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HIGH-RISK CARDIAC SURGERY AS AN ALTERNATIVE TO TRANSPLANT OR MECHANICAL SUPPORT IN PATIENTS WITH END-STAGE HEART FAILURE: A

SEEMINGLY VIABLE OPTION

To the Editor:

Despite several interventions, both pharmacologic- and device-based, for the treatment of advanced heart failure following ischemic heart disease, the incidence is increasing in large proportions, mainly targeting a patient's productive years. Several novel molecular- and device-based therapies have been developed that show promising short-term results with no long-term benefits.¹ Although most randomized controlled trials yield results that are disappointing or difficult to interpret, the seemingly neutral findings of these trials promote the need for further trials.

We read with great interest the article by Kawajiri and colleagues.² Although a retrospective study with all of the inherent limitations, this is a landmark study demonstrating the acceptable similar results of high-risk conventional surgery in eligible patients with advanced heart failure compared with ineligible patients with advanced heart failure who received a left ventricular assist device as destination therapy and heart transplantation.

This study was confined to an extreme subset of patients with advanced heart failure who qualified rigorous inclusion criteria of maximum volume of oxygen <14 and a left ventricular ejection fraction (LVEF) <20%. These patients qualify as having end-stage heart failure and studies on this extreme patient subset have not been hitherto undertaken.

Meta-analyses of nonrandomized studies of coronary artery bypass grafting in left ventricular dysfunction have studied patients with a wide range of left ventricular

dysfunction (eg, LVEF $\leq$ 30%-40%).^{3,4} The Surgical Treatment for Ischemic Heart Failure (STICH) trial was a randomized study designed to determine the benefit of coronary artery bypass grafting in patients with left ventricular dysfunction due to ischemic cardiomyopathy.⁵ These patients were also not comparable to the present study because they were in New York Heart Association class II or III with an LVEF $\leq$ 35%. Also, most investigators believe that the high crossover rate from medical therapy to surgery during the first year after randomization significantly confounded the interpretation of the STICH trial. The post hoc analysis examining treated patients revealed a significant benefit of surgical intervention with respect to overall mortality and freedom from repeat hospitalization. Further, the STICH trial was flawed with respect to its surgical ventricular restoration arm and did not adequately address several issues pertaining to documentation of the left ventricular end-systolic volume and the technique of surgical ventricular restoration.

This retrospective study demonstrated clinical benefits in terms of mortality and morbidity of conventional surgery in an extreme subset of patients with heart failure albeit with its associated high risk. The outcomes were comparable to the outcomes in patients undergoing transplant and in transplant-ineligible patients receiving a left ventricular assist device as destination therapy. Prospective, multicenter randomized studies are vital to re-establish the effects of conventional surgery on midterm outcomes in similar populations.

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