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THE IMPORTANCE OF LEFT VENTRICULAR SIZE To the Editor:

We read with great interest the article by Omer and colleagues¹ about the relationship among decreased left ventricular ejection fraction (LVEF), failure to rescue, and late survival in patients who underwent isolated coronary artery bypass grafting (CABG). Data from the Veterans Affairs Surgical Quality Improvement Program included more than 60,000 patients with follow-up. LVEF was categorized as 35% or greater, 25% to 34%, or less than 25%. Postoperative complications were also categorized as no, 1, or 2 or more complications. They found that decreased LVEF was associated with a higher incidence of complications and multiple complications relative to patients with LVEF greater than 35%. Survival of patients who had complications was lower than of those without complications irrespective of LVEF. An association between decreased LVEF and 90-day and 180-day mortality was noted. Additionally, there were clear decrements in overall survival as LVEF decreased.

Omer and colleagues¹ analyzed perioperative outcomes and late survival stratified by LVEF category. Historically, decreased LVEF has been associated with poor perioperative and long-term outcomes.²⁻⁴ However, most previous studies, including this present report, failed to apply left ventricle (LV) size as a variable to analyze perioperative outcomes in high-risk patients who underwent isolated CABG.

We have recently published our own institutional outcomes in patients with poor LVEF undergoing both

isolated CABG and valvular surgery.⁵ We conducted a study comparing postoperative outcomes after cardiac surgery among patients with preserved LVEF (>60%), patients with LVEF less than 20% and LV size less than 5.4 cm, and patients with LVEF less than 20% and LV size greater than 5.5 cm using propensity matched analysis. We also stratified surgical outcomes by type of procedure (isolated CABG, isolated valve, or valve and CABG). Our study revealed that there was no statistically significant difference in terms of mortality, major morbidity, and prolonged hospital stay between patients with LVEF less than 20% and LV size less than 5.4 cm and those with preserved LVEF who underwent isolated CABG. In contrast, the combination of poor LV function and a dilated LV led to significantly worse outcomes in patients undergoing isolated CABG.

We suggest that the present study by Omer and colleagues¹ would have been strengthened by the inclusion of LV size as a predictor variable. Although we demonstrated that early survival was influenced by LV size, the authors may show that the ability to rescue these patients from complications may be limited and that the long-term effect of perioperative complications might be greater in patients with LV dysfunction and an enlarged LV.

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