

Statins in cardiac surgery

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Abstract

Background: Recent studies on the utility of statins in cardiac surgery appear to show conflicting results. Most studies are either retrospective or prospective observational, with small sample sizes. In order to address these limitations, we systematically reviewed studies from 2008 to the present, in order to determine the clinical utility of perioperative statin use in cardiac surgery.

Method: We searched PubMed for studies reporting the use of statin therapy in cardiac surgery. The outcomes of interest were postoperative mortality, non-fatal myocardial infarction, acute renal injury, cerebrovascular events, and atrial fibrillation. An a priori decision was taken to conduct a subgroup analysis of coronary artery bypass surgery (CABG) and valve replacement surgery.

Results: Statins were associated with a reduction in all-cause mortality at 30 days in cardiac surgical patients (odds ratio (OR) 0.65, [95% confidence interval (CI) 0.60-0.71]), and this was consistent in both subgroups. Statins were associated with a reduction in myocardial infarction in the CABG group [OR 0.73, (95% CI 0.48-1.13)], but not in the valve group [OR 1.14, (95% CI 0.80-1.63)]. Statins were not associated with protection from acute renal injury post-cardiac surgery [OR 1.20, (95% CI 1.10-1.31)]. Statins were associated with significantly less postoperative cerebrovascular events [OR 0.83, (95% CI 0.71-0.97)], and this was consistent for both CABG and valve surgery. Statins were associated with significantly less postoperative atrial fibrillation [OR 0.78, (95% CI 0.70-0.98)], which was evident following CABG. However, there were insufficient data to determine its efficacy in valve surgery.

Conclusion: Statins were associated with improved outcomes for mortality, myocardial infarction, cerebrovascular accident, and atrial fibrillation, following CABG. In valve surgery, statins were only associated with improved outcomes for mortality and cerebrovascular accident. The associated increase in acute renal injury needs further investigation.

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South Afr J Anaesth Analg 2012;18(1):56