Physician - Valvular Diseases and Surgery

[MSB-41]

Comparison of del Nido Cardioplegia with Blood Cardioplegia in Coronary Artery Bypass Grafting Combined with Mitral Valve Replacement

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Objective: The study aimed to compare del Nido cardioplegia (DNC) with blood cardioplegia (BC) in coronary artery bypass grafting (CABG) combined with mitral valve replacement.

Methods: This single-center retrospective cohort study was conducted. Sixty patients who underwent CABG (up to triple bypass) combined with mitral valve replacement were divided into DNC and BC groups, with thirty patients in each group.

Results: Both groups demonstrated similar baseline characteristics, including age, sex, cardiac/noncardiac comorbidity, and preoperative echocardiographic parameters. Compared to the BC group, the DNC group demonstrated significantly lower cardioplegia volume (1130.00±194.1 mL *vs.* 884.33±156.8 mL, p=0.001), cardiopulmonary bypass time (121.70±13.57 min *vs.* 110.90±12.52 min, p=0.002), aortic clamp time (101.37±13.87 min *vs.* 91.37±11.58 min, p=0.004), and need for intraoperative defibrillation (21 events *vs.* 6 events, p=0.001). Postoperative creatine kinase-MB levels and troponin levels were significantly lower in the DNC group than in the BC group. Postoperative hemoglobin and hematocrit levels were significantly higher in the DNC group than in the BC group. The intubation period in intensive care unit was significantly shorter in the BC group (6.82±1.57 h *vs.* 8.13±12.21 h, p=0.037); however, intensive care unit stay, total hospital stay, and postoperative complication rates were not significantly different between the groups. At predischarge echocardiography, the DNC group demonstrated significantly higher ejection fraction rates than the BC group (47.79±5.50 and 45.72±5.86, respectively; p=0.005).

Conclusion: Del Nido cardioplegia presented better intraoperative and postoperative results. Therefore, it can be concluded that DNC is an effective and safe alternative to BC for CABG combined with mitral valve replacement.

Keywords: Cardioplegic solutions, coronary artery bypass, heart arrest, induced, mitral valve surgery, treatment outcome.

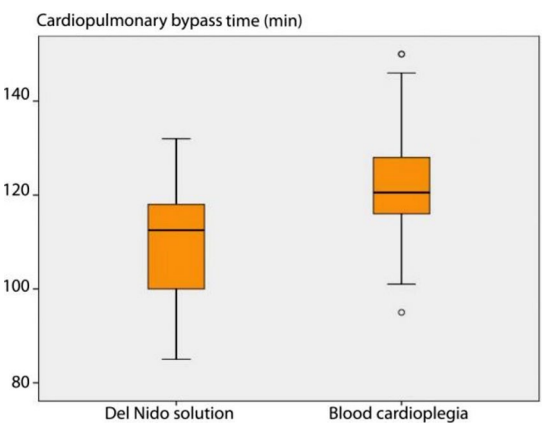

Figure 1. Comparison of cardiopulmonary bypass time (min) between del Nido cardioplegia and blood cardioplegia.

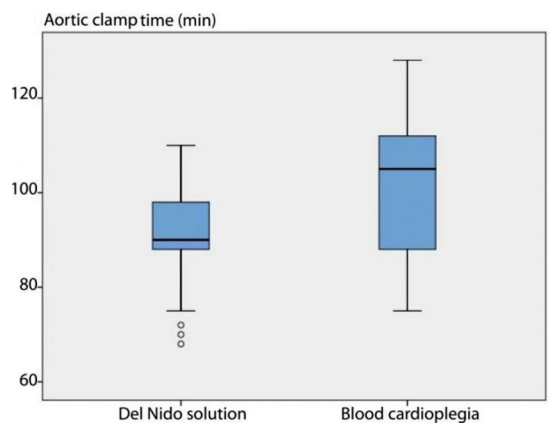

Figure 2. Comparison of aortic clamp time (min) between del Nido cardioplegia and blood cardioplegia.