Longterm Outcome of Coronary Artery Bypass Grafting Surgery in Acute Evolving Myocardial Infarction Compared to Coronary Artery Bypass Grafting Surgery Without MI

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Objective: Emergent CABG in for acute evolving myocardial infarction carries a higher early mortality and morbidity than elective surgery. However, data concerning long term outcomes are insufficient. The purpose of this study is to analyze the long- term outcomes in this subgroup and compare results to those of elective CABG patients.

Methods: Between 1993-2006, 85 patients underwent emergency CABG within 24 hours of AMI in our department. Ninety patients undergoing elective CABG in the same time period were matched to the study group and served as control. Predicted mortality by EuroSCORE was 37% for the study group and 7.5% for control (p=0.001). Kaplan-Meier estimates were used to compare survival. Cox regression multivariate analysis was used to identify predictors for outcomes. Median follow-up was six years for both groups.

Results: For the study and control group respectively: operative mortality was 23% and 5.5% (p<0.001). One, five, and ten year survival rate was 96%, 89% and 79% vs 93%, 80% and 56% (p=0.16). Operative mortality was higher in patients undergoing surgery between 6-24 hours compared to those operated within 6 hours from onset of MI (30% vs 18%); (p=ns). The need for re-intervention was 34% and 15.3% (p=0.035). By univariate analysis predictors for operative mortality were, acute MI, cardiogenic shock, reduced LV function, unstable AP, diabetes mellitus, NYHA class III-IV. By multivariate logistic regression only cardiogenic shock (p=0.0001), other than pure CABG (p=0.037) and diabetes mellitus (p=0.03) were found as predictors for operative mortality. Factors associated with late survival were age at time of surgery, EuroSCORE, and post-operative angina.

Conclusions: In our experience long-term outcomes are favorable in patients undergoing CABG for acute evolving MI, and comparable to those of elective surgery. Cardiogenic shock is the most important factor influencing surgical mortality. Emergency CABG should be considered early in any case of acute MI with anatomic indications for CABG.