

## **The Second Arterial Graft of Choice in Insulin-Treated Diabetic Patients**

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Background: Insulin-treated subsets may benefit the most from a bypass conduit most resistant to the enhanced diabetic process and, hence, the recent interest in arterial revascularization. Despite potential long-term benefits, bilateral internal thoracic artery (BITA) grafting remains controversial due to the risk of sternal complications. Conversely, concerns over accelerated arteriosclerosis, coronary competitive flow and future need for hemodialysis A-V shunt occasionally preclude the choice of radial artery (RA) conduits.

Methods: Between 2006 and 2011, 147 insulin-treated diabetics underwent nonemergent arterial revascularization. Patients were grouped by the second arterial conduit, right ITA (RITA group, n=83) or RA (RA group, n=64). BITA patients were preselected based on criteria derived from earlier studies in oral-treated diabetics.

Results: Preoperative HbA1C level was  $8.0 \pm 1.6$ , and  $7.9 \pm 1.7$  in the RITA and RA groups, respectively (p=NS). There was no difference between the groups in terms of early major unfavorable events (30-day mortality, myocardial infection and stroke). None of the patients required sternoplasty. The need for sternal VAC or macrophage treatment (4/83, 4.8% and 2/64, 3.1%) was comparable (P=0.607). Treatment period was comparable. At 5 year, Cox model analysis adjusted for the Euroscore showed no difference in freedom from MACCE) between the groups (RITA vs RA) (Hazard ratio 0.81, 95% confidence interval 0.36-1.82, p=0.61).

Conclusions: Skeletonized BITA grafting appears feasible. The risk of sternal infection or the severity of its outcome is not necessarily increased. Current availability of alternative non-sternoplasty treatments further facilitates its choice. Larger datasets and longer follow-up are required to differentiate long-term cardiac benefits.