

ABSTRACT NO. R8

DOES THE DURATION OF SURGERY AFFECT OUTCOMES IN PATIENTS UNDERGOING CORONARY ARTERY BYPASS GRAFTING?

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Objective: Numerous predictors have been identified that affect the outcomes of coronary artery bypass grafting (CABG). We aimed to determine whether the duration of surgery independently affects survival and outcomes in patients undergoing CABG.

Methods: We reviewed prospectively gathered database of 337 consecutive patients (mean age, 62 ± 7 years) who underwent isolated primary CABG at our institution between January 2005 and December 2006.

Results: Mean cardiopulmonary bypass (CPB) and ischemic times were 120 ± 32 minutes and 71 ± 20 minutes respectively. Average duration of surgery was 357 ± 64 minutes. The mean postoperative ventilatory time was 22.8 ± 66 hours. Average SICU stay was 3.3 ± 2.6 days, postoperative hospital stay was 9 ± 6.3 days, and total hospital stay was 12.2 ± 9.7 days. The 30-day mortality rate was 0.3 % (n=1). Major adverse cardiac events occurred in 0.9% (n=3) of patients. Mean follow-up was 18.1 ± 7.1 months. In the univariate analysis, duration of surgery correlated positively with length of SICU stay ($r=0.147$, $p=0.004$) and time on the ventilator ($r=0.097$, $p=0.038$). Multivariate analysis with logistic regression using 11 patient-specific variables (7 preoperative characteristics and 4 intraoperative factors) identified length of surgery (in minutes) as an independent predictor of increased length of SICU stay (in days; $p=0.01$). The regression coefficient was 0.006; thus, every additional 30 minutes of surgery time was associated with 4.32 more hours of SICU stay. Advanced age, longer CPB time, and lower albumin level were independently associated with decreased survival in Cox regression and Kaplan-Meier survival analysis ($p < 0.05$ for all). Duration of surgery was not associated with survival.

Conclusions: Although survival after primary CABG is not affected by duration of surgery, increased length of surgery is an independent predictor of longer SICU stay. Efforts to reduce the length of operation may make the utilization of hospital resources more efficient.