Group 2 patients is related to aggressive invasive monitoring and prompt hemodynamic therapies is open to question. Due to the smaller absolute and relative number of patients in Group 1 versus 2 operated within 6 months (42 of 364, 11.5% vs. 138/733, 18.7%, respectively), a few high-risk patients coincidentally may have contributed to the higher mortality of Group 1 patients. Clearly, randomization of early post-MI surgical candidates to conservative versus intervention-oriented anesthetic management would resolve this question.

Who should be randomized in such a trial? Rao et al. demonstrate (Table 7 in their article) that patients without congestive heart failure or angina never develop perioperative reinfarction, regardless of the anesthetic approach. Thus, the majority of patients undergoing post-MI noncardiac surgery are without such risk factors and need neither aggressive invasive anesthetic management nor trials of its efficacy. The advantage of these techniques for the smaller high-risk subset with obvious cardiovascular disease remains open to question. Based upon these observations, a prospective randomized trial restricted to this high-risk subgroup of post-MI surgical patients with obvious cardiovascular disease seems both ethical and necessary. Although such a study may require a multicenter cooperative trial for adequate sample size, the results of such a study finally would establish or refute the supposed therapeutic superiority of "sophisticated," expensive, and potentially dangerous anesthetic techniques.

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REFERENCES

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Were Differences in Reinfarction Rates due to Differences in Populations?

To the Editor:—We read with great interest the article by Rao et al. concerning reinfarction following anesthesia. We wondered if many of the patients in the post-1977 cohort (Group 2) had undergone coronary revascularization between the time of their initial myocardial infarction and their participation in the study. Inclusion of