

Long Term Outcome of Diabetics Undergoing Bilateral Internal Thoracic Arteries (BITA) Grafting

Hemo, Eli¹; Uretzky, Gideon²; Neshet, Nachum²; Katz, Goni¹; Kramer, Amir¹; Paz, Yosef²; Popovitch, Nataly¹; Pevni, Dmitri²; Mohr, Rephael²

¹Tel Aviv Sourasky Medical Center, Cardiothoracic Surgery, Tel Aviv, Israel; ²Tel Aviv Sourasky Medical Center, Cardiothoracic Surgery, Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel

Objectives: Although BITA is associated with improved survival, the use of this technique in diabetics is controversial due to the increased risk of sternal infection. The purpose of this study is to evaluate pre-operative and operative factors affecting early and long-term outcome in order to better select diabetic patients for BITA grafting.

Methods: Between 1996 and 2006, 69 insulin treated and 732 oral treated diabetic patients underwent isolated skeletonized BITA grafting. There were 601 males and 200 females. 338 were younger than 65 years of age, 322 were between 65 and 74 and 141 were 75 or older.

Results: The actual early mortality was lower than the logistic "Euroscore" calculated mortality (2.9% vs. 7%, $P=0.000$). Increased mortality was predicted by the presence of critical pre-operative state ($p=0.000$) and increased age ($p=0.008$). OPCAB was associated with decreased mortality. Early post-operative morbidity included sternal infection (3.7%), cerebro-vascular accident (2.1%) and peri-operative myocardial infarction (0.4%). Multivariate correlates of sternal infection were: repeat operation ($p=0.000$), PVD ($p=0.009$), obesity ($p=0.012$), COPD ($p=0.009$), and female gender ($p=0.020$). Mean follow-up was 8.4 ± 4 years. The Kaplan-Meier 10-year survival rates for patients <65, 65-74, and >75 years of age were 76%, 62.1%, and 38.5%, respectively ($p<0.001$). They were better than the corresponding predicted Charlson Comorbidity Index survivals (55.6%, 25.6%, and 11.1% respectively ($p<0.000$ for all age groups). Predictors of decreased survival were age ($P<0.000$), CHF ($P<0.000$) and PVD ($P<0.000$). OPCAB was independently associated with better long-term survival ($p=0.003$).
Conclusions: BITA grafting in diabetic patients is safe. The favorable short- and long-term outcome outweighs the adverse effect of sternal infection.