

Surgery for Coronary Artery Disease

On-Pump Versus Off-Pump Coronary Artery Bypass Surgery in a Matched Sample of Women A Comparison of Outcomes

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Abstract

Background— Women have consistently higher mortality and morbidity than men after coronary artery bypass grafting (CABG). Whether elimination of cardiopulmonary bypass and performance of coronary artery bypass grafting off-pump (OPCAB) have a beneficial effect specifically in women has not been defined.

Methods and Results— From January 1998 through March 2002, 21 902 consecutive female patients at 82 hospitals underwent isolated CABG, as reported in an administrative database. Propensity score computer matching was performed based on 13 variables representing patient characteristics and preoperative risk factors to correct for and minimize selection bias. A total of 7376 (3688 pairs) women undergoing CABG surgery were able to be successfully matched. In a propensity score computer-matched cohort, multivariate logistic regression (odds ratio) revealed that women undergoing on-pump surgery had a 73.3% higher mortality ($P=0.002$) and a 47.2% higher risk of bleeding complications ($P=0.019$).

Conclusions— In a retrospective analysis of women undergoing CABG, computer-matched to minimize selection bias, off-pump surgery led to decreased mortality and morbidity including bleeding complications.