

Effect of Age on Outcome of Patients Undergoing Bilateral Internal Thoracic Artery (BITA) Grafting

Medalion, Benjamin¹; Mohr, Rephael²; Fried, Osnat³; Uretzky, Gideon²; Nesher, Nachum²; Paz, Yosef²; Kramer, Amir³; Pevni, Dmitri²

¹Beilinson Medical Center, Cardiothoracic Surgery, Sackler School of Medicine, Tel Aviv University, Petah Tikva, Israel; ²Tel Aviv Sourasky Medical Center, Cardiothoracic Surgery, Sackler School of Medicine, Tel Aviv University, Tel Aviv, Israel; ³Tel Aviv Sourasky Medical Center, Cardiothoracic Surgery, Tel Aviv, Israel

Objective: The purpose of this study is to evaluate the effect of age on outcome of patients undergoing BITA grafting.

Methods: Between 1996 and 2001, 1714 consecutive patients underwent BITA grafting, of whom 748 were 65 years of age or younger, 688 were between 66 and 75 and 278 were 76 or older.

Results: Operative mortality of the three age groups (1.2%, 4.1% and 5.8%) was lower than the Euroscore predicted mortality (3.9%, 6.5%, 9.3%, respectively, $p < 0.001$). COPD ($p = 0.02$), preoperative old ($p = 0.04$) or acute ($p = 0.001$) MI, emergency operation ($p < 0.001$), increased age ($p = 0.01$), PVD ($p = 0.05$), and $EF < 25\%$ ($p = 0.05$), were independent predictors of operative mortality. Sternal infection occurred in 32 patients (1.9%). Repeat operation ($p < 0.001$), COPD ($p < 0.001$), PVD ($p = 0.04$), and Diabetes ($p = 0.001$), were identified as independent predictors of sternal wound infection. Mean follow-up was 11.5 years. Kaplan-Meier 10-year survival for patients < 65 , 66-75 and > 75 years of age were 85%, 65% and 40%, respectively ($p < 0.001$). They were better than the corresponding predicted Charlson Comorbidity Index survivals (68%, 37%, and 20%, respectively, $p < 0.001$ for all age groups), approaching survival of gender and age matched general population (90%, 70%, and 41%, respectively). Predictors of decreased survival (Cox model) were older age ($p < 0.001$), congestive heart failure ($p < 0.001$), diabetes ($p < 0.001$), COPD ($p < 0.001$), chronic renal failure ($p = 0.03$), $EF < 25\%$ ($p = 0.002$), repeat operation ($p = 0.01$), preoperative MI ($p = 0.03$), PVD ($p < 0.001$), and preoperative IABP support ($p = 0.005$).

Conclusions: BITA grafting should be considered in patients older than 65, despite increased early and late mortality, due to the significant survival benefit obtained with this surgical technique without additional risk of sternal wound infection related to age. It is recommended especially for patients without other risk factors.