Prolonged Intensive Care Unit Stay in Cardiac Surgery: Risk Factors and Long-Term-Survival


Background
Risk factors have been found for prolonged intensive care unit (ICU) stay in cardiac surgery patients in only a few studies; conflicting results have been described. The focus of this study was twofold: first, to evaluate preoperative, intraoperative, and postoperative risk factors for ICU stay greater than 3 days in a cardiac surgery patient population; second, to evaluate long-term survival in cardiac surgery patients with prolonged ICU stay.

Methods
Records from 2,683 cardiac surgery patients were retrospectively evaluated. Univariate and multivariate analyses for risk factors were performed for an ICU stay greater than 3 days. Thereafter, 2,563 patients were enrolled in a follow-up study for an observational time of 3 years after surgery.

Results
Mortality was dependent on renal, respiratory, and heart failure, as well as age, elevated APACHE II scores, and reexploration. Long-term survival analyses demonstrated a significantly lower survival in patients with longer ICU stay. However, the 6-month to 3-year long-term survival was comparable with survival in patients without prolonged ICU stay.

Conclusions
Because of the increasing acuity of patients needing cardiac surgery, it is important to identify those at risk for a prolonged ICU course. It is therefore of paramount interest to implement measures throughout their entire hospital stay that would maximize organ function to improve survival and resource utilization.

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