

Kurlansky PA, Traad EA, Galbut DL, Zucker M, Ebra G. Efficacy of single versus bilateral internal mammary artery grafting in women: a long-term study. Ann Thorac Surg 2001;71:1949-58

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BACKGROUND: Coronary artery bypass grafting carries a higher operative mortality and less favorable long-term benefit in women than in men. Bilateral internal mammary artery grafting (BIMA) has been shown to yield excellent perioperative and long-term results in both women and men. However, controversy continues to exist as to the benefits of a second internal mammary artery graft in women. **METHODS:** A retrospective analysis was performed comparing 261 consecutive women from a single surgical practice receiving BIMA and supplemental vein grafts between January 1972 and October 1994 with a computer-matched cohort of 261 women receiving single internal mammary artery (SIMA) and vein grafts during the same period. Univariate analysis confirmed the homogeneity of the two groups based on nine preoperative variables. **RESULTS:** Operative mortality was comparable in the two groups, 3.8% (10 of 261 patients) in the SIMA and 3.4% (9 of 261 patients) in the BIMA group, with a markedly reduced mortality in both groups since 1990, 2.3% (2 of 86 patients) in the SIMA and 1.3% (1 of 78 patients) in the BIMA group. The mean number of distal grafts (2.78, SIMA; 3.14, BIMA), perfusion time (104 minutes, SIMA; 108 minutes, BIMA), and cross-clamp time (58 minutes, SIMA; 66 minutes, BIMA) were all comparable. There was no significant difference in the incidence of postoperative complications, including sternal wound infection. Patient follow-up ranged from 1 month to 27 years, with a mean of 10.0 years in the SIMA group and 9.1 years in the BIMA group. Clinical results were excellent, with 100% (136 of 136 patients) of the SIMA and 100% (167 of 167 patients) of the BIMA patients in Canadian Cardiovascular Society class I or II at follow-up. Rates of late myocardial infarction, percutaneous transluminal coronary angioplasty, and reoperation were similarly low in both groups: 3.7% (5 of 136 patients) versus 1.8% (3 of 166 patients), 5.4% (7 of 136 patients) versus 4.8% (8 of 166 patients), and 3.7% (5 of 136 patients) versus 1.8% (3 of 166 patients), for SIMA versus BIMA survivors, respectively. No significant difference was found in the long-term and event-free survival or in any of the eight subscales of the SF-36 quality of life survey for the two groups. **CONCLUSIONS:** Excellent short- and long-term results have been demonstrated with internal mammary artery grafting in women. However, the addition of a second internal mammary artery graft does not appear to confer any additional clinical benefits in a comparably matched cohort of patients.