

## **Multiple Arterial Grafts Improve Late Survival of CABG Patients: Analysis of 8,622 Multivessel Pts**

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**Objectives:** The use of the left internal mammary artery (IMA) in revascularization of multivessel coronary artery disease has been shown to improve survival following coronary artery bypass graft surgery (CABG), however the incremental survival benefit of multiple arterial grafts is still debated.

**Methods:** We reviewed outcome of 8,622 pt that had isolated primary CABG for multivessel disease from 1993 to 2009. Pt were stratified according to the number of arterial grafts; (1) single IMA plus saphenous vein (SV) IMA/SV group (n=7,435; 83% 3VD) and (2) multiple arterial (MultArt) group (n=1,187; 74% 3VD)

**Results:** Early mortality rate was 0.8% (n=10) in the MultArt group and 2.1% (n=154) in the IMA/SV group (P=0.004). However, the difference was not statistically significant (P=0.996) after adjusting for all differences in predictors of early mortality between groups in multivariate analysis. Late survival was significantly greater for the MultArt group compared to IMA/SV group (5-, 10- and 15-year survival rates were 95%, 84% and 71% versus 85%, 61% and 35% p<0.001). MultArt subgroups with the use of bilateral internal mammary artery (BIMA)/SV (n=589) and BIMA only (n=271), had significantly improved 15-years survival (97%, 86%, 76% and 94%, 82%, 75% at 5-, 10- and 15-years, p<0.001), and BIMA/RA (n=147) and LIMA/RA (n=169), had significantly greater 10-years survival (95%, 84% and 93%, 78% at 5- and 10-years, p<0.001) compared to IMA/SV group. In multivariate analysis, use of multiple arterial grafts remained a strong independent predictor of survival (HR=0.78, 95% CI 0.66 - 0.93, p=0.006).

**Conclusion:** Use of the right IMA or radial artery in addition to the left IMA is associated with significantly better overall and late survival compared with single IMA and saphenous vein in patients with two and three-vessel disease undergoing isolated CABG.