

Modification of surgical approach in BITA grafting and its influence on long-term outcome

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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 Bilateral Internal Thoracic Artery (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 and 352 in the late period. Occurrence of acute MI, hypertension, two vessel disease and repeat operations was higher in the early period. On the other hand, peripheral vascular disease and prior percutaneous interventions were more common in the later period (propensity score was used). To account for preoperative risk factors after matching, two groups (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 grafts, right system revascularization and off-pump technique were more common in the later period. Operative mortality, occurrence of perioperative MI and strokes were similar in the two groups. However, sternal wound infection was more common in the later group (2% vs 0%, p=0.008). Seven years Cox adjusted survival in the later group was better (H.R. 6.1, 95% CI 1.26-29.4).

Conclusions: A greater surgical experience acquired over the years and the use of off-pump revascularization are probably related to better long term outcome in the later period.