

Effect of Changes in Surgical Technique on Long-term Outcome of BITA Grafting

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Background: Learning curve can affect early and long term outcome of surgical procedure. In order to evaluate the effect of learning curve on long term outcome of BITA grafting, we compared two cohorts of patients: those operated between 1996-1999 (early period) and those operated between 2000-2001 (late period).

Methods: 1163 consecutive patients underwent BITA grafting in the early period. They were compared to 352 BITA patients operated in the late period. Occurrence of emergency and acute MI cases, EF <25%, and repeat operations was higher in the early period. Prior PCI, 3 vessel disease and PVD were more common in the later period. In order to control between groups for preoperative risk factors, propensity score was used. After propensity score matching, two groups of 342 patients each were used for comparison between the early and late periods.

Results: The two groups were similar in all preoperative characteristics. However, more patients in the early period had sequential grafting. Saphenous vein graft for right system revascularization and the off-pump technique were more common among patients in the later period. Eight years Cox adjusted survival in the later group was better and timing of surgery was found to be an independent predictor of better long term survival (H.R. 1.635, 95% CI 1.136-2.353).

Conclusions: Simplification of surgical technique and the use of off-pump revascularization are probably related to better long term outcome of patients undergoing BITA grafting.