

Propensity matched study to evaluate the impact of re-opening post cardiac surgery on short and Long-Term outcomes: 11 years follow up

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Introduction: Reopening immediately post major cardiac surgery is a problematic complication. Studies suggest re exploration for bleeding and/or tamponade significantly affect in hospital mortality and length of stay in cardiac intensive care unit (CICU). The primary objective of this study was to evaluate short and long term outcomes including survival of patients reopened immediately post cardiac surgery.

Method: This was a retrospective study of data entered prospectively into our cardiac surgical database between April 2004 and September 2015. We compared the short and long term outcomes of patients who were reopened (RE) following cardiac surgery with those who were not reopened (Control) using propensity matched analysis.

Results: In total, 7960 patients underwent cardiac surgery. Of these 539 (6.8%) were reopened immediately post cardiac surgery for either bleeding, tamponade or dysrhythmia. Patients were propensity score matched (509 RE versus 509 control) by baseline characteristics, pre operative variables including EF, euroscores, logistic euroscores and type of cardiac operation. The 30 day mortality in those who were reopened was 22% compared to 3.9% in the propensity matched control group who were not reopened ($p < 0.0001$). Long term survival at 11 years follow up was 63.5% in re opened group compared to 81.5% in the propensity matched control group (Log Rank < 0.0001). Patients who were discharged alive, had a comparable long term survival 82.4% in reopened group versus 84.9% in propensity matched control group (Log Rank = 0.396). Multivariate analysis revealed that preoperative use of inotropes, IABP and renal disease together with longer cross clamp and bypass times were the significant ($p < 0.005$) determinants of reopening post cardiac surgery.

Conclusion: We have shown that whilst reopening post cardiac surgery carries a high short term mortality, the long term mortality is not significantly greater in those who survive to discharge.