Operative Risk Stratification and Predictors for Long-Term Outcome in Low-Gradient Aortic Stenosis

To the Editor:

We would like to congratulate Monin et al.1 for their important multicenter study concerning risk stratification for valve replacement in low-gradient aortic stenosis using dobutamine echocardiography. It is possible that the lack of correlation in their study between the presence of previous myocardial infarction (MI) and perioperative mortality (a correlation that we did find in our study) occurred because of a difference in our patient populations (the average ejection fraction of their patients was 31%, and that of our patients was 21%). In our patient population, 90% of the perioperative deaths occurred in those with a previous MI (mortality was 45% in those with prior MI, and only 3% in those without, despite very poor left ventricular (LV) function and relatively low aortic gradients). Apparently when LV damage is permanent (scar) and severe, replacing the aortic valve, with or without revascularization, does not result in recovery of LV function.

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Response

We appreciate the interest of Drs Tunick and Kronzon regarding our recent article in Circulation.1 They raise the issue of the lack of correlation between previous myocardial infarction (MI) and perioperative mortality in our study. This is in contrast to their own series, in which previous infarction was the only independent predictor for operative mortality.2 In the series of Powell et al., 2 the patients with previous MI were excluded. Thus, we agree that a lack of contractile reserve and previous MI may be related in some cases, but not all, considering that extensive myocardial fibrosis due to longstanding hypertrophy may also explain the lack of reserve in some other patients. This possible interaction between contractile reserve and previous MI might have been found in the population studied by Powell et al.2 if the issue of LV contractile reserve had been addressed in this study.

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