Right Minithoracotomy Versus Full Sternotomy for Mitral Valve Repair: A Propensity Matched Comparison.

Abstract:
Mitral valve (MV) repair through a right minithoracotomy (RT) is technically more demanding than through a median sternotomy (MS) and has been cited for a higher rate of reoperation, increased postoperative bleeding, thromboembolic events, poor visualization, and longer operative times. Randomized studies are not available, however, and specific characteristics of patients who undergo operation with either technique are usually highly different. Therefore, a propensity matching study was performed to reduce selection bias. A retrospective analysis was made of 745 patients, 501 in group RT (67%) and 244 in group MS (33%), who underwent isolated MV repair between 2000 and 2010. Propensity matching identified 97 matched patient pairs for comparison of functional outcome, survival, incidence of reoperation, and quality of life after MV repair. Propensity matched patients in group RT had longer cardiopulmonary bypass time (120 ± 28 versus 99 ± 30 minutes, p < 0.001) and cross-clamp time (86 ± 23.5 versus 74 ± 25 minutes, p < 0.001). Thirty-day mortality was similar for both groups (RT, 0%; MS, 1%; p = 0.13). There were no significant differences in other outcomes such as amount of red blood cell transfusion, ventilation time, and hospital stay. Five-year survival in group RT (93.5% ± 3.7%) versus group MS (87.4% ± 3.6%, p = 0.556) and freedom from MV reoperation (93.3% ± 2.9% versus
97.9% ± 1.5%, respectively; p = 0.157) were not different. Functional outcome and quality of life variables were similar. Mitral valve surgery through a right minithoracotomy is a safe procedure associated with a very low operative mortality comparable to the standard sternotomy approach. In addition to improved cosmetics, minimally invasive MV surgery provides equally durable results as the standard sternotomy approach.