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NON-HEART TRANSPLANT SURGICAL APPROACHES WITH LEFT VENTRICULAR RESTORATION AND MITRAL VALVE OPERATION FOR ADVANCED ISCHAEMIC CARDIOMYOPATHY

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Objectives: The aim of this study is to assess long-term outcomes of non-heart transplant surgical approaches with left ventricular restoration (LVR) and mitral valve operation for ischaemic cardiomyopathy (ICM).

Methods: Since 2002, of 102 consecutive patients (age 65 ± 8, 18 female) with advanced ICM (ejection fraction [EF] <40%, left ventricular end systolic volume index [LVESVI] >60 ml/m²), 84 patients with asynergy of large scar over 35% of left ventricular (LV) circumference underwent LVR and 30 patients with ≥ moderate mitral regurgitation (MR) underwent mitral valve operation (mitral annuloplasty 23, mitral valve replacement 7).

Results: Patients were divided into four groups according to the INTERMACS profiles: profile 1-2 maximum-risk group (mean logistic EuroSCORE II 28.8%, n = 9), profile 3-4 high-risk (11.7%, n = 40), profile 5-6 moderate-risk (5.9%, n = 32), and profile ≥ 7 low-risk (3.5%, n = 21). Overall eight-year survival including three hospital deaths (2.9%) was 64.3% without sudden death due to arrhythmia. Ninety-nine survivors revealed significant improvement in NYHA class (2.9 to 1.4) and LVEF (33.2 to 41.7%) (P < 0.0001). LVESV significantly reduced from 104.1 to 61.4 ml/m² (41% volume reduction) (P < 0.0001). Seven-year survival in the maximum-risk, high-risk, moderate-risk, and low-risk groups was 50.0%, 57.2%, 60.3%, and 95.2%, respectively (P = 0.1253). Freedom from major adverse cardiac and cerebrovascular events at five years in the maximum-risk, high-risk, moderate-risk, and low-risk groups was 29.6%, 47.0%, 67.2%, and 95.2%, respectively (P = 0.0067), although there was no significant postoperative change in LV volume and function among the four groups.

Conclusions: Our non-heart transplant surgical strategy for advanced ICM revealed excellent long-term outcomes in terms of survival, even in the patients with increased risk who could be candidates for heart transplantation or LV assist device.