

DIFFERENCES IN THE PROGNOSTIC IMPACT BETWEEN PREOPERATIVE AND POSTOPERATIVE INTRAAORTIC BALLOON PUMP

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Background: Little is known about the differences in short and mid-term outcomes between cardiac surgery patients receiving intraaortic balloon pump (IABP) preoperatively and postoperatively. Our hypothesis is that patients who require IABP postoperatively have worse outcomes than those that receive it preoperatively.

Methods: Using prospectively collected data from the Department of Veterans Affairs Continuous Improvement in Cardiac Surgery Program (CICSP), we identified all (n=64) patients who had an IABP in the perioperative period between April 1992 and April 2008. We compared morbidity and mortality outcomes in patients with preoperative IABP (n=36) and patients with postoperative (within 12 hrs of surgery) IABP (n=28). Estimates of survival were calculated by the Kaplan-Meier method.

Results: The two groups had similar demographics and risk profiles except that patients with preoperative IABP had a higher prevalence of CCS angina class III/IV at presentation (92% vs. 64%; $P < 0.01$). The postoperative IABP group had a higher prevalence of reoperative cardiac procedures (21% vs. 3%) and lower prevalence of isolated coronary artery bypass surgery procedures (61% vs. 89%) compared to the preoperative IABP group ($P < 0.05$ for both). The postoperative IABP group had higher operative morbidity (89% vs. 42%) and mortality (43% vs. 14%) rates compared to the preoperative IABP group ($P < 0.01$ for both). Survival rates were significantly higher in the preoperative IABP group than in the postoperative IABP group at 1 year [83% (95% CI, 66%-92%) vs. 50% (95% CI, 31%-67%)], and 3 years [80% (95% CI, 62%-90%) vs. 46% (95% CI, 27%-63%)] (Log rank test, $P < 0.004$).

Conclusions: Patients who receive IABP in the postoperative setting have worse outcomes compared to patients receiving IABP in the preoperative setting. In both groups, after an early peak in mortality, the mid-term outcomes were characterized by a reassuring plateau in the survival rates.